



POPULATION HUMAN RESOURCES & DEVELOPMENT

Edited by Alejandro N. Herrin

**POPULATION, HUMAN RESOURCES
AND DEVELOPMENT**

VOLUME I

About the UP Center for Integrative and Development Studies

The UP Center for Integrative and Development Studies (UP-CIDS) was established in September 1985 to promote interdisciplinary studies on critical topics that influence development policies and issues.

The UP-CIDS initiates and supports research involving innovative methodological approaches and multidisciplinary collaboration. While public policy questions are the primary concern of UP-CIDS, it also encourages basic research that is needed for informed formulation of policy.

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POPULATION HUMAN RESOURCES & DEVELOPMENT

Edited by Alejandro N. Herrin

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FOREWORD

I am delighted that an initiative I took when I was the President of the University of the Philippines has finally borne fruit.

When I brought the idea of producing a source book on population to Rafael Salas, who was then Head of the United Nations Fund for Population Activities, he readily agreed to support it because studies on population in the Philippines at that time were scanty and largely concerned with methodology. This was probably because we were tentative, even gingerly, about matters concerning population.

Methodology is obviously important. But what I wanted was to situate population issues in the context of public policy, to view them from a variety of angles in order that we may see the interrelationships with other factors that influence economic and social development.

This compendium of thirty-one technical essays by thirty-four U.P. professors in various disciplines fulfills my early hopes. The scholars, under the overall guidance of Dr. Alejandro Herrin, an economist, dealt not only with the classic themes in demography such as fertility, mortality, and population movements but also with ancillary topics such as education, nutrition, productivity, aging, environment and social institutions.

I am particularly pleased with the volume that reviews policy and program actions. I would have wanted more objective assessments but I can live with the occasional flash of emotion that goes with advocacy. The overview by Dr. Herrin captures succinctly developments in public policies from 1970-1985 and gives us the perspective that we have missed for so long.

In sum, this three-volume work, despite its forbidding title, could very well become the standard reference on population policy in the Philippines.

Demography should be the bedrock of development policy. People after all are the causes, the agents, and the objects of development. But in the final analysis, population should be the major determinant because it is, to use the words of Guy Bois, "the least arbitrary of criteria."

EDGARDO J. ANGARA
Senate President

PREFACE

The University of the Philippines–Center for Integrative and Development Studies (UP-CIDS) undertook in 1987 a multidisciplinary research project entitled "Population, Human Resources, Development and the Philippine Future." The project was made possible by a grant from the United Nations Population Fund (UNFPA). The objective of the project was to review, assess, update and consolidate information on various dimensions of population, human resources and development, including the role of public policies in influencing demographic and economic trends. Such information would be useful for formulating policies and programs to influence demographic trends as an integral part of the overall development strategy. A special focus of the research was on obtaining information that could help clarify the two issues of contention at that time, namely, the role of population in socioeconomic development and the role of government in influencing demographic trends, particularly fertility and population growth.

Several social scientists from the University of the Philippines System participated in the two-year project. The preliminary findings of the individual researches were presented in seminars and workshops conducted in various parts of the country. Preliminary findings and their implications for population and development policy were discussed in several forums participated in by policy makers and planners, including the Parliamentarian's Conference on Human Survival: Population and Development sponsored by the Philippine Legislators' Committee on Population and Development, which was held in Manila in 1988.

*The results of the monitoring surveys on the coverage of population, health and nutrition activities were quickly disseminated through workshops participated in by local government officials and local representatives of national line agencies in the areas where the studies were conducted. Abridged versions of several of the papers in this publication have appeared in the **Philippine Population Journal**. Many of the papers were also cited in a number of articles that appeared in different newspapers. Requests from various sectors for copies of papers have continued since the completion of the project in 1989. It was high time for these papers to be collected into a single publication.*

It is hoped that with the publication of these papers, the findings of the research will reach an even wider audience. Researchers and students will find the studies contained in this publication useful starting points for future social science research on population and development.

Alejandro N. Herrin

ACKNOWLEDGMENT

I am indebted to a number of people who encouraged us to complete the research project and this publication. Edgardo J. Angara, then president of the University of the Philippines (UP) entrusted Dante B. Canlas and me with the responsibility of implementing the project that Rafael Salas, then Executive Director of the United Nations Population Fund (UNFPA) had agreed to support. Carlos P. Ramos, then Director of the newly created UP Center for Integrative and Development Studies (UP- CIDS) provided invaluable assistance. Solita C. Monsod was very encouraging at that crucial time when we needed moral support. While Dante B. Canlas had to beg off as co-director of the project to assume other responsibilities, he was instrumental in helping the research take off the ground.

During the two years of implementation, three UP-CIDS directors provided technical and management support: Carlos P. Ramos, Carolina G. Hernandez and Fe R. Arcinas. Since the completion of the research at the end of 1989, three other UP-CIDS directors, never giving up the idea of compiling the entire set of papers into a single publication, obtained additional funding and commissioned the initial editing of 31 research papers: Jose N. Endriga, Emmanuel C. Lallana and Cynthia Rose B. Bautista.

The main work, of course, was done by the individual researchers from various disciplines and units of the university system. In addition to the dedication they put into their work, they had been very generous with their time, travelling to different regions to present their findings. Several colleagues at the University also acted as consultants and provided helpful suggestions regarding broad research areas to be covered as well as specific approaches and perspectives.

The silent heroes, however, are those who quietly worked behind the scenes so that these volumes will see print. Professors Raul Ingles, Ciriaco Sayson, Winifreda Evangelista, Concepcion Abaya, Fe R. Arcinas and Mr. Placido M. Manalo, Jr. provided editorial assistance.

The following UP-CIDS staff either facilitated the research project, encoded all the corrections or prepared the lay-out of the camera-ready version: Gabriel Fabella, Teresita Tamayo, Ellen Cometa, Emen Prospero, Nanie Domingo, Bella Lucas, Stretch Payawal, Ernie Leonardo, Boy Dominguez, Mel Maulit, Roger Gitana, Joyce Dimayuga and Malu Calugay.

As the publication deadline drew near, the UP-CIDS sought the assistance of Lormie Valino-Lazo in designing the cover. It also called on the following staff of the Third World Studies Center--Marlon Wui, Carlitos Escueta, Francis Carlo Taparan, Ma. Lourdes Pacuribot, Macaria Francisco, Bienvenida Lacsamana and Ma. Teresa Tantoco to help correct the final tables.

I would be remiss if I do not acknowledge UP-CIDS's Joy Aparis. She coordinated the publication of the volumes and patiently nagged us into beating the deadline. Without her persistence and resourcefulness, these volumes would not have been published at this time.

Apart from UP-CIDS and the UNFPA, we also wish to acknowledge the kind assistance of the Population Commission.

Alejandro N. Herrin

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EXECUTIVE SUMMARY

Alejandro N. Herrin

I. INTRODUCTION

In 1986, preliminary estimates obtained from the analysis of survey and census data pointed to several disturbing demographic reversals. Between 1975 and 1980, the rate of natural increase and the crude birth rate appeared to have risen somewhat instead of continuing their usual downward trend. Marital fertility decline, which had been rapid between 1970 and 1975, slowed down between 1975 and the early 1980s. The contraceptive prevalence rate for all methods decreased between 1978 and 1983. The gains in infant and child mortality since the 1950's were not sustained in the 1970s while interregional migration patterns in the 1970s became increasingly urbanward, especially metropolitanward.

In addition to such apparent demographic reversals are the equally disturbing trends in human resource formation. Health status has not improved significantly, and infectious diseases continue to be the major causes of deaths, especially among infants and young children. The gains in the nutritional status of preschoolers from 1978 to 1982 seem to have been nullified by 1985. The educational performance of elementary and secondary students has not improved over the past 10 years and continues to be characterized by low survival rates and low achievement levels.

The above trends raise a number of questions. First, had the preliminary demographic estimates and other human resource indicators been robust? Second, if they were, why such trends? There is a strong suspicion that these apparent reversals in demographic trends and the poor performance in human resource formation had in some way been related to the contemporary performance of the economy and to the failure of public policies and programs to significantly influence demographic trends and human resource formation. What is not clear, however, is the exact nature of these interrelationships. There is, therefore, an urgent need to understand these interrelationships to inform public policy.

The need to clarify such interrelationships became all the more urgent under the Aquino government in view of public debates at that time, especially during the early years of her administration, regarding the role of population in socioeconomic development and the role of government in moderating fertility and population growth.

In 1987, the project entitled "Population, Human Resources, Development and the Philippine Future" was undertaken by the University of the Philippines Center for Integrative and Development Studies through a grant provided by the United Nations Population Fund (UNFPA) to the University of the Philippines. The project's objective then was to undertake a number of studies, mainly in the nature of reviews, assessments and consolidation of what was known about a particular area of concern, in order to better understand the relationships between demographic factors, human resource formation, and economic performance, and to determine the role of public policies in influencing these trends. Moreover, in view of public debates that were then raging (i.e., on the role of population in socioeconomic development and the role of government in influencing fertility and population growth), the project aimed to clarify the nature and extent of the "population problem" in the Philippine situation. This was intended to provide policy makers and planners a better basis for formulating policies and programs to influence demographic trends as an integral part of the overall development strategy of achieving sustained economic growth, total human development, and equity.

The approach was to undertake multidisciplinary research on a number of issues and topics. These included the (1) review and updating of demographic estimates with attention to fertility, mortality and migration; (2) review and updating of information on some of the major indicators of human resource formation with attention to health, nutrition and education; (3) review of the mechanisms through which demographic trends influence socioeconomic development; (4) review of the situation of specific population groups, particularly women, the elderly and adolescents; (5) review of public policies and their impact on human resource development and demographic trends; and (6) determination of the coverage of current population, health and nutrition activities in the field.

Several social scientists from the University of the Philippines System participated in the two-year project as shown in the list of investigators and consultants. The preliminary findings of the individual researches were quickly disseminated mainly through workshops conducted in various parts of the country. Preliminary findings and their implications for population and development policy were also discussed in several forums participated in by policy makers and planners. Chapter 1 of this volume served as a background paper for the Parliamentarian's Conference on Human Survival: Population and Development sponsored by the Philippine Legislators' Committee on Population and Development in 1989.

With the publication of these papers, it is hoped that the findings of the research will reach an even wider audience, including, and perhaps especially, future researchers who could take the studies contained in this publication as baseline from which to steer social science research on population and development forward. Following are brief description of the papers: .

II. OVERVIEW

Herrin (Part I, Chapter 1) gives an overview of population and development trends and the role of public policies in determining such trends. It also brings to bear current research findings and attitudes on key issues on population and development as possible bases for a consensus on population policy, namely, the role of population growth in socioeconomic development with particular attention to household welfare and human resource development, and the role of government in fertility control. The paper suggests that to improve family welfare and the quality of human resources, and to achieve full employment at rising real wages, the government must (1) strengthen the population policy by adopting explicit fertility and population growth objectives; and (2) adopt an integrated human resource development policy, with particular attention to the health, nutrition and basic educational needs of children.

III. DEMOGRAPHIC TRENDS: REVIEW AND UPDATE

Fertility and Mortality. Zablan (Chapter 2) reviews available data on mortality and its correlates. The study reveals that while there had been a long-term trend in mortality reduction, the pace of decline slackened during the most recent period 1975-1983. This slackening was traced to the significant contribution (40 percent) of communicable diseases to total deaths, the victims being mostly infants and very young children. Declines in mortality were not uniformly felt across population subgroups. People in rural areas and those with less education and employed in low-status jobs ran higher risks of death than those who resided in urban areas, who had more education and who held high-status occupations. The large area and social group differentials in mortality observed in the early 1970s persisted up to 1983 (the latest year when mortality estimates based on national demographic surveys were available).

In addition to mortality and health indicators, Zablan reviewed data on nutrition obtained from national surveys conducted by the Food and Nutrition Research Institute, the latest of which had been done in 1982. The data indicate that the Filipino diet in 1982 was somewhat adequate in protein but inadequate in energy and micronutrients, except for niacin. With the exception of ascorbic acid, nutrient intake was almost always higher in urban than in rural areas, but Metro Manila was worse off than other urban or rural areas. Nutrient intake was positively related with income and education, but was negatively related with household size. Those in high-status occupations were better off than those in low-status jobs. Anthropometric indicators of nutritional status showed high rates of undernutrition among preschool children. The rate of undernutrition among preschoolers in 1982 was higher in rural than in urban areas, except for Metro Manila. Equally disturbing was the finding that the practice of breastfeeding and its duration has been slowly declining, especially among rural and less educated mothers-

who would have been the real beneficiaries in terms of improved health and survival chances of their infants and young children.

De Guzman (Chapter 3) reviews existing estimates of fertility, nuptiality and contraceptive practice. Recent figures reveal a slowing down of the decline in fertility, especially in the 1975-1980 period. Some preconditions for long-run fertility decline are present, such as the downward trend in the desired family size. However, there are also indications that fertility declines in the short- or medium-term are not likely to accelerate. These include declining breastfeeding practice, earlier marriages, and slow increase in contraceptive practice. Several policy thrusts are suggested, including the improvement of health and nutrition services to reduce infant and child mortality; improvement of information and education to increase the prevalence of breastfeeding; enhancement of women's status and autonomy by augmenting, among others, educational and employment opportunities for women to influence the age at marriage; and revitalization of the national family planning program.

New estimates of fertility and mortality data are needed to assess recent trends. In Chapter 4, de Guzman, using a common methodology, estimated fertility and mortality from the 1970s to the mid-1980s, incorporating the most recent available data, the 1986 Contraceptive Prevalence Survey. The reanalysis of existing data and the update occasioned by a new set of data showed that fertility in the Philippines is declining – but very slowly, compared to neighboring countries in the region. The large differentials in cumulative fertility by education, occupation and age at marriage, persist.

With respect to mortality, the second half of the 1970s saw some small improvements in the survival of children. The early 1980s, however, indicated a deterioration in conditions, dampening hopes for rapid progress toward mortality reduction. While the infant mortality rate (IMR) might have reached a low level of 55 deaths per 1000 live births in 1980, the actual level in 1984 may have reverted to its original position in 1975, i.e., a little over 60 per 1000 live births. The 1984 estimate, which suggested an increase in infant mortality rate was surprising in a way, if also somewhat expected. It was surprising that the IMR would actually increase (one normally expects a continuing mortality decline after a large drop in mortality such as that which occurred in the immediate postwar period), hence, one would doubt the accuracy of the estimate. On the other hand, the early 1980s was a period of unusual economic difficulties, hence, one might expect that adverse economic conditions significantly affected infant and child survival (although one is not quite sure about how large an impact to expect). On the hindsight de Guzman's estimates suggesting a possible rise in IMR in the early 1980s or at best indicating no improvements in mortality, was essentially correct. Recent estimates of infant mortality released by the National Statistical Coordination Board show that IMR was around

64 deaths per 1000 live births in 1976. This declined to 59 in 1980, increased to 63 in 1983 and remaining at this level in 1986. The IMR for 1990, the latest available data, was about the same in 1980.

Contraceptive Use. In Chapter 5, Zablan provides quantitative measures of "unmet need" for contraceptive services and assesses the extent of fertility reduction that will result from satisfying the current levels of unmet need. The analysis of unmet need revealed the following results: First, the unmet need of couples expressed in 1986 ranged from 12 to 37 percent. If this were fully satisfied by the National Family Planning Program, it would lead to a contraceptive prevalence rate ranging from 58 to 83 percent. Second, a decline in total fertility rate (TFR) from 4.36 births per woman in 1987 to 3.67 in 1993 (the target of the Medium-Term Development Plan) would be achieved under optimistic assumptions, or the same decline could be achieved by 1998 under more realistic assumptions.

The trends over the 1978-1986 period showed that the unmet need expressed by Filipino couples in 1978 was not satisfied by the program in 1986. It further showed that unmet need had increased over the period substantially for married women below 25 years, and slightly for married women 25-39 years. However, these increases were due more to the need for birth spacing than to birth limitation. Contraceptive prevalence rates for married women below 25 years remained constant and only high-parity women 30 years and above showed significant increases in current user rates.

Zablan argues that for the program to achieve its acceptor targets, all it has to do is to satisfy the need, at the least, of all those couples who want to stop childbearing and, at the most, of those who intend to use family planning either to space or to stop childbearing. For the program to achieve its fertility reduction targets, however, it is necessary to adhere to the principle of "free choice" of contraceptive methods so that couples could select methods most suitable to them. In addition, the program needs to promote and maintain an efficient service delivery system.

Migration Patterns. Feranil (Chapter 6) synthesized various data and analysis to provide a broad picture of the historical patterns of migration and population redistribution in the Philippines. The paper highlights the long-distance, frontierward, and male-dominated movements that characterized migration before 1960, and the increasing urbanward and female-dominated migration after 1960.

In Chapter 7, Feranil updates data on the volume of female migration to the cities and the characteristics of female migrants (relative to female nonmigrants and male migrants) using data from the 1970-1975. Feranil's analysis was further expanded to look at female migration across regions (Chapter 8). The questions posed for analyses were: (1) except for the

dominant flow to Metro Manila, is female migration to the other urban areas of the same magnitude across regions; (2) do the urban areas in the different exhibit manifest uniform patterns of female migration or are there pronounced differences among them; and (3) what are the characteristics of female migrants moving to the urban areas of the various regions. The concern for having accurate information of female migration is based on the fact that demographically, their numbers are large; economically, the sector where women find employment (mainly services) involves low earnings; and socially, the workers (young, single and less educated women) are likely to be exploited.

Demographic Development and Public Policies. Herrin (Chapter 9) notes the unfavorable trends in both demographic and economic situation in the most recent period, i.e., continued rapid population growth rate and inability to sustain fertility and mortality declines on the one hand, and continued high poverty rates, slow structural change and employment expansion in the face of a rapidly growing labor force, on the other. A review of existing analyses of the impact of past economic policies indicates a strong bias against the agricultural sector where the large majority of the population is found. Moreover, government priorities, as reflected in the pattern of public expenditures, have tended to favor large-scale infrastructure projects at the expense of basic social services. Are these demographic and socioeconomic trends, and the nature of public policies and priorities merely coincidental or are they intrinsically related?

The paper suggests that Philippine demographic development during the past one-and-a-half decade has been influenced by various indirect and unintended impacts of economic policies and by the failure of population-related programs to have large direct impacts on demographic trends.

IV. HUMAN RESOURCE DEVELOPMENT TRENDS: NUTRITION AND EDUCATION

Nutrition. Florencio (Chapter 10) notes that malnutrition presents itself in different forms and degrees, depending on who are affected and when, and what nutrient or nutrients are inadequately provided and utilized to meet the body's requirements. It can affect all kinds of people, although some groups are more vulnerable to malnutrition than others. In the Philippines, four kinds of malnutrition have been the subject of much concern. These are energy-protein undernutrition, as manifested by physical growth deficits; and specific deficiencies in iron, vitamin A and iodine.

The paper puts together available information on the nutrition situation of infants and preschoolers, school children, adolescents, pregnant and lactating women, and adults and elderly. It also examines nutrition policy and programs, with particular attention to the Philippine Food and Nutrition Program (PFNP) and the activities of the National Nutrition Council.

Florencio notes that the PFNP has embarked on a variety of activities, tried to put in place a rather elaborate organizational structure at every level of administration, and engaged in an integrated planning process with the different socioeconomic sectors. During the last 14 years, the PFNP has had noteworthy accomplishments that were recognized both locally and internationally. The paper also notes, however, that the complexity of the entire nutrition program, inadequate resources, and some degree of disjointedness in the manner nutrition is perceived by planners and implementors, by beneficiaries and benefactors and by national - and local participants, have contributed to the lack of sustainability of many of the initiatives that have been taken and the unevenness in the program's implementation throughout the country.

The paper calls for an immediate and in-depth review of the entire working of the PFNP. The program involves so many sectors and chains of operations which fall under different administrative units and levels. The weak links thus need to be promptly and correctly identified so appropriate steps can be taken.

Elementary and Secondary Education. Cortes and Lara (Chapter 11) evaluate the performance of elementary and secondary education during the period 1970-1985 in terms of such "efficiency" indicators as participation rates, cohort survival rates, dropout rates, graduation rates and repetition rates, and in terms of such "effectiveness" indicators as mean scores in national achievement tests, performance in the National College Entrance Examination (NCEE), literacy rates and overall educational attainment of the population and of the employed labor force.

For elementary education, the data show that the increases in participation rates in the 1970s (89 percent in 1970-71, to 95 percent in 1979-80) could not be sustained in the 1980s (it fell back to 89 percent in 1985-86). Furthermore, data by region reveal large variations in participation rates. The cohort survival rates for the nation has not improved over the past 15 years, i.e., the rate stabilized at around 65 percent throughout the period. Moreover, large regional variations persist. In 1985-86, cohort survival rates ranged from 44 percent in Central Mindanao to 87 percent in the National Capital Region (NCR). Mean scores in national achievement tests show improvement between 1975 and 1986, yet the mean scores were still around 50 percent, about two-thirds of passing grade of 75 percent.

For secondary education, data show that, as with elementary education, the increase in participation rates in the 1960s was not sustained in the 1970s (the participation rate increased from 27 percent in 1960-61, to 64 percent in 1970-71, but declined to 60 percent in 1979-80). In government secondary schools, cohort survival rates (first to fourth year) was 70 percent in 1985-86. Mean scores for the NCEE in 1985 was 500, ranging from 471 in Western Mindanao

to 535 in NCR. The percentage of students passing the NCEE declined from 79 percent in 1977, to 67 percent in 1980, and to 60 in 1985.

Tertiary Education. Paderanga (Chapter 12) examines the determinants of schooling performance (years of schooling). The determinants include child characteristics, household characteristics, community characteristics and school characteristics (teacher and school quality). An interesting analysis is made on the determinants of school quality, and the differences between public and private schools in terms of quality.

In Chapter 14, Paderanga takes issue with a popular held view that the immediate problems confronting the educational sector is the large pool of unemployed, highly skilled workers. Since these workers are products of the educational system, they are often viewed as indicators of the system's failure, i.e., the system does not produce the skills and workers required by the economy. Various solutions have been proposed, including the use of national or sectoral manpower planning and the limitation of the number of students going to college (through the NCEE).

The paper contends that these proposals do not deal with the basic problem and will not solve it. The main reason that proposals to correct skilled unemployment in the educational sector will not work is that the defect lies elsewhere, namely, in the industrial structure. The defect is simply reflected in unemployed college graduates. The solutions to the problem, therefore, lie in the industrial structure. Until this is dealt with, all proposals pertaining to the educational sector will come to nothing.

V. ECONOMIC AND SOCIAL IMPACTS OF DEMOGRAPHIC TRENDS

Demographic Processes and Social Institutions. Guerrero and Balleascas (Chapter 15) examine the impact of fertility and migration on specific institutions, particularly the family, the political institution and the church. Unlike usual approaches where impact is assessed on individual units (individuals, households, communities or regions), the paper adopts an institutional approach whereby the analysis is focused on the impacts of demographic processes (fertility and migration) on selected dimensions and processes of specific institutions. For example, fertility and migration affect the family as an institution by affecting several processes which include consumption patterns, labor force participation, relationship between husband and wife, and values and norms. The paper is a welcome complement to the current syntheses of the impacts of demographic processes on socioeconomic development, and fills a serious gap in institutional analysis in the Philippines.

Fertility, Savings and Productivity. In another approach to the study of the socioeconomic impacts of demographic trends, Canlas (Chapter 16) estimates an aggregate consumption function based on a permanent income hypothesis to examine the impact of demographic

variables like crude birth rate, infant mortality rates and migration (international migration related to the oil shock) on consumption and saving. The results show that an increase in the crude birth rate leads to higher consumption, and consequently lower savings. This will have serious consequences with respect to capital per worker and, therefore, on aggregate output.

Consequences of International Migration. A review of levels and trends and an exploration of the potential consequences of international migration was undertaken by Cariño for the permanent migration of professionals to the United States (Chapter 17), and for both permanent and temporary migration to various countries (Chapter 18).

The Philippines has become one of the largest suppliers of immigrants and manpower to various industrialized countries. Among the important factors that have influenced the international movement of Filipinos are: the country's tradition of democracy, which has guaranteed the freedom of mobility; and the country's worsening economic problems.

In turn, the massive emigration of Filipinos could have important socioeconomic consequences for the source country. However, the nature and magnitude of these consequences are difficult to assess at present because of the dearth of information on such aspects as the brain-and-skill drain, repatriated earnings, return migration, and immigrant activities abroad. The impact of these phenomenon are still the subject of considerable debate, and additional studies are obviously needed to serve as a basis for the formulation of emigration-related policies.

Population and the Upland Environment. Cruz (Chapter 19) consolidates available information regarding population and economic activities in the uplands. The paper finds that around 30 percent of the total population of the Philippines now reside in the uplands. A significant 8.8 million people occupy interior forest lands belonging to the public domain. The growth rate of the upland population during the period 1975-1980 was particularly rapid: 2.6 percent per year, which means a doubling of the upland population in 27 years if trends continue. The population dependent on some form of upland cultivation is expected to reach 18.6 million by 1990 and 43.5 million by year 2025. By year 2025, if each upland household were to be given a minimum of one hectare, the remaining forest cover would then be less than one million hectares. This implies a dramatic decline in forest cover from 51 percent of total land area in 1980, to less than 28 percent in year 2025.

The paper discusses environmental indicators of overpopulation, the expansion into marginal lands and depletion of resources, as well as indicators of population pressure: population size and growth, population density, and migration. It also attempts to put together available regional data that could help describe the demographic (fertility, mortality

and migration) and agricultural (expansion of cultivated area, changes in the cropping pattern, and use of more labor inputs) responses to population pressure.

The paper notes that past government policies have played a part in inducing population pressure on forest resources. These policies include: (1) promotion of programs that opened up forest lands to migrants, (2) institution of planned resettlement schemes, (3) effects of lowland agricultural policies, and (4) ineffective population control programs.

VI. ECONOMIC AND SOCIAL WELFARE OF SPECIFIC POPULATION GROUPS

Women and Rural Development Programs. Torres (Chapter 20) analyzes several rural development programs in terms of their effects and impact on gender concerns. Specifically, the assessment revolved around the questions: (1) does the program aim to provide men and women equal access to the potential benefits of the development endeavor; (2) will the development program increase the direct participation of women in social activities; (3) to what extent does the program encourage the use of local materials and low-cost production processes; (4) will the program lead to the dispersal of rural populations and contribute directly or indirectly to fertility reduction; (5) to what extent does the development effort encourage the participation of the private sector, especially organizations of rural women; and (6) does the program provide opportunities for women to acquire nontraditional roles in the community and society.

The programs studied were in the areas of *health*: Maternal and Child Health, and Family Planning Programs of the DOH; *land resources*: Integrated Social Forestry (DENR) and San Isidro Rural Systems Development (Land Bank); *nonformal education*: Functional Literacy Program of DECS and Integrated Program for Rural Women (Agricultural Training Institute formerly the Bureau of Agricultural Extension); and *employment and income generation*: Tulong sa Tao Self-Employment Loan Assistance Program (DTI) and Non-Farm Employment Project (DOLE).

Certain findings may be highlighted. First, with respect to access to development benefits, in general, none of the programs is essentially biased against women. However, cultural views on gender roles have in reality differentiated the beneficiaries of these development efforts. For example, technical assistance and training opportunities are gender-differentiated: men's skills are upgraded for agricultural productions while women receive training for home development. Second, with respect to participation in societal activities, the assessment found that the opportunities provided by the development schemes for the active participation of women in project activities were heavily in favor of health and microenterprise projects and very little on others, i.e., planning land resources. The paper

finds this apparent imbalance as a mirror to societal definitions of gender roles and responsibilities.

In addition to the five original questions above which served as a framework for assessment, other aspects of development are crucial to an examination of the contributions to women's welfare of development. These are: (1) concern for the total women, rather for women in distinct roles; (2) use of integrated and holistic strategies for women's development; (3) women's access to leadership training and positions; and (4) development of scientific thinking in all aspects of women's life.

Women Adjusting to Economic Changes in a Local Economy. How do households, particularly the women members, adjust and cope with the effects of economic changes in the wake of the collapse of the major industry that's their principal source of livelihood? Dungo (Chapter 21) investigates the effects of the sugar crisis in Negros on women. The study provides detailed profiles of the patterns and extent of labor participation of women in different types of farms in Negros as the haciendas introduced changes to cope with the sugar crisis. These changes in turn have had effects on the workers, particularly women, because of the prevailing bias in favor of hiring "breadwinners," and the unskilled workers, of which a large percentage are women. For example, mechanization meant a greater demand for skilled workers to run the machines. Hence women, because they tend to be unskilled, are the first to be displaced. Crop diversification has given rise to greater demand for both male and female labor. However, the type of work available for women often requires long hours and low pay.

Women as International Migrants. Añonuevo (Chapter 22) puts together data from various sources on the increasing numbers of women who migrate overseas as domestic helpers, entertainers, prostitutes, nurses, and mail-order brides. The paper describes various aspects of such migration, which include the recruitment process, the working conditions in the country of destination, the legal and cultural problems women face, and the risk of physical abuse from employers. The paper calls on the government to play a bigger role in protecting overseas workers, particularly women, from such risks and abuses.

The Filipino Elderly. The Philippines has been undergoing gradual shifts in its age structure due to fertility reductions and improvement in mortality. It is expected that the 1980 population of 60 years and older estimated at 2.5 million, will double by the year 2000. This group will eventually outpace the general population. Domingo (Chapter 23) argues that the increase in the number of the elderly and its potential for high growth require that they be addressed as a distinct sector in the economy. There is a need to plan their inclusion in the various socioeconomic development activities as well as to provide them with basic services.

The paper culls most everything that's been written about the Filipino elderly and highlights some findings that can be significant for policy. Current plans and programs of the government as well as proposed legislation designed to benefit the elderly are examined, and gaps identified. Problems include lack of resources for full implementation of programs and limited coverage of programs, e.g., pension. The paper finds that while there's a great many proposed legislations (Senate and House Bills), the scope of benefits is limited and the beneficiaries are highly selective (e.g., discounts on transport fare whose beneficiaries are likely to include mainly urban residents).

The Filipino Adolescents. Raymundo (Chapter 24) gathers available census and survey data to provide a profile of the Filipino adolescents defined by convention as the population age 15-24 years. The profile touches on educational, economic, demographic and family-related characteristics. Particularly interesting are the data from the 1982 Youth and Adolescent Fertility Survey dealing with adolescent sexuality and influences around the female adolescent (family; growing up years with parents, support system outside the home; and sex, pregnancy and marriage). The paper notes that the decline in age at marriage, the low level of sex awareness among the young and the occurrence of early marriages traceable to general irresponsibility among the young people are factors that can effectively negate efforts to moderate the national fertility rate.

VII. POPULATION POLICY AND COVERAGE OF POPULATION, HEALTH AND NUTRITION PROGRAMS

Population Policy. Public policy is not just what government intends to do as embodied in its economic development plans, policy statements or even in legislation, but what it has done and is actually doing to carry out such plans. Caoili (Chapter 25) reviews the evolution of government policies on population, health and nutrition with respect to their origins, objectives and implementation. Particularly interesting are the policies on health and nutrition during the American period and the public health programs as far back as the Spanish period. An unintended consequence of these policies was the rapid growth of the population. Public health and nutrition policies antedated the population policy debates in the late 1960s and 1970s.

At the start of the Aquino administration, population policy debate surfaced once again. Several questions were raised, such as: what is the present government's population policy; what should be the thrust of a national population policy; and how should such policy be formulated in order to ensure its effective implementation. For these and other related questions, Caoili and Baviera (Chapter 26) obtained, through a survey, the views/perceptions and the involvement of various cause-oriented groups and nongovernment organizations on issues of population and development. The study also describes the Catholic Church's

position and the perceptions of selected legislators on population policy. The issues regarding the nature of the population problem and the role of government in influencing population change are far from resolved, even as most respondents emphasized the need for a clear-cut statement of policy on population.

A review of past performance could give important information on how to improve current implementation. Pilar (Chapter 27) reviews the institutional and administrative aspects of the population program during the Marcos Administration. The paper finds that past assessments, while conducted separately by different groups remarkably reached a consensus with respect to the issues, problems and gaps in policy formulation and program implementation. These issues and problems revolve around the structure and functions of the Commission on Population, the funding for the population program, and coordinative mechanisms.

Coverage of Population, Health and Nutrition Programs. While attention is focused on the larger issues of population and human resource development policies, there is a need to have a closer look at how population, health and nutrition services are actually delivered to the population in need. Toward this goal, the project undertook household and community surveys in selected areas of the country to monitor the extent to which the target population for health, family planning and nutrition services are actually getting such services from the appropriate services providers and facilities in the country. Four coordinated studies, using the same design and questionnaire, were undertaken in Leyte, Western Visayas, Cebu and the Ilocos. The results are described by Abilar and Borrinaga (Chapter 28) for Leyte, Ardales (Chapter 29) for Western Visayas, Etemadi and Navarro (Chapter 30) for Cebu, and Rood and Associates (Chapter 31) for the Ilocos. The survey results were analyzed and presented to local government officials and local representatives of national agencies in the data sources, in an attempt to demonstrate how rapid monitoring surveys can be a help to improve service delivery.

Proper monitoring, i.e., determining the extent to which the target population is actually receiving the intended services or resources, requires the proper identification and measurement of the target population. In fact, this is often difficult to measure accurately because of the absence of data on the community level. Very often, national rates are applied to the estimated total population of the communities to arrive at the total beneficiary population, which may not be correct. For example, in estimating the number of births as the denominators for assessing immunization coverage, the usual approach is to assume a crude birth rate of 30 births per thousand population to estimate the number of births in a community eligible for immunization. However, in any particular community, the actual birth rate, and therefore, the number of eligible infants for immunization, may vary widely from the national

average. Thus, the use of national rates to estimate community-level target populations may either under- or overestimate true rates, and this could affect not only the service delivery efforts, but also the morale of agency personnel who are evaluated in terms of coverage or accomplishment rates based on faulty denominators. Using the experience of the four studies mentioned above, Borrinaga (Chapter 32) attempts to develop practical denominators for use in monitoring delivery of population, health and nutrition services.

VIII. CONCLUSION

The thirty papers described above show that the population issue is more than just a concern for population growth, fertility reduction and family planning – although these are important concerns precisely in view of the continued high fertility and population growth – and the great demand for family planning services among currently married women. To be sure, there is no room for complacency. There is also no need to wildly exaggerate the effects of rapid population growth; there are enough real problems associated with it in contemporary Philippine society to merit immediate attention. However, viewed from the larger perspective of human resource development, the population issue encompasses a wide range of concerns beyond population growth, fertility reduction and family planning. These concerns include the health, nutrition and education of children; the welfare of national and international migrants, especially women; the viability of social institutions and their responsiveness to changing conditions; the welfare of specific population groups, including women in various economic settings, adolescents, the elderly, and the growing population in the uplands. Whatever action is designed and carried out to deal with these broader concerns, there will always be a need to constantly monitor population and human resource development activities to improve service delivery.

PART I

OVERVIEW

POPULATION, HUMAN RESOURCES AND DEVELOPMENT: TOWARDS A CONSENSUS ON POPULATION POLICY

Alejandro N. Herrin

I. INTRODUCTION

At present, there is an apparent lack of understanding among various sectors of society regarding the interactions between population and development and of the role of public policies in modifying population and development trends. Such lack of understanding is partially reflected in a lack of consensus regarding the role of fertility reduction in socio-economic development, particularly human resource development, and the role of government in modifying fertility trends as an integral component of an overall development strategy.

This paper highlights the initial findings of a research conducted during the past year by a team of social scientists from the University of the Philippines aimed at reviewing various aspects of the Philippine population for their implications for policy. In addition, this paper discusses the two major issues in the field of population and development and attempts to identify the bases for a more comprehensive population policy that includes government action in modifying the fertility preferences of couples.

The paper is organized as follows: Section II provides a quick overview of population and development trends and the role of public policies in determining such trends. Section III brings to bear current research findings and thinking on two key issues on population and development, namely, the role of population growth in socioeconomic development with particular attention to household welfare and human resource development, and the role of government in fertility decision-making. Section IV concludes.

II. POPULATION AND DEVELOPMENT TRENDS AND THE ROLE OF PUBLIC POLICIES

1. Population and Development Trends: A Brief Overview

Population Growth. The Philippine population grew from 19 million in 1948 to 48 million in 1980, a more than doubling of the population in three decades. The rapid population growth rates in the 1950s and 1960s averaging 3.0 per cent annually were moderated only slightly in the 1970s at an average annual rate of 2.7 per cent. The average growth rate in the 1980s is estimated to be around 2.4 per cent, a rate that is still high by international standards.

Given the inherent momentum of population growth, the population of the Philippines will continue to grow up to the latter half of the 21st century whether fertility declines rapidly or not in the next 25 years. A population projection indicates that if replacement fertility is reached in 2010, the population will reach zero growth rate only at around 2075 with a total size of 127 million. This is 2.6 times the population of 1980. We can surely look forward to a larger population in the 21st century irrespective of fertility trends. Of course, a much larger population would be reached much sooner if current fertility trends continue than if they decline rapidly.

Mortality. While significant gains have been achieved in mortality reduction in the early postwar period, mortality rates declined less slowly than expected in the 1960s and 1970s. Firm estimates in the recent period are unfortunately lacking. However, in the light of poor economic performance, increasing poverty incidence, and cutbacks in government expenditures for health and social services in the first half of the 1980s, it is most likely that progress toward mortality reduction slowed down even more during this period relative to the 1970s.

Fertility. From relatively high levels in the 1950s and 1960s, the total fertility rate declined rapidly between 1970 and 1975. This decline coincided with the introduction of the government-sponsored family planning program. This rapid decline, however, was not sustained in the subsequent periods.

The rate of fertility decline has slowed down considerably between 1975 and 1984, relative to the early 1970s. In fact, between 1975 and 1980, there was hardly any change in the total fertility rate at all. The lack of progress in fertility reduction after 1975 can be traced to the increase in the proportion of women in childbearing ages, a decline in the age at marriage among women, and a slow decline in marital fertility. In turn, the slow decline in marital fertility is related to the slow increase in contraceptive use among currently married women of reproductive age.

Migration and Urbanization. During the 1970s, the major migration streams became increasingly metropolitanward. Such migration has been characterized by increasing female migration to the cities involving young, single and less well educated women.

The level and tempo of urbanization rose rapidly between 1975 and 1980. The increased tempo suggests a very rapid rural to urban migration which may be due more to the deteriorating economic and peace and order conditions in the countryside than to the dynamism of the urban economy.

Economic Growth and Poverty. The rapid real economic growth in the 1970s averaging 6.0 per cent annually could not be sustained in the 1980s. Since 1980, the real rate of growth was steadily declining, culminating in negative growth rates in 1984 and 1985. In real terms, per capita GNP in the first half of the 1980s declined at an average annual rate of minus 3.4 per cent.

At the family level, such poor aggregate performance is reflected in high and increasing poverty rates. In 1985, the poverty rate was estimated at 59 per cent, up from 49 per cent in 1971.

Structural Change and Employment. Associated with the uneven growth of the economy and increasing poverty rates is the slow structural transformation of the economy. In terms of the industrial distribution of employment, industry's share remained stagnant at around 15 per cent from 1956 to 1984. The rapid growth of the population of working ages and the inability of the economy to generate productive employment are reflected in the worsening of unemployment and underemployment problems, specially in the early 1980s.

Health and Nutrition. Infectious and communicable diseases continue to be the major causes of mortality and morbidity. Current levels and trends in both proximate (i.e. fertility, environmental sanitation, nutrition and health care utilization) and underlying socio-economic (i.e. education of mothers) determinants do not favor rapid improvements in health status in the medium-term unless strong and highly focused interventions are implemented.

Dietary/nutrient inadequacies among low income groups and growth failure among pre-school children continue to be major problems in the Philippines. While some progress have been achieved in improving the nutritional status of the population between 1978 and 1982, there are indications that such progress has been nullified by 1985. Inadequate quantity and quality of the diet, intrahousehold differences in dietary intake, declining prevalence and duration of breastfeeding and poor health status continue to be important proximate determinants of child malnutrition. In addition, low income, low education of mothers, large family size, poor environmental sanitation and lack of access to health care services continue to be the underlying factors affecting the progress in improving the nutritional status of children.

Education and Literacy. The rapid growth of population over the past three decades meant continuous large annual increases in the number of school-age children. While the educational system in the elementary and secondary levels was able to maintain high enrolment levels, there are indications that the quality of education has been deteriorating, especially in the more recent period. Since about 96 per cent of elementary schools and 63 per cent of secondary schools are public, the overall performance of elementary and secondary education is heavily dependent on the priority attached by the government to basic education. From 1970 to 1985, the budgetary commitment to education has been declining. Given the increasing numbers of schoolchildren and the policy of keeping enrolments high, such a declining budgetary commitment could only result in lower quality investment per student, thereby contributing to the generally low quality of public education at the elementary and secondary levels.

2. Determinants of Population and Development Trends: The Role of Public Policies, 1970-1985

The failure to significantly reduce poverty rates, achieve full employment at rising wages and rapid structural transformation, improve basic education, health and nutrition, and moderate population growth can be traced partly to the impact of public policies and programs and government priorities.

Economic Policies and Public Expenditure Patterns. The net effect of the various policies to achieve faster economic growth with emphasis on rapid industrialization based on import substitution has been to systematically bias the agricultural sector in favor of modern industry. This bias is in the form of distortions in the product and input prices which tended to reduce the growth of incomes in this sector where the bulk of the population is found. This partly explains the continued high rates of poverty among the rural population.

The rationale for the rapid industrialization strategy was to raise overall productivity by absorbing the growing labor force due to rapid population growth, with a shift in emphasis from the relatively low productivity agricultural sector to the high productivity modern industrial sector. But the type of modern industry that evolved was predominantly the import substituting, import-dependent and capital-intensive variety. The high capital intensity of industrial production resulting from the policy biases that distorted relative factor prices meant low labor absorptive capacity of modern industry. This partly explains the almost constant share of employment in the industrial sector since the 1950s.

Associated with the limited absorptive capacity of modern industry is the limited occupational mobility of the labor force. Employment instead shifted from agricultural activities in the rural areas to the traditional services and informal sectors in both rural and urban areas where productivity is also relatively lower than in modern industry. This implied that for the most part, rural-urban migration merely involved a transfer of the rural poor to the urban areas who then swelled the size of the urban poor.

Modern industry could still have absorbed labor at a faster rate than it did in spite of its highly capital-intensive nature if its growth had been much faster. But its predominantly import-substituting character meant that it had to rely on increased domestic demand for it to grow. With low productivity and incomes in both the rural farm sector and the urban traditional services and informal sectors, such rapid growth could hardly be forthcoming. Exports offered a way to expand the size of the market and to grow but the highly protected industries could not effectively compete in the international market and in the 1980s, the growth of demand for their products became increasingly constrained by the protectionist policies of developed countries.

Public expenditure patterns which reflected government priorities have been increasingly biased against social services that had a direct bearing on population welfare, i.e., education, health, nutrition, family planning, etc. The increased budgetary constraints arising from the decline in economic performance and heavy debt burden in the 1980s meant further reduction in the provision of basic services with adverse impact on the poor.

Population Policies and Programs. The national family planning program appeared to have had some impact on contraceptive prevalence rates and hence, on fertility in the early 1970s. Such impact however was not sustained in the second half of the decade and into the early 1980s. Several factors account for this lack of progress in fertility reduction. First is that the macro environment (i.e., high poverty rates, slow economic transformation and occupational mobility, slowly growing employment opportunities, etc.) was not conducive to rapid fertility decline. Secondly, the magnitude of the task for the family planning program has become large due to the increase in the proportion of currently married women of reproductive age (due in turn to the maturation of a large cohort of women born in the high fertility period of the 1950s and 1960s), and to the decline in the mean age at marriage for females in the latter half of the 1970s. Thirdly, the earlier commitment toward a national program of fertility reduction to moderate population growth has steadily been eroded since the middle of the 1970s. Moreover, conflicting signals at the policy level, rapid turnover in program leadership, and other problems have diminished the capacity of the program to meet the ever increasing challenge of fertility reduction. This declining commitment and capacity are reflected in the declining real expenditures for the program from 1974 through 1985. Thus, just as more efforts were required to sustain earlier gains, real resources had in fact declined. The low priority given to health and other social services as well as the declining real resources constrained the ability of the health sector to induce larger impacts, specially among the poor. For example, in the allocation of public sector resources, an increasingly larger share was allocated to hospital-based services than to preventive and promotive health care services that were likely to have had a larger impact on the poor given the prevailing morbidity and mortality patterns.

The indirect policies that influenced migration and urbanization in the 1970s included rural and regional development which were not limited to agricultural production but also included land reform and industrial dispersal. Direct policies and programs involved mainly rural resettlement of the urban poor. The fact that regional development disparities and industrial concentration in Metro Manila and the surrounding areas continue to characterize spatial development suggests that the public policies that were implemented have had little net impact in modifying migration and urbanization patterns and in redistributing population. The lack of success of population distribution and spatial development policies was mainly due to the formulation of these policies somewhat in isolation of the broad macroeconomic policies, which

had much larger unintended impact on the structure and distribution of economic activities and, therefore, on population movements and distribution.

Demographic Development in Perspective. It is clear that Philippine demographic development during the past one and half decades has been influenced by various indirect and unintended impacts of economic policies, the structure of government priorities, and by the failure of population-related policies and programs to affect demographic trends.

The net effect of the various economic policies has been to lower the capacity of the economy to achieve sustained economic growth and rapid structural transformation, employment expansion at rising real wages, rapid occupational mobility, and poverty reduction. These in turn created a general economic environment that was not conducive to a more favorable demographic development, that is, to rapid fertility and mortality declines, and to a more diffused pattern of migration rather than one that was increasingly uni-directional and metropolitanward.

The deterioration in the levels of living among the large majority of the population contributed to the slowing down of the progress toward mortality reduction and life expectancy increases. The slow structural transformation and the accompanying slow occupational mobility did not favor changes in lifestyles consistent with reduced fertility, thus limiting the progress toward more rapid fertility declines. Moreover, the declining economic opportunities in the rural areas and the increasing concentration of economic activities in few urban centers further limited the emergence of a more productive reallocation of human resources, thus aggravating regional economic disparities and severely constraining the ability of the destination areas to cope with the rapid influx of migrants.

The type of migration that evolved was also not conducive to further fertility decline. For the many poor rural families who migrated to urban areas, the economic value of children both for current production and for future old age support remained high in the new urban poor setting.

In spite of the increasingly adverse economic situation arising from the indirect effects of economic policies, the economic and demographic welfare of the population, particularly the poor, could still have been improved by the impact of direct public interventions in the form of increased provision of health, nutrition and family planning services. But such did not occur for various reasons, including misplaced expenditure priorities, inefficiencies in the delivery of services, and in the case of family planning, a certain policy ambivalence regarding its role in enhancing population welfare and long-term socio-economic development.

In retrospect, the demographic development in the Philippines in the 1970-1985 period was constrained by the joint effects of poor economic performance and inadequate direct public intervention, particularly in fertility reduction, which in turn were due to the nature of public

policies pursued. Given the dynamic interactions between economic and demographic factors, the demographic development observed during the period, unless reversed quickly, is likely to pose serious constraints to the capacity of the Philippine economy to achieve sustained improvements in the level of living and the quality of life of the population in the near and long-term future. We discuss these constraints in Section III.

3. Policy Reforms and Population Welfare

The undesirable properties of past policies and government priorities are now well known. A thorough analysis of such policies and priorities has been undertaken and an agenda for reforms has been formulated in response to the need for achieving economic recovery and sustainable growth. Such reforms are reflected in the Medium-Term Philippine Development Plan, 1987-1992.

In the Plan, development efforts are to be principally directed toward the following goals: (a) alleviation of poverty; (b) generation of more productive employment; (c) promotion of equity and social justice; and (d) attainment of sustainable growth. The basic strategy to achieve these goals is an employment-oriented development that gives agriculture and the rural sector a central role in the development process. This is a significant departure from past development strategies.

The major features of the basic strategy are: (a) the removal of existing policies that are biased against the agricultural sector; (b) the redirection of public investment toward the rural sector; (c) the development of a more rural-oriented, regionally dispersed, labor-intensive small and medium-scale industries; (d) the promotion of a more neutral and open trade regime; (e) a comprehensive agrarian reform program; and (f) increased attention to social services, particularly health, nutrition and education.

Substantial progress has been achieved in implementing various reforms, particularly in dismantling price disincentives against agriculture, import liberalization and abolition of tariff exemptions given to favored groups, and in realigning the government budget toward increased attention to social services, particularly in the field of education.

The broad policy reforms of the new government are expected to reduce if not eliminate the long-standing bias against the agricultural sector where the large majority of the population is found. They are also expected to restructure the economy toward greater efficiency and, therefore, toward faster economic growth. Moreover, the increased attention to social services, one of the neglected aspects of public expenditures in the past, is expected to have a more direct beneficial impact on the welfare of poor households.

While the policies are certainly in the right direction, there are still gaps that exist between policy and action. Moreover, in view of the severe setback that the economy suffered in 1984-1985,

it would take some time for the economy to fully recover and to move on to the path of sustained growth, employment generation and poverty reduction. In the meantime, the population is expected to grow rapidly unless strong collective efforts are made to moderate such growth through fertility reduction.

If there is one area in which the current development strategy of the new government is weak, it is in the area of population growth and fertility reduction. The current population policy as contained in the Population Policy Statement of 1987 issued by the Commission on Population, although broad in scope, does not have a strong and explicit fertility reduction objective that includes modifying the fertility preferences of households.

III. TOWARD A NEW POPULATION POLICY AND FAMILY PLANNING PROGRAM: IS A CONSENSUS POSSIBLE?

There are two issues with respect to fertility and population growth that need to be clarified. The first issue is whether or not an acceptable economic and social development can be achieved without a reduction in the currently high levels of fertility and population growth rates. Available data and analyses of Philippine realities described below suggest that the continued high fertility and rapid population growth rates are likely to diminish the capacity of the economy to improve household welfare, increase the quality of human resources, and achieve full employment at rising real wages. In contrast, a reduction in such rates facilitates the achievement of desired development objectives. On the basis of these considerations, fertility reduction can be instrumental in achieving rapid socioeconomic development. Such a proposition, however, is not sufficient for government to intervene in fertility decisions of couples to modify fertility trends.

The second issue that should be clarified, therefore, is whether or not the government is justified in intervening in the free choice of couples to determine the size of their families, and if so, on what basis? This issue needs to be raised because of strong views expressed in public fora by some groups that the determination of the number of children should be left entirely to individual couples. The constitutional provision on the right of spouses to found a family in accordance with their religious convictions and demands of responsible parenthood is often cited to support such a view.

1. Implications of Rapid Population Growth

While there has been changes in views regarding the role of population change in economic and social development, there is a general feeling among those studying the population problem more closely that rapid population growth in poor countries which already have large populations remains a matter of serious concern and continues to require social action. The nature of the concern and of the required social action, however, depends upon each specific country situation.

The concern for continued rapid population growth in the Philippines must, therefore, be viewed in the context of the circumstances it finds itself at present. These circumstances include very high rates of poverty; high rates of unemployment and underemployment in the face of further increases in the labor force; poor education, health and nutrition among a large proportion of the population; and severe resource constraints arising from poor economic performance in the recent past and from a heavy debt burden.

Under these circumstances, the most salient concerns regarding continued rapid population growth, and in particular high fertility, relate to its impact on (a) current household welfare, particularly among the poor who constitute a large majority of the population; (b) the future quality of human resources, which is a critical aspect of the future capacity of the economy to support a growing population; and (c) full employment at rising real wages, which is a critical factor in raising the standards of living of the population.

High Fertility and Household Welfare. The accumulating evidence from both international and national studies strongly shows that high fertility adversely affects household welfare independently of socioeconomic factors in terms of three important dimensions, namely, (a) infant and child mortality; (b) child nutrition and child care; and (c) schooling performance of children. Because the poor also have high fertility, the burden of high infant and child mortality, high malnutrition rates among preschool children, and poor schooling performance in the elementary grades fall heaviest among the poor.

In addition to the direct effects of poverty and high fertility on child health and survival, nutrition and school performance, there are interactions between health, nutrition and school performance. Poor nutrition affects health, and poor health affects school performance. The accumulated studies on fertility determinants, on the other hand, strongly point to income and education as major socioeconomic determinants of fertility. Given these various interactions, efforts to improve child survival, nutrition and schooling performance must necessarily involve influencing these factors directly as well as indirectly by affecting education, income and fertility. At the household level, a comprehensive strategy for improving household welfare could, therefore, include a strategy of fertility reduction. Lower fertility would not only provide the direct health benefits to the mother, but would also provide the household added opportunities to invest more resources per child to improve health, nutrition and schooling performance.

Population Growth and Human Resource Formation. A critical aspect of the future capacity of the economy to support a growing population is the quality of its human resources. The information on health, nutrition and basic education described earlier point to a disturbing scenario that unless the currently unfavorable trends in these human capital indicators are reversed and placed on a path of sustained improvements, the quality of the labor force will have

deteriorated in the 21st century at precisely the time when higher labor productivity is needed to support a much larger population.

In a large way, the seeds of the future problems with respect to human resource quality have already been sown. The dynamics of poor nutrition, inadequate child health care and poor school performance that have already disadvantaged a large group of today's children are bound to affect their own future welfare as well as the future productivity of the economy. It is still possible, however, to arrest these disturbing trends in human capital indicators through greater public sector commitment and highly focused interventions.

One critical factor affecting the long-run prospects of significant improvements in the future quality of human resources is the rate of population growth. To be sure, rapid population growth is not the sole cause of problems related to the quality of human resources. However, given current development realities, continued rapid population growth makes these problems harder to solve. In contrast, lower fertility and moderate population growth could reduce the pressure for expanding basic health, nutrition and educational services, and such reduced pressure could provide opportunities for improving the coverage and quality of such services.

To illustrate the potential implications of an accelerated decline (fertility to decline from the estimated 1980 level such that replacement fertility is reached by 2000) compared with what might likely prevail without strong fertility reduction efforts (replacement fertility is reached only in 2020), we examine the low and high variants of the NEDA projections for specific age groups.

For children age 0-6 years, the major target groups for health and nutrition interventions, rapid fertility decline would imply an immediate reduction in absolute numbers of more than one million preschoolers between 1985 and 2000. In contrast, under a slow fertility decline scenario, the number of preschoolers would still increase by 2.3 million during the same period. It might be noted that between 1970 and 1985, the number of preschoolers rose by 2.6 million. Improving the health and nutritional status of preschoolers is more likely to be facilitated under a rapid than under a slow fertility decline scenario not only because there will be fewer preschoolers to accommodate under the former scenario but also because, controlling for other factors, faster fertility decline will be associated with a greater reduction in the risk of child malnutrition and poor health.

For elementary and secondary school-age children (7-12 and 13-16 years), the number of such children between 1985 and 2000 will grow by only 1.8 million under rapid fertility decline compared with 3.9 million under slow fertility decline. It might be noted that during the 1970-1985 period, the number of school-age children grew by 3.2 million. Moreover, between 2000 and 2015, the number of school-age children will decline by almost 2.0 million under rapid fertility decline while the number will still increase by 2.1 million under slow fertility decline. Clearly, the pressure

to expand elementary and secondary education to accommodate additional school-age children will be much less during the next 15 or 30 years under a more rapid fertility decline than under a slow one. Such reduced pressure provides greater opportunities for improving the quality of elementary and secondary education.

Population Growth and Full Employment. A critical factor in the success of the economy in significantly raising levels of living and improving the quality of life is the capacity to achieve full employment at rising wages. The failure of the economy in the past to achieve full employment at rising real wages on a sustained basis has been traced to the rapid growth of the labor force and to the failure of the economy to achieve sustained growth and efficiency.

Much of the future labor force has already been born, thus little dramatic change can be expected in the next 15 years with respect to the size of the population of working ages under alternative fertility scenarios. What alternative projections do reveal, however, is that the past high growth of the population will be translated into large increases in the population of working ages in the years to come. The increases in the next two 15-year periods will in fact be larger in absolute numbers than the increase during the past 15 years.

Between 1970 and 1985, the population of working ages grew by around 12 million. In the next 15 years (1985-2000), this population is expected to increase by around 16 million irrespective of the rate of fertility decline. However, between 2000 and 2015, this population is expected to increase by 13 million under rapid fertility decline and 19 million under slow fertility decline.

Thus the pressure of providing employment at rising real wages will continue well into the future considering the large backlog of unemployed and underemployed workers at present, while the gains of rapid fertility decline will be felt only largely beyond the year 2000. The achievement of full employment at rising real wages can be facilitated by reducing the growth of the labor force through fertility reduction now in view of the time lag involved. The role of moderate population growth becomes even more crucial if economic performance cannot be significantly improved quickly due to various development constraints.

2. The Role of Government in Fertility Decisions

To understand better the role of government, we need to consider several problems regarding the free choice of couples with respect to their fertility. First, the information available to individual couples to make intelligent choices may be erroneous and lacking. Information may be erroneous and lacking regarding the family's future economic prospects and opportunities, on the one hand, and regarding the types, costs and availabilities of various contraceptive methods, on the other. These information are not likely to be adequately provided in private markets, hence a case can be made for government intervention in the provision of such information.

Secondly, given the current distribution of income, a large proportion of couples desiring to space or limit the number of their children are unable to do so. From equity considerations, the government may provide contraceptive supplies and services on a subsidized basis to couples who would not otherwise have access to such supplies and services in private markets.

Thirdly, the fertility decisions of individual couples, as with some other household decisions, have consequences, both beneficial and detrimental, that are not totally confined within the boundaries of the family. Some of these consequences are borne by other families. In other words, there are externalities involved in fertility decision making. When such externalities exist, the costs and benefits of an additional birth to individual couples will not be equal to the social costs and benefits. The presence of externalities provides another justification for government intervention in the free choice of couples to determine the number of their children. This is so because the private market is not likely to provide the necessary adjustments by which diverging individual interests and overall societal interests are reconciled.

The nature of these externalities, mainly negative, are implied in our previous discussion on the implications of rapid population growth. More particularly, a couple's fertility behavior imposes costs on society at large and not only by those who chose to have higher fertility.

The fact that a case for government intervention can be made with respect to fertility decisions of couples does not mean that government should necessarily intervene. The decision to intervene should take into account the costs and effectiveness of intervention. The cost of intervention could be large or small depending upon the type of intervention chosen.

Three possible types of interventions are possible although not all of them are desirable. One is to impose limits on the number of children per family. This type of intervention is likely to entail substantial social costs that are clearly unacceptable since families who place a high value on bearing an additional child are prevented from doing so. Moreover, the means of enforcing the policy is likely to be coercive, and in a society that values freedom of choice, interventions that involve coercion would be totally unacceptable. The recognition of this led to the policy of noncoercion in both past and current regimes.

The second type of intervention is to use incentive schemes via taxes and subsidies, i.e., reducing subsidies for schooling, lowering tax deductions for children, etc., in order to raise the relative costs of children. Such schemes, however, are likely to be ineffective. For example, a large number of families do not file income tax returns. Moreover, such schemes are likely to compromise other social goals, i.e., children's education, family welfare, etc.

The third possible intervention is to change the desired number of children among couples in the light of current and prospective economic and social development realities. In the present

Philippine situation where the government enjoys widespread popular support, the type of intervention that might only be needed to modify fertility preferences is for the government to endorse the social goal of a small family. Within such a goal, couples are free to determine the actual number of their children and to determine the means by which they could achieve their desired family size. The family planning program would then support the achievement of such a social goal in addition to its primary objective of improving maternal and child health and individual family welfare. This third type of intervention is the most attractive and acceptable of all.

An Expanded Family Planning Program. A government-sponsored family planning program can be justified whether or not fertility reduction is a national policy objective. Such a program, which provides information and subsidized family planning services to the needy, is clearly part and parcel of an integrated health care delivery system aimed at promoting maternal and child health and individual family welfare, which in turn are desirable ends in themselves. Thus in implementing the national family planning program based on health and family welfare objectives, account should be taken of the existing large unmet demand for family planning services, partly arising from the economic difficulties experienced by families in the most recent crisis. In view of such large unmet demand, more resources are needed for the family planning program than what have been made available in the past.

If fertility reduction is an added intermediate objective to facilitate the achievement of other objectives particularly in the area of human resource development, the family planning program would need to be further expanded to accommodate the expected additional demand for family planning services from couples who will be convinced to modify their fertility plans in line with the newly endorsed social goal of a small family.

IV. CONCLUSIONS

The foregoing analyses suggest policy directions that ought to be taken to improve family welfare, improve the quality of human resources and achieve full employment at rising real wages.

Strengthen the Population Policy by Adopting Explicit Fertility and Population Growth Reduction Objectives. One underlying factor in the current and prospective problems regarding family welfare, quality of human resources and full employment is the continued high rates of fertility and population growth. Reducing fertility and moderating population growth would facilitate the solution of such problems in the context of the economic and social reforms now in place.

It is recommended that the government adopt an explicit fertility reduction objective that includes modifying the fertility preferences of couples by endorsing the social goal of a small

family. This is in addition to its current policy thrust of providing information and family planning services. In view of this additional objective, there is a need to commit resources to expand the family planning program both to address the large unmet demand for family planning services among couples who have already decided to limit their fertility and to those couples who will be convinced to revise their fertility plans in line with the social goal of a small family.

Adopt an Integrated Human Resource Development Policy with Particular Attention to the Health, Nutrition and Basic Educational Needs of Children. There is a need for strengthening programs now in place geared toward increasing the survival of infants and children, reducing child malnutrition, and arresting the deterioration in the quality of basic education.

More particularly, there is a need to expand cost-effective health interventions to reduce the mortality risk of infants and young children through preventive and promotive health care activities, i.e., immunization, control of respiratory and diarrheal diseases, breastfeeding, family planning, etc. Moreover, there is a need to assess the various components of the national nutrition program in terms of coverage and nutritional impacts. Finally, highest priority in the allocation of public resources currently being placed in significantly improving the quality of basic education should be sustained in the years ahead.

Strengthen the Integration of Population and Development Planning. The foregoing analyses strongly suggest that public policies designed to achieve specific objectives also have important unintended impacts, some of which are detrimental to the achievement of other development objectives. There is, therefore, a need to strengthen the capability of policy makers and planners to explicitly take into account various population and development interrelationships in the formulation of policies and plans to achieve the development objectives.

PART II

**DEMOGRAPHIC TRENDS:
REVIEW AND UPDATE**

MATERNAL AND INFANT/CHILD HEALTH, NUTRITION AND MORTALITY: LEVELS, TRENDS AND DETERMINANTS

Zelda C. Zablan

I. INTRODUCTION

The goal of social policies is the promotion of the well-being of members of society, and health is an essential part of it. The Medium-Term Philippine Development Plan 1987-1992 "strongly affirms that health is a fundamental human right and that adequate nutrition and well-spaced children are important prerequisites to good health..." Long-term trends in Philippine mortality indicators show that the rapid declines observed during the post-World War II period have started to level off around the late 1960s at prematurely high levels and may in fact have halted. By 1983, the life expectancy at birth was estimated at 62.8 years, the infant mortality rate was around 58 per 1000 live births, and one out of 10 babies born died before reaching the age of five. By developed country standards, such mortality levels are considered to be quite high. What can be done to accelerate the decline toward the irreducible minimum level of mortality?

It is recognized that substantial economic development is necessary for the achievement of many social goals, including the satisfaction of basic human needs of which health is one. However, the national economy is still in the process of extricating itself out of the economic crisis which began around 1983. Meanwhile, the Philippine population grows at a relatively high rate of 2.5 per cent annually and the birth rate was estimated to be at 36.3 per 1000 population in 1980. There is concern that the poor performance of the national economy in the face of a growing population would lead to a deterioration in the quality of human resources. This concern is based on empirical observations of a high incidence of poor birth outcomes such as low birthweight and of the prevalence of malnutrition among a majority of children 0-6 years of age. Poor birth outcomes, it is feared, would in turn lead to poor school performance and ultimately to low productivity. What can be done to prevent the deterioration in the health status of the Philippine population?

To properly address these questions require improved knowledge on what causes the various health outcomes as well as a clearer understanding of the mechanisms of the health-illness-death process. Better knowledge of what determines the various health outcomes could point to interventions that are best left to the public sector and those to individuals and families. Appreciation of the consequence brought about by changes in health status could

guide the allocation of scarce resources in the most effective and efficient means possible toward health promoting activities.

This paper is an attempt to review existing information on the nutritional, health and survival status of mothers and children, to understand their underlying determinants and to analyze the implications of current and prospective trends for individual and family welfare as well as for the future productivity of human resources. A clear understanding of why the trends are the way they are would be helpful in promoting the health and well-being of the population.

The paper is organized as follows: In section II, levels, trends and differentials of mortality, morbidity and nutritional status are reviewed and analyzed. Section III presents the proximate correlates of the various health outcomes and their key socioeconomic determinants. Finally, Section IV takes up a synthesis of theoretical and existing empirical information regarding the interaction of the proximate correlates and the socioeconomic determinants, and the analysis of the implications of current and prospective trends for the future productivity of the Philippine population.

II. LEVELS, TRENDS AND DIFFERENTIALS IN MORTALITY, MORBIDITY AND NUTRITION

1. The Measures

The World Health Organization (WHO, 1981) suggested two basic health indicators of survival for measuring the attainment of the ultimate goal of an acceptable level of health. These are life expectancy at birth and infant mortality rates. There are other survival indicators that will be used in the analysis. These include child mortality, maternal mortality and cause-specific mortality rates. Life expectancy at birth is the average number of years lived by a population since birth. It is an indicator of long-term survival and is computed with the use of a life table. The infant mortality rate, expressed as the number of deaths to infants under 1 year of age per 1,000 live births in a given year, is a useful indicator of health status and the socio-economic conditions under which they live. It is also a sensitive indicator of the availability, utilization and effectiveness of perinatal and health care. Child mortality rate or the number of deaths at ages 1-4 years in a given year per 1,000 children in the same age group reflects the many environmental factors affecting the health of a child such as nutrition, sanitation, the communicable diseases of childhood, and accidents. It reflects the level and amount of poverty and is thus a sensitive indicator of socioeconomic development of the community.

Maternal mortality rate expressed as the number of deaths attributed to complications of pregnancy and childbirth over a year divided by the number of live births during the year is influenced by general socioeconomic conditions, nutrition and sanitation as well as maternal health care.

Cause-specific mortality rate is useful to indicate the magnitude of preventable mortality particularly for diseases for which immunization exists. However, this indicator's reliability and accuracy depend on accurate diagnosis of the cause of death. According to WHO, to describe health in terms of mortality alone is misleading since mere survival is not an indicator of health and does not reveal the burden of ill-health of a country. If mortality declines primarily as a result of reduced incidence of a disease, a subsequent drop in related disability may be expected. If, however, the decline is due to medical care, there may well be an increase in disability among the survivors. Thus, morbidity indicators would consist of incidence and/or prevalence of certain diseases or disabilities expressed as a rate, that is, the number of cases of disease per 1,000 persons at risk. Morbidity data from health systems surveillance, although inferior to epidemiological survey data, provide some indication of the magnitude of disease incidence as well as trends in control or prevention and it can provide information on morbidity patterns of the country.

Nutritional status indicators measure not only survival but also the quality of life. Measures of nutritional status frequently used in this paper are weight-for-height, height-for-age and weight-for-age among young children. Birthweight, an indicator of community nutrition, is expressed as the number of children per 1,000 live births whose weight is lower than a certain norm, such as 2500 grams.

2. Data Sources and Quality

Good data on the health status indicators are hard to come by. The most readily available statistics on deaths and illnesses come from the Vital Statistics Report of the National Statistical Office (NSO) and the Philippine Health Statistics Report of the Department of Health (DOH). These sources are often incomplete due to underregistration and late registration and are inaccurate because of differential coverage or reporting of specific causes of deaths or illnesses. Morbidity and mortality patterns from these sources are faulted by an undetermined degree of distortion due to differential coverage and reporting of specific diseases. Census data are primarily the sources of the necessary denominators but the periods intervening the censuses are necessarily interpolated and may introduce some distortion.

Sample surveys, nationwide in scope, are alternative sources of morbidity and mortality information. The expense in conducting them has limited the conduct of past national health surveys to two and the demographic surveys (for mortality) to four times at 4- and 5-year intervals, respectively. Still, these data sources are not free of defects, notably the understatement of morbidity and mortality events due to a failure of recall or to concealment. There is also the problem of how to classify reported signs and symptoms into the international codification of illnesses. Direct estimates of morbidity and mortality as well as indirect estimates of mortality can be obtained from these sources.

The census is yet another source of indirect estimates of mortality but the techniques of their estimation is limited to age differentials.

Nutritional status information for the country is available from two national surveys conducted by the Food and Nutrition Research Institute. However, the sample sizes are too limited to allow meaningful interpretation of the data on some sub-groups. The published tables from the nutrition survey data are limited to bivariate crosstabulations

3. Mortality: Levels, Trends and Differentials

3.1 Crude Death Rate Trends

With the exception of three crisis periods (1903, 1918-1919, 1942-1945), the long-term trend in crude death rates (estimated by demographers) and depicted in Table 1 is a declining one.

TABLE 1
Estimates of Crude Death Rates
Philippines, 1903-1980

Period	Crude Death Rate (per 1,000 population)	Average Annual Change (%)
1903	58.0	-
1904 -1905	26.8	-
1906 -1910	26.9	0.0
1911 -1915	25.3	-1.2
1916 -1917	27.8	+2.0
1918 -1919	47.0	-
1920 -1925	25.7	-
1926 -1930	26.0	+1.2
1931 -1935	23.5	-1.9
1936 -1941	23.3	0.0
1942 -1945	31.9	-
1946 -1950	21.8	-
1951 -1955	17.9	-3.6
1956 -1960	14.5	-3.8
1960	13.7	-
1965	12.6	-1.6
1970	11.8	-1.3
1971	11.6	-0.1
1973	9.6	-3.4
1975	8.7	-3.1
1980	8.8	0.0
1983	8.5	-1.1

Sources: Zablan, Z.C. "Trends and Differentials in Mortality", in M.B. Concepcion (ed.) **Population of the Philippines: Current Perspectives and Future Prospects**, PDPR/NEDA, Manila 1983; for the 1980 estimate, see: Concepcion and Cabigon "Levels and Trends of Mortality, Philippines: An Assessment in 1980", UPPI-Work Agreement Paper No. 3, September 1984.

The crude death rate declined by 67 per cent from a level of 26.8 per 1000 population around 1905 to 8.8 in 1980. However, this decline has not been uniform throughout the past 75 years. The crude death rate remained more or less constant up to 1930, declined moderately between 1931 and 1950, but dropped substantially between 1946 and 1960. It further declined by about 3 points between 1960 and 1970, a magnitude that was more modest than the 1931–1941 period. The first half of the 1970s showed a decline of 2.2 points, but remained at almost a constant level between 1975 and 1980. Between 1980 and 1983, there appeared to be a slight decline averaging 1.1 per cent annually. Crude death rate estimates based on vital registration data (not shown) were consistently lower by 26 to 45 per cent than demographic estimates (e.g., 19.2 in 1920, 19.3 in 1930, 11.1 in 1950, 7.7 in 1960, 6.7 in 1970, 6.4 in 1975, 6.2 in 1980 and 6.3 in 1983).

3.2 Life Expectancy At Birth

A better indicator of mortality is the life expectancy at birth since it is not influenced by changes over time in the population age composition. The long-term trends depicted in Table 2 can be characterized broadly into three stages: a period of moderate expansion (1918 to 1948) when annual increments averaged 0.41 a year, a period of rapid increase (1948 to 1968) when the average annual additions were .75 a year, and a period of slow growth (1968 to 1985) yielding increases in life expectancy of 0.26 per annum.

TABLE 2
Life Expectancy at Birth, 1902-1975

Source	Period	Life Expectancy at Birth
Bureau of Census and Statistics	1902	12.7
Bureau of Census and Statistics (Lb); Aromin (Ub)	1918	25.6–37.5
Aromin	1938	40.0
Madigan-Avancena (Lb) Aromin (Ub)	1948	42.5–45.0
Aromin; Lorimer; Zablan (Lb); Hizon- de Castro (Ub)	1960	62.8–53.3
Zablan	1968	58.7
Engracia (Lb); Zablan (Ub)	1970	57.6–59.6
Zablan	1973	60.6
Flieger	1975	59.3
NCSO	1980	61.6
Zablan	1983	62.8
NCSO	1985	63.1

^a Severe cholera and smallpox epidemics in the country in 1902.

^b The influenza and cholera epidemics led to the lowerbound (Lb) point estimate by the Bureau of Census and Statistics. Upperbound (Ub) estimated by Aromin for 1904–1930, excluded crisis mortality years.

^c NCSO Projections for 1980–2030 using Flieger's 1975 estimates as benchmark figures.

3.3 Infant Mortality

Trends in 5-year infant mortality rates (IMR) obtained from registered or reported deaths depict a substantial shrinkage from 157 per 1000 live births in 1926–1930 to 47 in 1978–1982 representing a 70 per cent decline (Table 3). Although the trend before the Second World War was largely erratic, it showed a tendency to decline. The decline appeared at first to be slow with an average annual rate of 1.29 points between 1924 and 1940. The immediate post-World War II period marked a rapid fall of 3.30 points annually between 1946 and 1962

TABLE 3
Philippine Infant Mortality Rate, 1924-1984

YEAR	Infant Deaths	Live Births	Infant Mortality Rate	Annual Rate of Change (%)	Linear Regression Slope (b)	Mean IMR (Y)
1924	61,761	381,432	161.9	-		
1925	58,204	387,568	150.2	-7.2		
1926	62,753	400,439	156.7	+4.3		
1927	63,205	414,357	152.5	-2.8		
1928	63,441	422,716	150.1	-0.2	+2.57	157.2
1929	69,334	428,966	161.6	+7.7		
1930	70,826	429,245	165.0	+2.1		
1931	68,290	440,159	155.2	-5.9		
1932	61,511	446,940	137.6	-11.3		
1933	67,002	459,682	145.8	+5.9	+1.96	150.6
1934	72,008	447,738	160.8	+10.3		
1935	70,793	461,410	153.4	-4.6		
1936	64,999	485,126	134.0	-12.6		
1937	70,515	513,760	137.3	+2.5		
1938	71,239	512,369	139.0	+1.2	+1.25	138.5
1939	76,377	522,432	146.2	+5.2		
1940	72,647	535,117	135.8	-7.1		

TABLE 3 (Continuation)
Philippine Infant Mortality Rate, 1924-1984

YEAR	Infant Deaths	Live Births	Infant Mortality Rate	Annual Rate of Change (%)	Linear Regression Slope (b)	Mean IMR (Y)
1924-1940	—	—	—	—	1.29	149.6
1941-1945	WORLD WAR II (no data)					
1946	66,902	533,283	125.5	—		
1947	63,809	572,226	111.5	-11.2		
1948	68,897	602,415	114.4	+2.6		
1949	66,114	609,138	108.5	-5.4		
1950	65,273	642,472	101.6	-6.4	-2.87	106.3
1951	67,209	637,264	105.6	73	+3.9	
1952	65,883	648,725	101.6	-3.8		
1953	69,729	661,939	105.3	+3.6		
1954	66,175	702,662	94.2	-10.5		
1955	61,958	734,761	84.3	-10.5	-3.49	92.1
1956	63,583	757,794	83.9	-0.5		
1957	69,592	748,331	93.0	+10.8		
1958	61,335	766,562	80.0	-14.0		
1959	58,610	809,086	72.4	-9.5		
1960	59,301	810,904	73.1	+1.0	-2.46	73.1
1961	56,663	782,857	72.4	+1.0		
1962	56,365	832,207	67.7	-6.5		
1946 - 1984	—	—	—	—	3.30	93.8
1963	56,700	851,459	66.6	-1.6		
1964	54,174	880,871	61.5	-7.6		
1965	59,733	871,715	68.5	+11.4	+0.15	65.5

reaching its peak at 3.49 points annually in 1953–57. Thereafter, the decline in IMR began to lessen and reached its lowest level during the 1968–72 period. It continued to drop at a moderate pace over the 1973–77 period then began to pick up speed over the 1978–82 period at a rate paralleling that observed over the 1958–62 period. It would appear that efforts to reduce

infant mortality in the 1970s and 1980s are gaining ground. It is well to note that despite their differing sources of data, the peak increase in life expectancy during the period 1948-68 coincided with the period of decline in infant mortality. It is recognized that mortality during infancy is a major contributor to total deaths and any reductions in its level can greatly affect the level of overall mortality.

TABLE 3 (Continuation)
Philippine Infant Mortality Rate, 1924-1984

YEAR	Infant Deaths	Live Births	Infant Mortality Rate	Annual Rate of Change (%)	Linear Regression Slope (b)	Mean IMR (Y)
1966	59,81	0 908,826	65.8	-3.9		
1967	59,448	911,872	65.2	-0.9		
1968	62,994	961,646	65.5	+0.4		
1969	63,719	946,753	67.3	+2.7		
1970	57,970	966,762	60.0	-10.8	-0.05	64.5
1971	59,730	963,749	62.0	+3.3		
1972	65,719	968,385	67.9	+8.7		
1973	67,881	1,049,290	64.7	-4.7		
1974	63,491	1,081,073	58.7	-9.3		
1975	65,263	1,223,837	53.3	-9.2	-1.76	58.1
1976	74,792	1,314,860	56.9	+6.8		
1977	76,330	1,344,836	56.8	-0.2		
1978	73,640	1,387,588	53.1	-6.5		
1979	71,772	1,429,814	50.2	-5.5		
1980	65,700	1,456,860	45.1	-10.2	-2.87	46.9
1981	64,415	1,461,204	44.1	-2.2		
1982	61,665	1,474,491	41.8	-5.2		
1983	64,267	1,506,356	42.7	+2.2		
1984	45,106	1,144,280	39.4	-7.7		
1963-1984	-	-	-	-	1.33	57.0

Sources: For 1924-1968: Philippine Health Statistics, 1972, Department of Health, Manila.
For 1969-1980: Vital Statistics Report, 1969-1980, National Census and Statistics Office, NEDA, Manila
For 1981-1983: Philippine Health Statistics, 1981-1983, Health Intelligence Service, Ministry of Health, Manila.
For 1984: Philippine Health Statistics, Health Intelligence

A cautionary remark is warranted about the level of IMR obtained from registered or reported deaths. Indirect estimates of IMR in Table 15 for the periods 1968 through 1983 show consistently higher results than those from the vital registers pointing to a probable underestimation of their levels. The trends depicted here should therefore be considered to merely indicate the general tendency of the long-term trends in IMR.

3.4 Causes of Death

As life expectancy at birth increases, the average age at death also increases. Most infectious diseases select young victims, hence where they prevail, life expectancy is short. On the other hand, degenerative diseases (specially heart disease, cancer and stroke) kill at an older age. Where these prevail, life expectancy is long. Therefore, a shift from infectious to degenerative causes of death results in increases in life expectancy at birth.

A review of the trend in causes of death is attempted here to find support for the observed increases in life expectancy at birth (in Table 2). Table 4 shows that the leading infectious diseases such as pneumonia, respiratory tuberculosis, gastro-enteritis and bronchitis have a general tendency to decline while the degenerative diseases such as heart disease, diseases of the vascular system and malignant neoplasms have a general tendency to increase. Respiratory tuberculosis, gastro-enteritis and bronchitis started declining in 1952 when public health measures in the country were becoming widespread and giant strides were being taken in the development both here and abroad in the distribution of modern drugs and antibiotics. The declines observed for pneumonia were rather recent, starting only in 1972 and the pace of its decline was slow. It still remained the leading cause of death until 1984. Respiratory tuberculosis which ranked second highest until 1972, was relegated to third position in 1984. Heart disease, which occupied eighth highest in 1960, occupied the fourth position in 1984.

It is, therefore, safe to conclude that the increases in life expectancy at birth have arisen from improvements in the control of communicable diseases with the result of an increasing prominence in deaths due to degenerative causes.

3.5 Age-Sex-Cause Differentials of Mortality

To further elucidate this point, Tables 5a-d present trends in the proportionate share of deaths in four broad categories of causes for 1968, 1973, 1978 and 1980. These deaths are further broken down by age and sex to see the predilection of certain causes for certain sectors of the country. Over the four periods investigated, deaths to infants claimed from 22.0 to 25.0 per cent of the total and there appears to be no declining trend. Children 1-14 years of age claimed from 17.0 to 24.6 per cent of total deaths. The data also suggest that control of communicable diseases among infants alone would contribute to around 10 per cent reduction in total deaths.

TABLE 4
Death Rates by Leading Causes, Philippines, 1946-1984

Causes	Death Rate per 100,000 Population																		
	1946	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Pneumonia	197.4	136.7	106.6	100.4	121.2	118.2	125.1	119.8	111.2	102.0	107.6	105.0	98.5	105.2	93.6	87.1	89.3	93.6	89.3
Respiratory tuberculosis	167.2	135.5	97.6	92.1	83.4	77.0	73.3	64.8	69.3	63.6	67.2	67.7	58.6	60.6	59.6	55.1	55.7	55.0	52.9
Gastro-enteritis	58.7	57.7	56.7	60.5	46.0	35.0	44.0	8.0	9.6	27.8	35.5	40.1	33.9	-	-	-	-	-	-
Heart disease	-	18.7	34.7	27.6	33.6	34.0	43.5	59.5	67.9	66.3	19.6	73.5	66.6	63.3	60.8	68.7	72.3	70.9	61.0
Ill-defined disease of early infancy	-	-	-	32.5	-	19.1	39.9	6.4	7.4	6.3	9.1	11.5	11.2	-	-	-	-	-	-
Accidents	-	-	17.4	14.6	23.2	24.8	37.0	11.4	10.7	10.5	17.5	16.7	17.2	24.4	18.7	19.2	11.5	11.2	16.8
Disease of vascular system	-	-	-	20.6	27.9	35.8	32.9	17.6	18.9	17.4	17.0	18.3	24.3	43.8	43.8	42.6	42.4	51.9	39.6
Nutritional deficiency	45.7	113.6	92.8	54.4	49.9	25.5	31.4	34.5	30.3	26.0	25.4	22.3	18.9	17.6	15.3	13.9	11.9	13.6	13.4
Malignant neoplasm	-	8.6	11.7	18.2	22.2	25.6	26.3	25.6	26.9	25.8	26.6	27.7	28.3	33.2	33.2	32.4	25.3	34.6	30.2
Bronchitis	129.7	100.6	73.9	57.2	43.1	27.9	23.7	21.9	17.1	15.4	16.3	14.1	12.8	-	-	-	-	-	-
Tetanus	6.6	5.9	7.4	9.4	10.4	10.1	9.3	9.0	9.2	10.0	9.4	8.4	7.5	-	-	-	-	-	-
Influenza	51.3	26.1	14.1	7.1	7.3	7.2	8.4	5.9	7.1	5.1	6.4	6.4	4.1	-	-	-	-	-	-
Measles	91.0	38.3	15.6	3.7	8.7	4.5	5.3	12.1	8.6	8.5	11.6	11.8	12.1	12.0	10.7	14.0	14.1	17.9	9.8
Dysentery	34.7	7.0	3.9	1.4	3.7	2.4	2.2	1.9	1.6	1.4	2.1	2.6	2.7	-	-	-	-	-	-
Malaria	11.8	4.1	2.8	5.8	5.0	1.8	1.7	2.1	2.3	2.4	2.3	2.2	2.3	-	-	-	-	-	-
Diarrhea	-	-	-	-	-	-	-	-	-	-	-	-	-	35.8	27.9	32.7	25.1	29.0	27.8
Nephritis, nephrotic syndrome, nephrosis	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9	9.3	9.0	8.8	9.3	8.5
Others	615.9	457.2	364.8	264.5	264.4	221.1	226.0	306.1	289.6	211.0	311.8	257.8	241.7	-	-	-	-	-	-

Sources: Philippine Health Statistics Series 1926-1972 (Manila, Disease Intelligence Center, Department of Health); Philippine Vital Statistics Report series 1972-1977 (Manila, NCSO/NEDA); Philippine Health Statistics 1981-1984 (Health Intelligence Service, Ministry of Health, Manila).

TABLE 5a
Percent Distribution of all Deaths by Broad Causes by Age and by Sex, Philippines, 1968

AGE GROUP/SEX	CAUSES OF DEATH						ALL CAUSES	
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovascular Disease ^c	Accidents ^d	Others ^e	Row %	Col. %	Number
Under 1								
Male	38.9	9.7	0.1	0.1	51.2	100.0	25.5	37,380
Female	40.4	9.3	0.1	0.1	50.0	100.0	21.3	26,676
Both Sexes							23.5	64,056
1-14								
Male	70.2	11.2	1.3	2.5	14.7	100.0	21.7	31,727
Female	71.6	11.6	1.5	1.6	13.7	100.0	28.1	35,302
Both Sexes							24.6	67,029
15-24								
Male	30.5	10.2	6.3	7.5	45.4	100.0	5.7	8,370
Female	32.3	13.4	9.1	3.5	41.7	100.0	4.1	5,197
Both Sexes							5.0	13,567
25-34								
Male	38.7	9.8	7.1	6.7	37.8	100.0	5.9	8,569
Female	44.3	13.6	9.6	2.0	30.5	100.0	4.6	5,757
Both Sexes							5.3	14,326
35-44								
Male	43.9	13.0	9.3	4.3	29.5	100.0	6.4	9,441
Female	44.6	16.1	8.7	1.1	29.4	100.0	5.8	7,223
Both Sexes							6.1	16,664
45-54								
Male	45.3	15.7	12.8	2.5	23.7	100.0	7.2	10,542
Female	51.6	20.5	11.1	1.0	15.8	100.0	5.9	7,443
Both Sexes							6.6	17,985
55-64								
Male	42.2	19.2	10.2	1.7	26.7	100.0	8.1	11,899
Female	32.0	20.5	14.1	0.9	31.1	100.0	6.9	8,643
Both Sexes							7.5	20,542
65-74								
Male	34.9	19.1	17.5	1.1	27.5	100.0	7.6	17,510
Female	38.0	19.3	16.8	0.6	25.4	100.0	7.2	9,116
Both Sexes							7.5	20,349
75 & over								
Male	20.1	12.5	15.1	0.5	51.7	100.0	11.9	17,510
Female	23.2	11.0	13.6	0.2	52.0	100.0	16.1	20,218
Both Sexes							13.8	37,728
All ages								
Male	43.7	12.5	6.6	2.1	35.0	100.0	100.0	
Female	44.2	13.4	7.3	0.9	34.2	100.0	100.0	
Both Sexes							100.0	
Total	64,070	18,383	9,667	3,101	51,450			146,671
Deaths	51,070	15,498	8,395	1,057	39,547			125,575
Both Sexes								272,246

^a Communicable disease includes those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC #393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1973, NCSO/NEDA, Manila.

TABLE 5b
Percent Distribution of all Deaths by Broad Causes by Age and by Sex, Philippines, 1973

AGE GROUP/SEX	CAUSES OF DEATH					Others ^c	ALL CAUSES	
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovascular Disease ^c	Accidents ^d			Row %	Col. %
Under 1								
Male	42.9	0.2	2.9	0.2		53.9	100.0	25.2
Female	44.2	0.2	3.3	0.3		52.1	100.0	23.0
Both Sexes								28,474
1-14								
Male	56.0	1.0	5.8	3.7		33.4	100.0	24.2
Female	58.9	0.9	6.0	2.4		31.7	100.0	23.1
Both Sexes								36,179
15-24								
Male	31.9	3.2	9.4	23.9		31.6	100.0	25.0
Female	48.1	5.1	13.7	11.1		22.1	100.0	23.9
Both Sexes								67,071
25-34								
Male	32.8	4.3	12.1	19.0		31.8	100.0	4.8
Female	35.9	6.3	14.9	4.8		38.1	100.0	3.9
Both Sexes								7,554
35-44								
Male	37.1	6.5	15.5	10.3		30.6	100.0	4.4
Female	38.9	9.8	17.0	2.9		31.4	100.0	5.0
Both Sexes								7,901
45-54								
Male	37.8	7.4	20.1	5.9		28.4	100.0	4.4
Female	41.2	12.1	19.7	2.7		24.2	100.0	4.8
Both Sexes								9,472
55-64								
Male	35.1	7.3	25.6	3.4		28.6	100.0	5.3
Female	39.2	9.5	24.1	1.4		25.8	100.0	5.7
Both Sexes								16,034
65-74								
Male	30.4	5.4	28.4	1.7		34.2	100.0	6.9
Female	31.3	6.0	27.4	0.9		34.3	100.0	5.8
Both Sexes								7,145
75 & over								
Male	17.2	2.6	23.8	0.7		55.6	100.0	6.4
Female	14.0	2.1	23.9	0.3		59.6	100.0	8.5
Both Sexes								13,393
All ages								
Male	39.5	3.0	12.9	4.6		40.0	100.0	8.0
Female	40.8	3.6	13.6	1.9		40.1	100.0	9.2
Both Sexes								25,977
Total	61,961	4,663	20,326	7,166		62,842		11.2
Deaths	50,441	4,414	16,832	2,308		49,607		13.3
Both Sexes								37,222
								100.0
								156,958
								123,602
								280,560

^a Communicable disease includes those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC #393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1978, NCSO/NEDA, Manila.

Table 5c
Percent Distribution of all Deaths by Broad Causes by Age and by Sex, Philippines, 1978

AGE GROUP/SEX	CAUSES OF DEATH								
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovas- cular Disease ^c	Accidents ^d	Others ^e	ALL CAUSES			
						Row %	Number		
Under 1	Male	49.7	0.2	3.0	0.3	46.7	100.0	24.9	41,837
	Female	50.2	0.2	3.0	0.4	46.1	100.0	25.1	31,803
1-14	Both Sexes							25.0	73,640
	Male	66.9	1.6	4.9	6.0	20.7	100.0	17.4	28,737
15-24	Female	69.4	1.3	5.3	4.4	19.6	100.0	18.9	23,894
	Both Sexes							17.8	52,631
25-34	Male	13.7	4.3	9.8	34.6	37.6	100.0	6.0	10,204
	Female	16.6	5.7	14.9	13.3	49.6	100.0	4.4	5,672
35-44	Both Sexes							5.4	15,876
	Male	10.8	4.6	12.0	29.2	43.4	100.0	6.3	10,681
45-54	Female	13.3	5.8	15.9	6.4	58.6	100.0	4.6	5,918
	Both Sexes							5.6	16,599
55-64	Male	33.5	6.9	17.0	15.8	26.8	100.0	6.7	11,340
	Female	51.6	10.7	18.3	4.2	15.1	100.0	5.3	6,784
65-74	Both Sexes							6.1	18,124
	Male	35.9	8.6	23.0	7.8	24.6	100.0	7.9	13,242
75 & over	Female	37.9	14.3	23.3	3.2	21.4	100.0	6.2	7,864
	Both Sexes							7.1	21,106
All ages	Male	32.7	8.1	27.0	3.7	28.5	100.0	9.7	16,332
	Female	34.3	10.7	25.5	2.0	27.5	100.0	8.6	10,974
Total	Both Sexes							9.2	27,306
	Male	30.5	7.0	34.4	2.3	25.8	100.0	9.8	16,479
Deaths	Female	31.9	7.5	32.8	1.2	26.7	100.0	10.1	12,897
	Both Sexes							9.9	29,376
Both Sexes	Male	21.2	3.4	32.9	1.0	41.5	100.0	11.6	19,616
	Female	18.7	2.6	33.3	0.5	44.8	100.0	16.8	21,373
Both Sexes	Both Sexes							13.9	40,989
	Male	39.0	3.9	15.7	7.4	34.0	100.0		
Both Sexes	Female	41.4	4.4	16.7	2.6	34.9	100.0		
	Both Sexes								
Total	Male	65,663	6,539	26,468	12,523	57,275			168,468
	Female	52,650	5,607	21,218	3,314	44,390			127,179
Both Sexes	Both Sexes								295,647

^a Communicable diseases include those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC #393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1978. NCSO/NEDA, Manila.

TABLE 5d
Percent Distribution of all Deaths by Broad Causes by Age and by Sex, Philippines, 1980

AGE GROUP/SEX	CAUSES OF DEATH						ALL CAUSES	
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovascular Disease ^c	Accidents ^d	Others ^e		Row %	Col. % Number
Under 1								
Male	42.6	0.2	2.8	0.4	54.0	100.0	22.0	39,182
Female	43.5	0.2	2.9	0.3	53.1	100.0	22.2	26,516
Both Sexes							22.0	65,700
1-14								
Male	60.7	2.5	6.0	3.1	27.7	100.0	16.9	30,229
Female	73.2	2.6	3.5	4.5	16.2	100.0	17.1	20,496
Both Sexes							17.0	50,725
15-24								
Male	25.2	3.4	10.4	33.1	27.9	100.0	5.9	10,547
Female	33.7	6.2	15.0	12.8	32.3	100.0	4.6	5,538
Both Sexes							5.4	16,085
25-34								
Male	24.3	3.8	16.4	28.1	27.4	100.0	6.9	12,297
Female	34.9	7.4	18.7	6.3	32.7	100.0	4.9	5,915
Both Sexes							6.1	18,212
35-44								
Male	32.2	6.7	18.2	16.8	26.1	100.0	6.9	12,304
Female	34.8	12.0	22.4	4.1	26.7	100.0	5.4	6,465
Both Sexes							6.3	18,769
45-54								
Male	36.2	8.7	24.3	8.1	22.7	100.0	8.1	14,512
Female	36.4	14.6	27.6	2.8	18.6	100.0	6.6	7,907
Both Sexes							7.5	22,419
55-64								
Male	36.1	9.1	29.9	3.9	21.0	100.0	9.3	16,635
Female	36.6	12.6	29.4	1.6	19.8	100.0	8.2	9,831
Both Sexes							8.9	26,466
65-74								
Male	33.1	7.1	35.0	1.9	22.9	100.0	10.7	18,995
Female	33.2	7.8	35.8	1.1	22.1	100.0	11.4	13,612
Both Sexes							10.9	32,607
75 & over								
Male	25.8	3.3	35.5	1.8	33.6	100.0	13.3	23,819
Female	24.9	3.0	36.8	0.7	34.6	100.0	19.6	23,490
Both Sexes							15.8	47,309
All ages								
Male	38.4	4.1	17.8	7.1	32.6	100.0	100.0	
Female	41.4	5.3	19.6	2.5	31.2	100.0	100.0	
Both Sexes							100.0	
Total Deaths	68,351	7,404	31,835	12,737	58,193			178,520
	49,569	6,312	23,442	3,031	37,418			119,772
Both Sexes								298,292

^a Communicable diseases include those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC # 393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1980, NCSO/NEDA, Manila.

To extend this to children under 15 years would potentially reduce the deaths by one-fourth to one-fifth. Much of the technology to combat the leading diseases of early infancy and childhood are known and tried.

Sex differences in the distribution of deaths by broad causes, presented in Tables 6a-6d, show that in general, more females than males die of communicable diseases, malignant neoplasms and cardiovascular diseases. On the other hand, more males than females die of accidents. The trend for all ages in the sex differentials for all diseases appeared to be widening over time, but were greatest for deaths due to accidents and malignant neoplasms.

TABLE 6A

**Percent Difference, Male vs. Female, of All Deaths
by Broad Causes by Age, Philippines, 1968**

AGE GROUP	Causes of Death				
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovascular Disease ^c	Accidents ^d	Others ^e
Under 1	-3.8	4.1	0.0	0.0	2.3
1-14	-2.0	-3.6	-15.4	36.0	6.8
15-24	-5.9	-31.4	-44.4	53.3	8.1
25-34	-14.5	-38.8	-35.2	70.1	19.3
35-44	-1.6	-23.8	6.4	74.4	0.3
45-54	-13.9	-30.6	13.3	60.0	33.3
55-64	24.2	-6.8	-38.2	47.0	-16.5
65-74	-8.9	-1.0	4.0	45.4	7.6
75 & over	-15.4	12.5	9.9	60.0	-5.8
All Ages	-1.1	-7.2	-10.6	57.1	2.3

^a Communicable disease includes those classified under the International Disease

Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC # 393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1968, NCSO/NEDA, Manila

More females than males die of malignant neoplasms and the sex differentials are particularly widest in the reproductive ages of 15-49 years.

Although cardiovascular diseases appear to be more of a female than a male killer, these diseases strike females within the childbearing ages of 15 to 49 while more males than females die of these diseases between the ages of 55 and 74 years. This is perhaps due to the fact that childbearing represents the greatest source of physical stress. For the males, stress may be connected with their approaching "menopause" or after they have already reached their peak of economic productivity.

TABLE 6B
Percent Difference, Male vs. Female, of All Deaths
by Broad Causes by Age, Philippines, 1973

Age Group	Causes of Death				
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovascular Disease ^c	Accidents ^d	Others ^e
Under 1	- 3.0	0.0	-13.8	-50.0	3.3
1-14	- 5.2	10.0	- 3.4	35.1	5.1
15-24	-50.8	-59.4	-45.7	53.6	30.1
25-34	- 9.4	-46.5	-23.1	74.7	-19.8
35-44	- 4.8	-50.8	- 9.7	71.8	- 2.6
45-54	- 9.0	-63.5	2.0	54.2	14.8
55-64	-11.7	-30.1	5.8	58.8	9.8
65-74	- 3.0	-11.1	3.5	47.1	- 0.3
75 & over	18.6	19.2	- 0.4	57.4	- 7.2
All Ages	- 3.3	-20.0	- 5.4	58.7	- 0.2

^a Communicable disease includes those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC # 393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1973, NCSO/NEDA, Manila

TABLE 6C
Percent Difference, Male vs. Female, Of All Deaths by Broad
Causes by Age, Philippines, 1978

Age Group	Causes Of Death				
	Communicable ^a Disease	Malignant ^b Neoplasms	Cardiovascular ^c Disease	Accident ^d	Others ^e
Under 1	- 1.0	0.0	0.0	-33.3	1.3
1-14	- 3.7	18.8	- 8.2	36.4	5.3
15-24	-21.1	-32.6	-52.0	61.6	-31.9
25-34	-23.1	-26.1	-32.5	78.1	-35.0
35-44	-54.0	-55.1	- 7.6	73.4	43.6
45-54	- 5.6	-66.3	- 1.3	59.0	13.0
55-64	- 4.9	-32.1	5.6	45.9	3.5
65-74	- 4.6	- 7.1	4.6	47.8	- 3.5
75 & over	11.8	23.5	- 1.2	50.0	- 8.0
All Ages	- 6.2	-12.8	- 6.4	64.9	- 2.6

^a Communicable disease includes those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC # 393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1978, NCSO/NEDA, Manila

Accidents appear to have a greater toll among males than among females, due undoubtedly to the predominantly outdoor and/or strenuous activities they engage in. The sex differential to accidents appear widest in the adult years.

From the evidence so far presented, a preliminary conclusion may be made of the slackening in the pace of mortality decline as due to the still high prevalence of communicable diseases specially among infants and young children. More evidences on this are presented below.

TABLE 6D
Percent Difference, Male vs Female, of all Deaths
by Broad Causes by Age, Philippines, 1980

Age Group	Causes of Death				
	Communicable Disease ^a	Malignant Neoplasms ^b	Cardiovas- cular Disease ^c	Accidents ^d	Others ^e
Under 1	- 2.1	0.0	- 3.6	25.0	1.7
1-14	-20.6	- 4.0	41.7	45.2	41.5
15-24	-33.7	-82.4	-44.2	61.3	-15.8
25-34	-43.6	-94.7	-14.0	77.6	-19.3
35-44	- 8.1	-79.1	-23.1	75.6	- 2.3
45-54	- 0.6	-67.8	-13.6	65.4	18.1
55-64	-13.8	-38.5	1.7	59.0	5.7
65-74	- 0.3	- 9.8	- 2.3	42.1	3.5
75 & over	3.5	9.1	- 3.7	61.1	- 3.0
All Ages	- 7.8	-29.3	-10.1	64.8	4.3

^a Communicable disease includes those classified under the International Disease Classification, IDC #000-153; 470-493.

^b Malignant neoplasms include those classified under IDC #154-239.

^c Cardio-vascular disease includes those classified under IDC # 393-466.

^d Accidents include those classified under IDC #810-999.

^e Others include those not classified under a to d above.

Source: Philippine Vital Statistics Report 1980, NCSO/NEDA, Manila

3.6 Leading Causes of Infant Mortality

The leading causes of infant mortality shown in Table 7 over the 1980-1984 period remain to be the communicable diseases. Pneumonia and respiratory conditions appear to be the first two leading causes throughout the period with diarrhea claiming third prominence. Nutritional deficiencies, although ranking fifth highest in the three earlier years, gave way to measles in 1984 and ranked sixth. Congenital anomalies and birth injury remained in the top 10 leading causes throughout the period suggesting the need for improvement in medical care for mothers and infants.

In general, the percent changes in each of the rates for the 10 leading causes of infant mortality did not show a consistent declining pattern indicating that past efforts in the reduction of infant deaths to each of these causes had no or little persistent effect on mortality risks from them.

TABLE 7
Infant Mortality: Ten (10) Leading Causes, Number and Rate
(Per 1,000 Live Births) Philippines, 1980-1984

Cause	1980		1981		1982		1983		1984		Percent Change			
	N	Rate	N	Rate	N	Rate	Rate	N	N	Rate	1980-81	1981-82	1982-83	1983-84
Pneumonia	16607	11.4	15384	10.5	15062	10.2	15390	10.2	13141	11.5	-7	-2.8	0.0	12.7
Respiratory Conditions of Fetus and Newborn	8048	5.5	7736	5.3	9018	6.1	9379	6.2	6076	5.3	-3.6	+15.1	+1.	-14.5
Diarrhea	5851	4.0	6926	4.7	5028	3.4	6044	4.0	3928	3.4	+17.5	-27.6	+17.6	-15.0
Congenital Anomalies	3458	2.4	2951	2.0	3116	2.1	2934	1.9	1994	1.7	-16.7	+5.0	-9.5	-10.5
Avitaminoses & Other Nutritional Deficiencies	3103	2.1	2856	2.0	1998	1.4	2545	1.7	1068	0.9	-4.8	-30.0	+21.4	-47.0
Birth Injury and Difficult Labor	2173	1.5	2188	1.5	1684	1.1	2220	1.5	450	0.4	0.0	-26.7	+36.4	-73.3

Source: Philippine Health Statistics, 1983, Health and Intelligence Service, Ministry of Health

3.7 Maternal Mortality

Data on Table 8 show a distinct declining trend in maternal mortality over the 1965–1984 period, yet its proportionate contribution to total deaths from all causes and for all age groups has remained unchanged over the period considered. However, maternal deaths constitute 10.9 per cent of all deaths to women 15 to 44 years in 1968, 8.8 per cent in 1973, 9.4 percent in 1978 and 9.0 per cent in 1980. Elimination of maternal deaths through improvements in maternal health care would result in reduction of total deaths by 2 per cent and of deaths to females 15-44 by around 10 per cent.

TABLE 8
Maternal Deaths, Number, Rate and
Percent to Total Deaths; 1965-1984

Maternal Deaths				
Year	Number	Rate *	Number of Deaths	Percent to Total Deaths
1984	889	0.8	45,106	2.0
1983	1,502	1.0	64,267	2.3
1982	1,425	1.0	61,665	2.3
1981	1,542	1.1	64,415	2.3
1980	1,607	1.1	65,700	2.4
1979	1,635	1.1	71,772	2.3
1978	1,734	1.1	73,640	2.4
1977	1,909	1.2	76,330	2.5
1976	1,862	1.4	74,792	2.5
1975	1,753	1.4	65,263	2.7
1974	1,690	1.6	63,491	2.7
1973	1,488	1.4	67,881	2.2
1972	1,379	1.4	65,719	2.1
1971	1,261	1.3	59,730	2.1
1970	1,950	1.9	59,774	3.3
1969	2,047	2.0	65,142	3.1
1968	1,979	2.1	62,994	3.1
1967	1,822	2.0	59,448	3.1
1966	1,829	2.0	59,810	3.1
1965	1,757	2.0	59,733	2.9

*Per 1,000 livebirths

Source: Philippine Health Statistics 1983, Health Intelligence Service
Ministry of Health.

3.8 Leading Causes of Maternal Deaths

Maternal death rates by cause, shown in Table 9, point to postpartum hemorrhages as the leading cause over the 1981-1983 period. This category comprises hemorrhages that have occurred as complications mainly in the course of labor and delivery. The second major group of causes refers to hypertension complicating pregnancy, childbirth and the puerperium, as well as other indications such as fetus malposition, pelvic disproportion, etc.. Pregnancies with abortive outcomes as well as hemorrhages in early pregnancy are the third major causes of maternal deaths. All these deaths appear to be avoidable through proper medical care during pregnancy and childbirth particularly among the high-risk pregnant women.

TABLE 9

**Maternal Mortality: Leading Causes, Number and Rate
(Per 1,000 Live Births) Philippines, 1981-1983**

Cause	1981		1982		1983	
	No.	Rate	No.	Rate	No.	Rate
Pregnancy with abortive outcome (630-639)	202	0.1	174	0.1	103	0.07
Hemorrhages related to pregnancy (640; 641)	149	0.1	110	0.07	64	0.04
Hypertension complicating pregnancy, childbirth and puerperium (642)	248	0.2	285	0.2	503	0.3
Postpartum hemorrhages (666)	590	0.4	532	0.4	550	0.4
Normal delivery and other complications related to pregnancy occurring in the course of labor, delivery and puerperium (643-648, 650-665, 667-676)	353	0.2	324	0.2	282	0.2
All Causes	1542	1.0	1425	1.1	1502	1.0

Source: Philippine Health Statistics: 1981-1984, Health Intelligence Service, Ministry of Health.

3.9 Perinatal Mortality

Perinatal mortality or the ratio of neonatal (less than 28 days) and late foetal (28 weeks gestation) deaths in a given year to the total live births in the same year is an index of the health status of the mother and the newborn. It reflects the influences in the mother's, fetus' and newborn's health of a host of factors such as the newborn's nutrition, its environment, the quality of obstetric and pediatric care, and its mother's socio-economic status.

Table 10 shows that the perinatal death rates were fairly stable over the 1969–1982 period at around 35 per 1,000 live births. Then it started a monotonic decline from 32.8 in 1973 to 21.5 in 1981 representing a 34.4 percent decline over the span of 9 years or an average decline of 3.8 percent annually. This decline was due more to declines in neonatal than to late foetal deaths. Modest improvement in neonatal death risks may be largely attributed to improved natal and post-natal medical care rather than to improvements in the health status of mothers as indicated by the unchanging risks to late foetal deaths.

3.10 Age Differentials of Mortality

The age-specific probabilities of dying (nq_x) for the years 1948, 1960, 1970, 1975 and 1980 are presented in Table 11. The risk of dying by age follows a J-shaped curve, starting at a relatively high level during infancy, declining very rapidly during the early years of life and reaching a low point between the ages of 10 and 14 years. The curve is relatively flat up to the early 20s. In the late 20s or early 30s, the probabilities begin to rise again, gradually at first, then more rapidly. The risk of dying similar to those at infancy is reached but not until 60-64 years and going up to very high levels beyond 65 years.

A comparison of the age-specific probabilities of dying over the 1948–1960 period showed declines across all age groups except for the ages 1-5 years. The 5-period life tables showed monotonic declines in probabilities of dying for the ages between 15 and 45, erratically for the ages under 10 and 46 to 50 but with a definite downward trend. The largest percentage declines over the 1948–1960 period were observed in those age groups where improved socioeconomic conditions had the greatest impact: infants and young adults. The slow growth in life expectancy at birth over the 1970-1980 period (cited in Table 2) coincided with continued but minimal declines felt across all age groups.

Table 10
Neonatal, Late Foetal and Perinatal Death Rates, Philippines, 1969-1982

Year	Live Births (Number)	Neonatal Death Rate (< 27 days old)		Late Foetal Death Rate (28 weeks + gestation)		Perinatal Death Rate (Neonatal + Late Foetal Death)	
		Number	Rate	Number	Rate	Number	Rate
1969	946,753	29,489	31.1	2,988	3.2	32,477	34.3
1970	966,762	29,691	30.7	3,330	3.4	33,021	34.2
1971	763,749	30,366	31.5	3,159	3.3	33,525	34.8
1972	968,385	31,752	32.5	2,933	3.0	34,373	35.5
1973	1,049,290	31,440	30.3	2,631	2.5	34,383	32.8
1974	1,081,073	31,752	29.4	3,326	3.1	35,150	32.5
1975	1,223,837	31,622	24.5	3,584	2.9	33,503	27.4
1976	1,314,860	29,919	24.8	3,771	2.9	36,422	27.7
1977	1,344,836	32,651	24.2	3,562	2.6	36,059	26.8
1978	1,387,588	32,497	22.4	3,895	2.8	34,962	25.2
1979	1,429,814	31,067	21.4	4,070	2.8	34,627	24.2
1980	1,456,860	29,879	20.5	3,895	2.7	33,774	23.2
1981	1,461,204	27,377	18.7	4,045	2.8	31,422	21.5

Source: 1969-1981 Vital Statistics Report, NCSO, NEDA, Manila

TABLE 11
Life Table Mortality Rates for Both Sexes
1948, 1960, 1970, 1975, and 1980
(1000 nqx)

AGE(x)	1948	1960	1970	1975	1980	1948-60	1960-70	1970-75	1975-80
0	116.26	48.79	79.62	76.59	58.56	-58.03	63.19	-3.81	-23.54
1	26.24	32.61	46.02	38.89	36.98	24.28	41.12	-15.49	-4.91
5	17.07	32.39	13.60	11.69	9.45	89.75	-58.01	-14.04	-19.16
10	9.90	8.96	7.29	6.27	5.86	-9.49	-18.64	-13.99	-6.54
15	13.85	11.23	9.87	9.45	8.93	-18.92	-12.11	-4.26	-5.50
20	23.32	17.23	16.07	13.37	13.19	-26.11	-6.73	-16.80	-1.35
25	31.08	22.89	20.56	17.64	15.80	-26.35	-10.13	-14.20	-10.43
30	36.38	28.45	25.39	21.37	19.07	-21.80	-10.76	-15.83	-10.76
35	40.73	35.18	31.26	27.73	24.08	-13.63	-11.14	-11.29	-13.16
40	47.78	41.67	37.66	34.70	31.70	-12.79	-9.62	-7.86	-8.64
45	56.54	53.66	45.58	44.12	41.00	-5.09	-15.06	-3.20	-7.07
50	52.16	69.08	62.16	61.21	55.31	32.44	-10.02	-1.53	-9.64
55	90.79	99.33	85.55	84.47	70.57	9.41	-13.87	-1.26	-16.46
60	108.15	124.76	121.49	120.52	102.40	15.36	-2.62	-0.80	-15.03
65	138.39	183.05	163.75	170.31	142.71	32.56	-10.54	4.01	-16.20
70	193.12	258.47	237.11	239.49	219.24	33.84	-8.26	1.00	-8.46
75	284.64	383.71	346.65	347.79	337.98	34.81	-9.66	0.32	-2.82
80	527.35	654.84	631.11	1000.00a	1004.90	23.94	-3.62	58.45	0.49

a) nqx for 80 years and over

Sources: Cabigon, J. V. and Concepcion, M. B. (1984), "Levels and Trends of Mortality, Philippines: An Assessment," University of the Philippines Population Institute Work Agreement Paper No. 3 (mimeographed); Flieger, et. al. (1981), *On the Road to Longevity*, San Carlos Publications, Cebu City, Tables A5 and A6, pp. 98-99; Estimates of the Life Table Functions of the Philippines: 1970, Monograph No. 1, (Manila, NCSO, No. 1974); M. Hizon and I. de Castro, "1960 Population Mortality from Census Figures," paper submitted to the Annual Conference of the Actuarial Society of the Philippines, November 1965; and Bureau of Census and Statistics, "Life Tables of 1948," unpublished.

3.11 Regional Differentials In Life Expectancy

Although a general trend of increasing life expectancy at birth was observed for the nation as a whole, these improvements were not uniformly felt across geographic and socioeconomic subgroups of the country (Table 12). Over the period of observation starting from 1985, only Metro Manila, Ilocos and Mt. Province, and Central Luzon held positions of advantage relative to the national expectancy average. All other regions had at one time or another showed a life expectancy at birth value lower than the national estimate. The overlapping periods 1965–1970 and 1968–1973 registered increases in life expectancy at birth for Metro Manila, Southern Tagalog and Central Visayas while other regions showed decreases in one or both periods. All regions of the country showed increases in expectancy values in the 1965–1973 period, likewise the expectancy values for all regions in 1980 were higher than those registered in 1970.

3.12 Regional Differentials in CDR and IMR

Analysis of differentials in regional crude death and infant mortality rates is problematic. This has to do with differences in quality of data. Given the same data source and period analyzed, the differentials often reflect the levels of registration or reporting of deaths among regions. Where data sources differ, as in the case where vital registration and sample survey results are used, the former is almost always underreported leading to lower figures than those estimated directly. If the latter is used, the reference period of the estimate may be some varying period in the past but for convenience, the survey data is here quoted. A third kind of regional estimate is that which is projected and are therefore as good as their benchmark figures as well as the assumptions used.

Table 13 is an attempt to assemble regional estimates of crude death rates (CDR) and infant mortality rates (IMR). In 1968, the CDRs and IMRs were higher for certain more developed regions known to have higher concentration of health services than the less developed ones, for example Southern Tagalog and Central Visayas had higher rates than any of the Mindanao regions. CDR and IMR estimates based on the Vital Statistics reports of 1975 and 1980 show unrealistically low levels which tended to show better mortality conditions in Mindanao, fair for the Visayas and worst for Luzon, including Metro Manila. The projected figures for 1985 used the 1970 estimates as benchmark with an assumption of a linear decline. It is not certain whether those assumptions would hold for the period 1970–1985 considering that the Philippines has experienced an economic crisis since 1983 and it is questionable whether the assumed improvements in economic conditions for 1985, if any, have taken place as apparently reflected in the health indicators presented. The patterns in CDR for 1985 are, however, toward the expected directions of socioeconomic improvement.

Table 12
Estimates of Life Expectancy at Birth by Region, Philippines, 1965, 1968, 1970, 1973 and 1980

REGION	YEAR				Average annual rate of change (in years)				
	1 1965	2 1968	3 1970	4 1973	1980	1965-70	1968-73	1965-73	1970-80
PHILIPPINES	56.5	58.7	55.9	60.6	61.6	.12	.38	.51	.57
NCR Metropolitan Manila	58.9	61.3	-	62.8	66.1	-	.30	.48	.47a
I Ilocos & Mt. Province	57.8	65.2	57.6	61.4	63.0	-.04	-.76	.30	.54
II Cagayan Valley & Batanes	57.0	58.7	53.0	57.5	58.3	-.80	-.24	.06	.53
III Central Luzon	60.9	60.3	63.0	64.6	65.1	-.12	.86	.60	.48
IV Southern Tagalog	59.2	56.5	59.6b	61.7	62.5	.08	1.04	.31	.29
V Bicol	56.0	61.2	55.7	64.3	61.2	-.06	.62	.65	.55
VI Western Visayas	56.0	61.2	57.4	60.0	62.2	.28	-.20	.46	.48
VII Central Visayas	59.0	57.6	59.1	62.0	63.9	.02	.88	.38	.48
VIII Eastern Visayas	53.0	57.5	53.0	56.5	58.3	.00	-.20	.44	.53
IX Western Mindanao	53.7	-	47.6	57.6	51.5	-1.22	-	.49	.40
X Northern Mindanao	50.0	58.6	50.0	55.8	60.1	.00	-.56	.73	.10
XI Southern Mindanao	55.4	65.5	49.8	60.7	53.0c	-1.12	-.96	.66	.32
XII Central Mindanao	-	-	-	-	51.5d				

^aBased on 1973 and 1980 estimates.

^bIncludes Metro Manila.

^cSouthern Mindanao and Central Mindanao combined.

^dUsed to be included in Northern and Southern Mindanao.

¹Flieger's regional life tables based on the 1960 and 1970 census data, reported in Zablan, Z.C. Research Note 131, University of the Philippines Population Institute, Manila, August 1977.

²UPPI indirect estimates using Brass method on 1968 and 1973 NDS data.

³Flieger's provincial life tables for 1970.

⁴NCSO projections 1980-2000.

SOURCE: Zablan, Z.C. (1977). "Prospects of Regional Mortality in the Year 2000," paper presented at the UPPI-PREPP Workshop, Manila. Flieger, W. et al. (1981). *On the Road to Longevity*, San Carlos Publication, Cebu.
NCSO (April 1983). "Philippine Population Projections 1980-2000", NEDA/EPRS Circular 83.01.

TABLE 13
Selected Regional Mortality Estimates for the Philippines: 1965-1980 (rates per 1,000)

Region	UPPI 1968 CDR* IMR*	OPS 1970 CDR IMR	UPPI 1973 CDR IMR	NCSO 1975 CDR IMR	NCSO 1980 CDR IMR	NEDA 1985 CDR
PHILIPPINES	10.1	10.9	9.2	6.4	6.2	7.9
NCR	7.5	-	7.2	10.9	7.1	5.4
I Ilocos	7.8	11.5	9.4	7.6	7.3	8.8
II Cagayan Valley	8.9	12.5	10.2	7.4	6.9	9.5
III Central Luzon	9.4	9.1	7.6	6.3	5.8	6.5
IV Southern Tagalog	11.0	8.7	8.1	6.7	6.2	6.8
V Bicol	9.2	11.3	9.0	7.3	7.2	8.3
VI Western Visayas	8.9	10.5	9.9	6.7	6.9	8.3
VII Central Visayas	10.9	10.0	9.3	7.7	7.1	7.9
VIII Eastern Visayas	11.6	12.9	11.2	7.2	6.8	10.1
IX Western Mindanao	5.1*	13.3	9.4	4.7	3.8	13.0
X Northern Mindanao	9.8	12.9	10.8	5.7	5.4	11.1
XI Southern Mindanao	5.1*	12.5	8.0	4.8	4.7	11.6
XII Central Mindanao	-	-	-	2.6	2.8	13.1

Sources:

*Population Institute, University of the Philippines System (unpublished data).

bOffice of Population Studies, University of San Carlos, Cebu City (unpublished data).

cPopulation Institute, University of the Philippines System, Research Note No. 64, "Regional Differentials in Mortality: Philippines 1973," Manila, 1975.

dVital Statistics Report 1980, NCSO 1980.

eTechnical Working Group for Population Projections of the Inter-Agency Committee on Population and Housing, NEDA.

fAverage for Western and Southern Mindanao.

3.13 Regional Differentials in Maternal Mortality

The regional estimates of maternal mortality over the period 1981 to 1984 (shown in Table 14) display ample variabilities among regions. In all of the four periods considered, Metro Manila appeared to be the lowest at a constant level of 0.4 per 1000 live births and Eastern Visayas the highest but declining from a level of 2.6 in 1981 to a level of 1.5 in 1984. Among the 11 remaining regions, only Central Mindanao showed as much proportionate reduction in mortality rate as Eastern Visayas (of 43.8 per cent) but had a lower level of maternal mortality. On the other hand, Western Mindanao registered an increase in maternal mortality of 27.3 per cent from a level of 1.1 in 1981 to a level of 1.4 in 1984. One should note that the data used here were obtained from the Philippine Health Statistics, the quality of which was not ascertained.

TABLE 14
Maternal Mortality Rate by Region
1981-1984

Region	1981		1982		1983		1984	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Philippines	1542	1.1	1425	1.0	1502	1.0	889	0.8
NCR	93	0.4	82	0.4	95	0.4	69	0.4
1. Ilocos	104	0.9	95	0.8	119	1.0	94	1.0
2. Cagayan Valley	89	1.3	64	0.9	71	1.0	35	0.6
3. Central Luzon	96	0.6	82	0.5	110	0.7	57	0.5
4. Southern Tagalog	223	1.1	208	1.0	207	1.0	113	0.7
5. Bicol	177	1.6	187	1.7	161	1.5	88	0.9
6. Western Visayas	133	1.2	113	1.0	135	1.1	64	0.9
7. Central Visayas	116	1.0	135	1.1	127	1.1	40	0.5
8. Eastern Visayas	149	2.6	135	2.3	137	2.3	72	1.5
9. Western Mindanao	55	1.1	57	1.1	72	1.3	75	1.4
10. Northern Mindanao	134	1.5	108	1.2	100	1.1	81	1.1
11. Southern Mindanao	102	0.9	109	0.9	117	1.0	58	0.7
12. Central Mindanao	71	1.6	50	1.1	51	1.1	43	0.9

Source: Philippine Health Statistics: 1981-1984 Health Intelligence Service, Ministry of Health

3.14 Socioeconomic Differentials of Mortality

a. Urban-Rural Differentials.

All indicators of urban-rural mortality showed much higher mortality in rural than in urban areas (Table 15). Rural infant mortality rates were higher than urban rates by 22 per cent in 1968, by 17 per cent in 1970, by 20 per cent in 1973 and by 8 per cent in 1983. Crude death rates were higher in rural than in urban places by 6 per cent in 1968, by 15 per cent in 1970 and by 21 per cent in 1973. Life expectancy at birth was higher in urban than in rural areas by 5 per cent in 1968, by 3 per cent in 1970, by 4 per cent in 1973 and by 2 per cent in 1983. It appears that as mortality is declining, the differentials are narrowing between urban and rural residents.

b. Occupation of Wife Differentials

The highest crude death and infant mortality rates and the lowest life expectancy were recorded for wives who work in the farm in 1973. The occupational groups which held the most advantageous position with respect to all three mortality indicators in 1973 were the professionals and white-collar workers, while farmers held the least advantageous position and the blue-collar workers and those with no occupation showed mortality levels midway between both extremes. Mortality among non-working wives did not change over the 1973-1983 period.

c. Education of Wife Differentials.

Education was negatively related with mortality and the greatest advantage in mortality risk lies in having at least one year of education as compared with no education at all. The differentials over the 1973-1983 period appeared to narrow with increasing education except for those who reached college. Compared with the 1973 period, infant mortality in 1983 was lower by 22 per cent for wives with no schooling, by 9 per cent for those with an elementary education and by 1 per cent for those who reached high school. It increased by 10 per cent, however, among wives who reached college. There appears to be no ready explanation for the increase in infant mortality in 1983 among those who reached college. The differentials in life expectancy over the 1973-1983 period appears to be narrowing with increasing levels of education. Those with no schooling had a life expectancy value in 1983 which was 9 per cent higher than in 1973, by 2 per cent for those with an elementary education, by 0.3 per cent among those who reached high school, but lower by 1 per cent for those who reached college.

TABLE 15
Estimates of Infant Mortality Rates (IMR), Crude Death Rates (CDR) and Life
Expectancy at Birth for Selected Socio-Economic Characteristics
Philippines, 1968-1983

YEAR AND CHARACTERISTICS			IMR ^a	CDR ^a	LIFE EXPECTANCY AT BIRTH
1. Residence	Rural:	1968	61.0	7.7	62.1
		1970	54.3	7.4	63.6
		1973	61.0	9.1	62.1
		1983	59.6	-	62.4
	Urban:	1968	47.3	7.2	65.3
		1970	45.2	6.3	65.8
		1973	49.0	7.2	64.9
		1983	54.6	-	63.5
2.. Occupation Of Wife 1973					
Professional, Administrative, & Managerial White Collar		33.9	5.1	68.6	
Blue Collar		34.8	5.2	68.3	
Farm		58.4	5.1	62.7	
None		100.2	13.6	53.8	
1983		57.9	9.2	62.8	
Working		64.3		62.8	
Not working		57.6		62.8	
3. Wife's Education 1973					
None		115.1	30.1	51.1	
Grades 1-4		61.2	11.5	62.0	
Grades 5-7		59.8	6.8	62.4	
High School, 1-4 years		49.1	4.3	64.8	
College, 1 year +		33.6	4.4	68.7	
1983					
None		90.3		55.8	
Elementary		54.7		63.5	
High School		48.5		65.0	
College		36.8		67.8	

^a Based on Brass q(2)-q(3) estimates for recent mortality.

SOURCE: Zablan, Z. C. "Trends and Differentials in Mortality," in United Nations (1978), **Popula-**
tion of the Philippines, ESCAP Country Monograph Series No. 5, Bangkok, and estimates
based on the 1983 National Demographic Survey.

d. Marital Status Differentials

Death rates were higher for non-marrieds than marrieds, but single, widowed, separated or divorced males appeared to be more disadvantaged than their female counterparts (Table 16). In general, mortality risks were least for those who were married and who stayed married. Married life appeared to be conducive to low mortality risks.

TABLE 16
Standardized and Unstandardized Crude Death Rates^a
by Sex and by Marital Status, Philippines, 1960,
1970 and 1975

Y E A R	M A R I T A L S T A T U S								
	Single			Married			Widowed/Separated Divorced		
	M	F	BS	M	F	BS	M	F	BS
Age-standardized rates^b									
1960	40.7	13.1	26.8	7.9	6.8	7.3	25.3	7.5	16.3
1970	30.6	10.5	20.4	12.1	8.7	9.4	24.3	9.3	16.7
1975	11.5	8.9	11.6	10.6	5.9	8.2	31.9	12.4	18.3
Unstandardized rates									
1960	5.0	4.7	4.9	7.9	6.8	7.3	68.4	28.2	40.3
1970	5.6	3.8	4.7	12.1	8.7	9.4	67.3	40.1	47.4
1975	4.4	3.3	3.9	10.6	5.9	8.2	62.6	39.2	45.6
1980	3.5	2.1	2.8	10.2	4.9	7.5	52.5	38.1	35.1

Legend: M - Male, F - Female, BS - Both Sexes

^a Deaths from vital registration data over five-year periods centering in 1960, 1970 and 1975 for each marital status category were adjusted by multiplying the reciprocal of the vital registration completeness percentage (70 per cent for 1960 and 1970; 77.1 per cent for 1975). The adjusted numbers of deaths were divided into their respective marital status categories obtained from the 1960, 1970, and 1975 census population data.

^b Population of "marrieds" was taken as standard.

^c Age-standardization rates are not computed because no age break down of deaths by marital status is available in the Vital Statistics Report publication of 1980.

SOURCE: Zablan, Z. C. "Trends and Differentials in Mortality," in United Nations (1978), **Population of the Philippines**, ESCAP Country Monograph Series No. 5, Bangkok.

3.15 Socioeconomic Differentials of Mortality (Trivariate)

Madigan, using data from the 1983 National Demographic Survey (NDS), attempted to uncover the socioeconomic underpinnings of the strong urban-rural differentials he observed in infant mortality by using monthly income of the household and mother's education. All live births and their survival statuses at age 1 of the 11,000 mothers interviewed in the 1983 NDS were used to directly estimate infant mortality. The overall level of infant mortality was 37.7 per 1000 live births with 33.6 for urban and 40.2 for rural areas of the country. The results are summarized below.

a. Income Differentials for Urban-Rural and Regional Subgroups

Large differentials in infant mortality exist between households with high and low incomes but the differential income for each region does not produce the same effects, nor does income level in urban and rural areas of a region produce the same results (Table 17). The most disadvantaged groups are the urban lowest income class as shown by 7 out of 13 regions having infant mortality rates greater than the national average of 33.6. These regions include Metro Manila, Southern Tagalog, Western Visayas, Western Mindanao, Ilocos, Southern Mindanao and Northern Mindanao giving IMR values ranging from 119.8 to 62.5 or an unweighted average of 86.3 infant deaths per 1000 live births. The second most disadvantaged subgroups appear to be those in the same income class but residing in rural areas. Nine out of the 13 regions showed IMR values higher than the national average of 40.2. Madigan also noted that these disadvantaged regions had peace and order problems as well as general oppression of the poorer levels of the social pyramid.

b. Education Differentials for Urban-Rural and Regional Sub-groups

Madigan discussed the results as showing inverse relationships between education and infant mortality. He explained this relationship as "not surprising" due to the association of higher educational attainment with readiness to read about healthful practices such as immunization, nutritional requirements, oral rehydration, advantages of breastfeeding, etc., which affect child survival. He failed, however, to mention that better education may lead mothers to more easily break off from taboos and cultural practices adverse to child survival and to more readily accept the "modern medical/health practices" that ensure better health for their babies.

TABLE 17
Infant Mortality by Level of Total Monthly Household Cash Income for Each Region
by Urban-Rural Residence, Philippines, 1983

MONTHLY HOUSEHOLD INCOME																	
REGION	Below P 250		250-499		500-749		750-999		1000-1499		1500-2499		2500 +		All Births *		Total
	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural	Urban Rural		
Philippines																	
Metro Manila	119.8	-	29.1	-	36.8	-	45.2	-	29.6	-	45.9	-	28.1	-	36.9	-	36.9
Ilocos	68.5	61.4	36.6	41.0	34.0	24.3	34.7	38.7	34.6	27.0	19.2	28.3	5.5	18.9	32.9	40.3	38.6
Cagayan	26.8	50.3	40.4	40.4	41.2	61.4	19.3	41.3	26.6	63.1	20.6	57.5	nd	18.8	30.3	49.1	46.3
Central Luzon	21.4	44.7	30.8	47.1	29.9	33.4	24.6	36.1	21.7	24.7	12.2	30.4	4.9	30.0	21.8	35.1	29.4
Southern Tagalog	103.3	52.3	51.2	38.9	36.8	62.9	27.9	57.3	22.3	29.3	25.3	15.6	16.2	7.2	35.0	45.4	41.5
Bicol	36.3	34.8	53.6	28.0	33.5	27.0	17.1	25.9	26.0	25.6	19.8	nd	nd	nd	36.2	28.7	30.5
West ern Visayas	102.4	48.4	42.6	37.4	38.9	32.6	35.3	45.1	24.5	12.3	7.7	nd	12.5	nd	40.9	40.0	40.2
Central Visayas	20.2	33.6	40.6	30.6	14.8	19.6	14.6	9.8	31.5	44.1	14.6	7.0	41.7	7.0	25.5	29.1	27.9
Eastern Visayas	25.7	59.6	46.2	44.7	39.5	45.6	40.9	56.1	10.3	14.3	26.9	24.0	nd	nd	33.4	50.1	46.7
Western Mindanao	82.4	38.7	48.6	56.4	30.5	28.0	28.1	54.9	22.4	22.3	19.1	13.4	36.5	56.3	34.5	38.8	38.1
Northern Mindanao	62.5	58.9	56.3	59.3	54.3	44.2	98.0	20.4	36.6	49.1	17.7	12.2	11.8	nd	47.7	47.5	47.5
Southern Mindanao	65.5	40.6	31.5	20.0	27.3	30.9	27.3	6.3	12.5	23.5	8.7	4.7	nd	4.7	21.5	23.5	22.7
Central Mindanao	33.3	49.6	48.6	57.5	58.0	71.0	65.8	64.9	40.5	32.3	33.8	90.0	18.4	40.8	43.5	61.1	57.9

nd = No deaths reported for a quite small group.

*Our inclusion and lifted from Table 1 of Madigan, F. "Characteristics of Mothers Whose Children Died in Infancy", in Conception (ed.) *Demography at the Crossroads*, Vol. 1.

Source: Francis Madigan "Infant Mortality By Socioeconomic Variables" in Conception (ed.) *Demography at the Crossroads*, Vol. 1, Table 1.

TABLE 18
Infant Mortality, by Highest Grade Completed of Mother,
by Urban-Rural Place of Residence by Region, Philippines, 1983

REGION	EDUCATION LEVEL COMPLETED													
	Elementary		High School		Vocational		Some College		Beyond College		All births *			
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Total	
Philippines											33.6	40.2	37.7	
Metro Manila	45.2		37.6	-	27.8	-	37.9	-	11.4	-	36.9	-	36.9	
Ilocos	47.6	38.1	25.3	36.7	-	-	34.6	46.5	23.7	41.3	32.9	40.3	38.6	
Cagayan	41.4	60.2	31.2	27.1	-	-	18.8	15.9	5.4	25.0	30.3	49.1	46.5	
Central Luzon	23.4	34.1	31.3	38.9	nd	nd	nd	7.7	-	-	21.8	35.1	29.4	
South Tagalog	50.3	56.0	23.1	34.1	-	-	23.3	20.0	17.2	6.9	35.0	45.4	41.5	
Bicol	39.8	32.3	41.1	21.3	15.2	-	10.5	41.7	-	-	36.2	28.7	30.3	
West Visayas	58.7	46.2	35.9	12.3	nd	nd	13.2	20.8	15.7	nd	40.9	40.0	40.2	
Central Visayas	33.4	27.9	20.5	18.5	-	-	4.8	38.5	22.5	23.8	25.5	29.1	27.9	
East Visayas	44.4	99.6	38.3	102.8	-	-	16.2	70.2	6.8	38.0	33.4	50.1	46.7	
West Mindanao	50.1	44.4	35.0	14.1	nd	60.6	8.9	nd	14.3	-	34.5	38.8	38.1	
North Mindanao	70.2	52.9	42.8	41.1	nd	nd	36.8	29.2	19.3	49.3	47.7	47.5	47.5	
South Mindanao	33.3	28.5	19.1	18.1	nd	-	5.7	11.5	3.4	nd	21.3	23.5	22.7	
Central Mindanao	70.4	76.6	59.6	57.1	nd	111.1	20.0	32.9	14.4	35.7	43.3	61.1	57.9	

*Our inclusion and lifted from Table 1 of Madigan, F. "Characteristics of Mothers Whose Children Died in Infancy", in Conception (ed.) *Demography at the Crossroads*, Vol. 1.

Source: Francis Madigan (1985) "Infant Mortality By Socioeconomic Variables" in Conception (ed.) *Demography at the Crossroads*, Vol. 1, Table 2.

3.16 Summary of Trends in Basic Health Indicators of Survival

Before leaving the section on mortality, it is desirable to present trends in the basic indicators that have been based on comparable data sets and analytical techniques. This is done in Table 19 with the hope of avoiding the confusion resulting from trends based on varied sources and data treatment.

Life expectancy between 1960 and 1983 increased by 19 per cent from 52.8 years in 1960 to 62.8 years in 1983. The 10-point increase was achieved most rapidly between 1960 and 1973 with an average annual increase of 0.60. Between 1973 and 1983, however, the yearly increments in life expectancy was only 0.22 year.

Infant mortality between 1960 and 1983 declined by 82 per cent from a level of 105.5 in 1960 to 57.9 in 1983. The decline was higher between 1960 and 1973 at 36 per cent than between 1973 and 1983 to 14 per cent.

The crude death rate declined by 36 per cent from a level of 13.7 per 1000 population to 8.5 in 1983. The decline between 1960 and 1973 was however faster (at 33 per cent) than between 1973 and 1983 (at 8 per cent)

The trend of a slackening pace of mortality decline observed over the recent period indicated by all of the health indicators of survival needs to be further elucidated with use of health status and nutrition indicators. These are the subjects of discussion of the next sections.

TABLE 19
Trends in Indirect Estimates of Life Expectancy at Birth,
Infant Mortality and Crude Death Rates,
Philippines, 1960-1983

Year	Life Expectancy at Birth	IMR	CDR
1960	52.8	105.5	13.7
1968	58.7	76.5	10.1
1973	60.6	67.6	9.2
1975	59.4	57.0	8.7
1980	61.8	58.3	8.8
1983	62.8	57.9	8.5

Source: Zablan, Z.C. "Evaluation of Existing Mortality Estimates: Philippines, 1902-1973," PREPF Research Note No. 82, August 1975, Table 4, for 1960, 1968, and 1973 figures; Esclamad, K., et.al., "Infant and Child Mortality in the Philippines" in Engracia, et.al., (eds.) *Fertility in the Philippines*. ISI/WFS, Voorburg, 1984 for the 1975 estimates; Concepcion, M.B. and Cabigon, J.V. "Levels and Trends of Mortality, Philippines: An Assessment in 1980," Work Agreement Paper No. 3, September 1984 for 1980 estimates based on 1980 Vital Statistics and Census; 1983 estimated by Zablan, et.al., based on the 1983 NDS data.

4.0 Morbidity: Levels, Trends and Differentials

The health status of an individual cannot easily be measured and that of the population is even more difficult to translate into an operational definition that is amenable to statistical treatment. Data on morbidity that are often and readily available are those coming from the health surveillance system (e.g. Health Intelligence Service). One of the major limitations of health surveillance data is the inaccuracy of diagnosis. However, to obtain an idea of the health status of the country, levels, trends and differentials in the leading causes of communicable diseases will be analyzed using data from the annual Vital Statistics Reports of the Department of Health. Data from the National Health Surveys (NHS) of 1978 and 1981 will also be used to supplement this information specially on the prevalence of chronic illnesses and disabilities.

4.1 Levels and Trends in Leading Causes of Morbidity

The 1978 NHS revealed an overall morbidity prevalence of 34.2 per cent of total population. No figure was available for 1981 from the 1981 NHS report from which to base a trend in overall morbidity. Some idea about the trends in morbidity will be gleaned from trends in the leading causes of illness.

The 10 leading causes of notifiable diseases over the period 1978 to 1984, as reported by the Health Intelligence Service (HIS) of the DOH and shown in Table 20, are due to respiratory infections (such as bronchitis, influenza, pneumonia and tuberculosis), gastrointestinal infections (such as diarrhea and dysentery), infectious agents (such as malaria, measles, whooping cough and infectious hepatitis) and accidents. The rate presented for each of these diseases is the average weekly incidence or the speed of developing the disease or infection. The rate of falling ill to each of these diseases does not present a consistent pattern although one does not fail to note that the rates in 1984 were highest compared to those of previous years. It cannot be ascertained how much of the increase in rates for this year is due to improved reporting or to worsening health status of the population.

The morbidity incidence shown in Table 21 and gathered from data of the 1978 and 1983 National Health Surveys (NHS) is expected to be of better quality than the HIS data. Further, it is more comprehensive since it includes illnesses from the chronic diseases. However, the incidence of a specific disease was considered only among those with known diagnosis and this practically excluded 80 per cent of cases. Of those diagnosed, 41 per cent was not known to the respondent of the survey (NHS, 1978).

Table 20
Ten Leading Causes of Morbidity, Philippines, 1978-1984
 (Rate Per 100,000 Population)

CAUSES	ICD NO.	Y E A R							P E R C E N T C H A N G E						
		1978	1979	1980	1981	1982	1983	1984	1978- 1979	1979- 1980	1980- 1981	1981- 1982	1982- 1983	1983- 1984	
Bronchitis	490-493	455.6	471.3	427.3	507.1	552.2	577.8	1039.5	3.5	-9.3	18.7	8.9	4.6	79.9	
Influenza	470-474	488.7	406.0	419.9	445.5	445.5	447.9	783.3	-16.9	3.4	6.1	0.0	0.5	74.9	
Diarrhea	008-009	462.6	466.2	413.0	482.7	435.6	443.6	962.6	0.8	-11.4	16.8	-9.8	1.8	108.9	
Pneumonia	480-486	248.8	272.2	242.7	248.6	108.3	237.5	337.6	9.4	-10.8	2.4	-56.4	119.3	42.1	
Tuberculosis, All Forms	010-019	260.5	233.6	232.4	235.8	206.2	179.2	268.0	-10.3	-0.5	1.5	-12.6	-13.1	49.6	
Malaria	084	77.7	68.2	82.1	89.1	68.9	88.0	207.4	-12.2	20.4	8.5	-22.7	27.7	135.7	
Malignant Neoplasm 140-209	43.6	43.4	59.8	50.0	50.0	—	49.7	50.6	-0.5	37.8	-16.4	—	—	—	
Dysentery, All Forms 004-006	60.7	60.7	60.7	56.7	54.4	66.7	—	—	0.0	-6.6	-4.0	22.6	—	—	
Measles	055	61.2	62.8	55.4	54.6	67.3	71.7	126.5	2.6	-11.8	-1.4	23.3	6.5	76.4	
Whooping Cough	033	33.5	—	41.1	38.7	31.3	27.4	—	—	—	-0.1	-19.1	-12.5	—	
Infectious Hepatitis	070	—	19.0	—	—	16.5	17.6	28.3	—	—	—	—	6.7	60.8	
Accidents	800-999; E800-949	—	—	—	—	—	—	156.8	—	—	—	—	—	—	

SOURCE: Philippine Health Statistics, 1978-1984.
 Health Intelligence Service, MOH

This appears to explain the lower rates reported in Table 21 relative to those in Table 20 for the corresponding diseases reported. The trends over the 1978–1981 period were flawed further by the difference in timing of the NHSs which in effect ignores the monthly variability in incidence of specific diseases. These defects notwithstanding, one observes the prominence of the chronic illnesses such as inflammatory diseases of the eye, peptic ulcers, hypertension and arthritis which are not normally reported by the health surveillance system of the HIS.

TABLE 21
Ten Leading Causes of Morbidity in the Week Preceding
the Survey, Philippines, 1978 and 1981
(rate per 100,000 population)

Cause	Rate		Rate	
	October 1978	July 1981	1978	1981
Influenza	78.8	301.3	1	3
Bronchitis, Emphysema and Asthma	66.1	185.3	2	4
Tuberculosis, All Forms	48.8	121.6	3	5
Inflammatory Diseases of the Eye	46.7	79.0	4	6
Acute Respiratory Infection	34.4	600.2	5	1
Measles	34.2	—	6	-
Peptic Ulcer	23.3	5.1	7	7
Other Viral Diseases	21.6	—	8	-
Enteritis and Other Diarrheal Diseases	21.4	347.5	9	2
Hypertensive Diseases	21.1	62.6	10	8
Malaria	—	43.3	-	10
Arthritis and Spondylitis	—	54.3	-	9

SOURCE: National Health Surveys, 1978 and 1981, MOH.

TABLE 22
Prevalence of Leading Chronic Diseases and Physical
Handicaps, Philippines 1978 and 1981.

Chronic Disease/ Physical Handicap	1978		1981	
	Number	Rate *	Number	Rate *
Peptic ulcer	1173800	2532.4	706173	1417.3
Rheumatism	1580617	3410.1	886350	1778.9
Tuberculosis	724110	1562.2	589276	1182.7
Asthma	1502469	3241.5	833538	1672.9
High Blood	824397	1776.5	795611	1596.8
Heart Trouble	426816	920.8	329724	661.8
Skin Disease	2084559	4497.4	-	-
Blind	81779	176.4	71626	143.8
Cripple	62649	135.2	64715	129.9
Deaf	160842	347.0	96813	194.3
Mute	53368	115.1	-	-
Diabetes	54028	116.6	94459	189.6
Epilepsy	70964	153.1	48332	97.0
Mental Count	78375	169.1	76711	154.0
Mental Retardation	90812	195.9	75132	150.8
Cancer	-	-	16102	32.3

* Prevalence Rate per 100,000 population

Source: National Health Surveys 1978 and 1981, DOH

Table 22 presents the prevalence (old and new cases) rates of selected chronic illnesses and physical handicaps in the country in 1978 and 1981. It appears that peptic ulcer, rheumatism, asthma, tuberculosis, high blood pressure and heart trouble were the leading chronic illnesses for 1978 and 1981.

In general, 7 out of the 10 leading causes of morbidity in 1978 and 1981 (shown in Table 21) are also included in the 10 leading causes of mortality (shown in Table 4). These diseases are mainly the communicable ones such as tuberculosis, bronchitis, influenza, acute respiratory infections, measles and diarrhea. Hypertension is the only degenerative and non-communicable disease that is both a major killer and a cause of illness. Inflammatory diseases of the eye, peptic ulcer and arthritis, although major causes of illness in both periods, never figured as major causes of death. All three are considered chronic debilitating diseases which can sap the productivity of working members of the population.

4.2 Differentials of Morbidity

a. Age and Sex Differentials

Disaggregation of the major causes of illness by age and sex of victims makes possible the identification of high-risk groups. Coupled with results of small-scale experimental intervention programs, this could guide the design of effective and efficient intervention measures and provide some indication of the likely impact of such measures.

Tables 23a-23c present the percentage distributions of morbid cases from the 10 leading causes of illnesses in 1978, 1980 and 1983.

Measles and whooping cough are early childhood diseases affecting mainly children 0-9 years of age. In more recent years, more infants and very young children were affected. Measles is a severe childhood disease, and its fatality in malnourished children is several times higher than in well nourished children. Moreover, measles can have serious consequences on nutritional status.

Measles	1978	1980	1983
< 1	16.4	24.4	18.0
1-4	45.0	43.3	45.5
5-9	29.6	19.5	19.5
10 +	9.0	12.8	17.0
N of Cases	27842	26765	43684

Whooping Cough	1978	1980	1983
< 1	20.8	32.0	31.9
1-4	63.6	54.25	4.1
5-9	15.0	10.0	10.0
10 +	0.0	3.8	4.0
N of Cases	15243	19844	17380

Nearly half of diarrhea cases in the three periods considered was to children 0-4 years of age. There appears to be a growing number of infants falling ill of diarrhea over time. The patterns of transmission of diarrhea need to be ascertained in order to establish whether malnutrition or poor feeding practices or both are the main causes.

Diarrhea	1978	1980	1983
< 1	17.0	19.1	23.0
1-4	34.1	28.2	32.6
5-9	12.8	16.0	11.5
10 +	36.1	36.7	32.9
N of Cases	210608	199574	275068

Three diseases of the respiratory tract were found to be among the leading causes of diseases. These are pneumonia, bronchitis and influenza. Nearly half of the total cases of pneumonia and bronchitis was to children under 5 years of age. Crowding, congestion, unsanitary environment, poor quality maternal care and lack of access to medical services are the probable culprits.

Pneumonia	1978	1980	1983
< 1	22.9	27.2	30.0
1-4	31.9	33.9	35.7
5-9	14.0	11.8	12.3
10 +	31.2	27.1	22.0
N of Cases	113257	117270	123240

Bronchitis	1978	1980	1983
< 1	22.5	24.3	24.1
1-4	32.2	36.2	34.5
5-9	13.2	13.5	13.0
10 +	32.1	26.0	28.4
N of Cases	207426	206469	352447

Influenza is a respiratory tract infection that afflicts children and adults. Nearly 9 out of 10 cases were under 45 years. It is debilitating and has adverse effects among the school age and working populations.

Influenza	1978	1980	1983
< 1	8.6	9.8	9.8
1-4	13.7	13.8	13.9
5-9	13.1	13.0	13.0
10-14	11.0	11.2	11.2
15-44	40.6	38.8	38.8
45 +	13.0	13.4	13.3
N of Cases	222064	202884	256534

Malaria is a communicable disease, and while its prevalence is confined to endemic areas, those who fell ill of the disease were mostly the children and young adults. Living conditions and illness avoidance practices are important factors that affect transmission of this disease.

Malaria	1978	1980	1983
0-14	41.3	28.3	28.0
15-29	29.7	33.8	34.0
30-44	15.7	20.7	21.0
45 +	13.3	17.2	17.0
N of Cases	35353	39678	55019

Tuberculosis is a wasting disease and afflicts persons of all ages. Nearly two-thirds of cases was found among those in the working ages. This has serious implications to the productivity of the workforce.

Tuberculosis	1978	1980	1983
0-14	10.3	9.1	11.1
15-44	33.2	38.4	38.7
45-64	36.1	34.5	33.3
65 +	20.4	18.0	16.9
N of Cases	118587	112307	106300

Malignant Neoplasms are usually fatal. About three-fourths of cases was to persons 45 years and over. Early detection of this disease can prevent its fatal outcome. The fact that a substantial proportion of cases was to persons 45-64 years implies the need for early detection to save the lives of the more senior members of the work force.

Malignant Neoplasm	1978	1980	1983
0-14	5.8	5.6	6.8
15-44	22.9	19.1	22.8
45-64	39.6	47.8	38.9
65 +	31.7	27.5	31.5
N of Cases	19865	28905	25838

b. Regional Differentials in Leading Causes

From Tables 24a-24c and 25a-25c, it appears that the first five leading causes of illness for the Philippines are commonly shared by all the regions of the country, except for malaria and dysentery. These diseases are influenza, bronchitis, pneumonia, diarrhea and tuberculosis. In 1978, Regions II and IX reported malaria as the fourth leading cause of illness and dysentery, the fifth for Region XII. The problem of malaria appeared to become prominent in Region IX garnering 3rd place in 1980, still remained 4th place in Region II and occupied 5th place in Region IV in the same period. By 1983, malaria occupied 5th place in Regions II and IX while dysentery occupied 5th place in Regions X, XI and XII.

TABLE 23a
Percentage Distribution of Morbidity Cases from Selected Leading Causes by Age and by Sex, Philippines, 1978

AGE	Dysentery (004-006)		Gastro-enteritis (008-009)		TB, all forms (010-019)		Whooping Cough (033)		Measles (055)		Malaria (084)	
	Male	Female BS	Male	Female BS	Male	Female BS	Male	Female BS	Male	Female BS	Male	Female BS
<1	8.2	5.6	17.1	16.9	0.8	1.0	20.4	21.3	17.3	15.5	2.8	3.7
1-4	27.0	25.5	35.3	32.7	4.0	3.6	64.1	63.0	50.6	39.1	12.5	12.0
5-9	14.0	13.3	13.8	11.7	3.2	3.2	14.7	15.3	24.2	35.3	13.3	13.2
10-14	6.8	6.0	2.6	5.6	2.4	2.3	0.0	0.0	4.0	4.6	13.9	11.0
15-19	6.4	5.7	4.1	4.5	3.5	3.0	0.0	0.0	1.2	1.8	13.7	11.0
20-24	6.5	6.4	4.3	4.5	4.6	4.4	0.0	0.0	1.0	1.7	9.8	10.2
25-29	4.8	6.0	3.9	4.3	5.6	5.8	0.0	0.0	0.2	0.5	6.4	8.3
30-34	4.2	6.3	3.5	4.1	6.1	6.6	0.0	0.0	0.1	0.3	5.4	7.7
35-39	5.0	6.0	3.1	3.5	7.3	7.8	0.0	0.0	0.3	0.7	5.4	6.1
40-44	2.8	4.6	2.4	3.0	8.4	8.4	0.0	0.0	0.3	0.1	4.0	3.1
45-49	3.4	3.4	2.3	2.1	9.2	9.3	0.0	0.0	0.1	0.1	2.8	2.6
50-54	2.8	3.2	2.0	2.0	8.8	9.3	0.0	0.0	0.1	0.1	2.5	3.1
55-59	3.5	1.0	1.6	1.6	8.8	8.6	0.0	0.0	0.1	0.0	2.3	2.2
60-64	1.8	3.2	1.3	1.5	9.1	9.0	0.0	0.0	0.0	0.0	1.9	2.1
65-69	1.4	1.4	0.8	0.8	7.8	8.1	0.0	0.0	0.1	0.1	1.5	1.7
70+	1.5	2.4	1.5	1.0	9.7	9.0	0.0	0.0	0.1	0.1	1.5	1.7
NS	0.1	0.1	0.4	0.2	0.7	0.6	0.8	0.4	0.1	0.1	0.3	0.3
All Ages%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. Sick	15347	12306	111622	98986	60005	58582	7393	7850	14283	13559	19586	15767
		27653		210608		118587		15243		27842		35353

Source: Philippine Health Statistics, MOH, 1978

TABLE 23a (Continuation)
Percentage Distribution of Morbidity Cases from Selected Leading Causes
by Age and Sex, Philippines, 1978

AGE	Malignant Neoplasm (140-209)		Influenza (470-474)		Pneumonias (480-486)		Bronchitis (490-493)	
	Male	Female BS	Male	Female BS	Male	Female BS	Male	Female BS
<1	1.1	0.7	12.1	5.2	24.2	21.6	23.2	22.0
1-4	22.3	1.5	14.3	13.1	30.9	33.0	32.5	31.8
5-9	11.8	1.1	13.3	13.0	13.1	15.0	13.5	13.0
10-14	1.6	1.2	10.6	11.4	3.8	4.4	5.5	5.3
15-19	2.6	2.0	9.5	9.2	3.7	3.0	3.7	3.6
20-24	2.2	2.2	6.4	8.6	3.3	3.0	3.3	3.6
25-29	2.4	2.6	7.0	7.6	2.1	2.2	2.6	3.4
30-34	3.9	3.8	5.6	7.0	1.7	2.5	2.5	3.0
35-39	5.0	5.6	5.0	6.1	2.0	1.8	2.2	2.6
40-44	6.1	7.6	4.0	5.1	1.8	1.9	2.1	2.2
45-49	7.8	9.1	2.6	2.7	1.7	1.5	1.7	2.0
50-54	9.4	9.5	3.0	4.0	2.0	1.5	1.7	1.8
55-59	10.5	10.1	1.3	1.8	1.7	1.3	1.5	1.6
60-64	11.5	11.4	1.8	2.2	1.9	1.4	1.4	1.5
65-69	11.1	10.4	1.5	1.1	1.5	1.3	1.3	1.4
70+	20.0	20.9	1.9	1.8	3.8	4.4	1.3	1.2
NS	0.5	0.3	0.1	0.1	0.8	0.2	0.0	0.0
All Ages%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. Sick	10727	9138	109700	112364	57874	55383	104543	102883
		19865	222064		113257		207426	

Source: Philippine Health Statistics, MOH, 1978.

TABLE 23b
Percentage Distribution of Morbidity Cases from Selected Leading Causes by Age and Sex, Philippines, 1980

AGE	Bronchitis (466)			Influenza (487)			Diarrheas (009)			Pneumonias (480-486)			TB all forms (010-018,137)			Malaria (084)		
	Male	Female	BS	Male	Female	BS	Male	Female	BS	Male	Female	BS	Male	Female	BS	Male	Female	BS
<1	25.1	23.5	24.3	12.5	7.1	9.8	19.5	18.6	19.1	27.6	26.8	27.2	1.0	1.0	1.0	3.2	3.5	3.3
1-4	37.0	35.6	36.2	15.0	13.1	13.8	26.4	30.8	28.2	33.7	34.2	33.9	3.0	2.9	3.0	6.5	6.4	6.4
5-9	13.7	13.3	13.5	13.5	12.5	13.0	15.4	15.9	16.0	12.1	11.4	11.8	2.9	2.9	2.9	8.7	8.4	8.6
10-14	5.2	5.0	5.1	10.4	12.0	11.2	9.5	6.1	8.1	4.3	3.9	4.1	2.2	2.2	2.2	10.0	10.2	10.0
15-19	3.9	4.2	4.1	9.2	9.5	9.1	5.0	5.3	5.1	2.9	2.8	2.0	3.3	3.0	3.1	12.1	9.1	10.7
20-24	3.4	4.0	3.5	6.1	8.5	7.3	5.5	5.7	5.6	2.5	2.5	2.5	4.9	4.9	4.9	11.2	11.0	11.1
25-29	2.8	3.1	3.0	6.6	7.6	7.1	4.8	4.5	4.7	2.2	2.5	2.3	6.1	6.4	6.2	10.6	13.5	12.0
30-34	1.7	2.6	2.1	5.8	6.6	6.2	2.5	2.5	2.5	1.6	2.1	1.8	6.8	7.1	6.9	8.3	10.3	9.2
35-39	1.2	1.5	1.4	5.1	5.8	5.5	2.6	2.1	2.4	1.3	2.1	1.7	7.8	8.4	8.1	7.4	6.7	7.1
40-44	1.3	1.6	1.5	3.2	3.9	3.6	2.1	2.0	2.0	1.4	1.3	1.3	8.9	9.4	9.2	4.8	3.9	4.4
45-49	1.0	1.4	1.2	2.8	2.9	2.9	1.4	1.0	1.2	1.1	1.0	1.1	8.0	8.4	8.9	3.6	3.3	3.5
50-54	0.9	1.1	1.0	3.0	3.8	3.4	1.0	1.1	1.0	0.9	0.8	0.8	9.7	7.7	9.5	2.7	3.2	3.0
55-59	0.8	1.0	0.9	1.4	1.9	1.7	0.9	0.7	0.8	1.1	1.0	1.1	8.5	6.5	8.5	2.2	2.3	2.2
60-64	0.8	0.9	1.0	1.7	2.2	2.0	1.2	1.3	1.3	1.1	1.0	1.2	7.5	9.3	7.6	2.5	2.4	2.5
65-69	0.5	0.7	0.6	1.5	0.9	1.2	1.0	1.1	1.0	1.3	1.5	1.4	7.3	0.8	6.9	2.0	2.2	2.1
70+	0.7	0.5	0.6	1.3	1.8	1.6	0.9	1.1	1.0	4.3	4.4	4.4	11.2	0.1	10.3	2.7	2.8	2.7
NS	0.0	0.0	0.0	0.9	0.3	0.6	0.3	0.2	0.0	0.7	0.3	0.5	0.9	0.1	0.8	1.5	0.8	1.2
All Ages%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. Sick	104935	101534	206469	99413	105471	202884	117203	82371	199574	64499	52771	117270	57881	54426	112307	21426	18252	39678

Source: Philippine Health Statistics, MOH, 1980.

TABLE 23b (Continuation)
Percentage Distribution of Morbidity Cases from Selected Leading Causes
by Age and Sex, Philippines, 1980

AGE	Malignant Neoplasm (140-209)			Dysentery (004-006)			Measles (055)			Whooping Cough (033)		
	Male	Female	BS	Male	Female	BS	Male	Female	BS	Male	Female	BS
<1	1.7	1.3	1.5	17.5	18.7	17.9	19.9	31.0	24.4	32.1	31.7	32.0
1-4	1.8	1.8	1.8	24.4	32.0	27.1	49.7	34.0	43.3	53.5	55.0	54.2
5-9	1.1	1.0	1.0	11.6	11.8	11.7	18.0	21.7	19.5	9.7	10.4	10.0
10-14	1.4	1.2	1.3	8.3	6.1	7.5	7.0	6.1	6.6	2.0	1.8	1.9
15-19	1.8	1.5	1.7	6.1	5.2	5.8	2.0	2.7	2.2	1.4	0.3	0.9
20-24	2.0	2.0	2.0	4.0	6.1	4.6	1.2	1.6	1.3	0.8	0.4	0.5
25-29	2.1	2.5	2.3	4.3	5.0	4.6	0.7	0.9	0.8	0.5	0.4	0.0
30-34	2.9	2.9	2.9	5.1	1.7	3.9	0.4	0.5	0.5	0.0	0.0	0.0
35-39	4.4	4.2	4.3	4.9	1.5	3.7	0.3	0.5	0.4	0.0	0.0	0.0
40-44	5.8	6.0	5.9	3.5	2.8	3.2	0.2	0.3	0.3	0.1	0.0	0.0
45-49	7.7	8.0	7.8	2.5	2.4	2.5	0.2	0.2	0.2	0.0	0.0	0.0
50-54	8.5	8.3	8.4	2.3	1.5	2.0	0.1	0.1	0.1	0.0	0.0	0.0
55-59	9.6	19.0	19.3	2.0	1.0	1.6	0.0	0.0	0.1	0.0	0.0	0.0
60-64	12.0	12.7	12.3	1.4	2.0	1.6	0.1	0.1	0.1	0.0	0.0	0.0
65-69	13.5	13.4	13.5	1.4	1.4	1.4	0.1	0.1	0.1	0.0	0.0	0.0
70+	23.1	23.4	23.3	0.7	0.8	0.7	0.1	0.2	0.2	0.0	0.0	0.0
NS	0.6	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All Ages%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. Sick	15320	13585	28905	17381	9997	27378	15791	26765	26765	10319	9525	19844

Source: Philippine Health Statistics, MOH, 1980.

TABLE 23c
Percentage Distribution of Morbidity Cases from Selected Leading Causes by Age and Sex, Philippines, 1983

AGE	Diarrheas (009)		TB, all forms (010-018)		Whooping Cough (033)		Measles (055)		Malaria (084)		Schistosomiasis (120)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<1	19.6	27.9	1.2	1.8	32.1	31.7	19.7	15.5	3.0	3.0	0.2	0.2
1-4	26.4	41.6	3.2	3.4	53.5	54.7	49.2	39.6	6.0	6.0	2.0	2.3
5-9	15.4	15.9	3.1	3.3	9.7	10.3	17.8	22.2	9.0	9.0	11.9	15.2
10-14	9.5	2.6	4.6	2.9	3.1	1.8	6.9	5.6	10.0	10.0	22.9	20.4
15-19	5.0	4.0	5.1	4.5	1.4	1.0	1.9	4.4	12.0	9.3	17.9	12.6
20-24	5.5	4.5	4.8	4.8	0.7	0.5	1.2	3.4	11.5	11.0	9.0	6.5
25-29	4.8	3.5	5.9	6.1	0.6	0.4	0.7	3.4	10.5	13.7	7.8	7.8
30-34	2.5	2.1	6.6	6.8	0.0	0.0	0.4	1.6	8.0	10.2	7.1	8.6
35-39	2.6	1.6	7.6	8.0	0.0	0.0	0.6	0.7	7.0	7.0	4.0	4.0
40-44	2.1	1.4	8.7	9.1	0.0	0.0	0.4	1.0	5.0	5.0	4.2	3.1
45-49	1.4	0.7	7.9	9.4	0.0	0.0	0.4	0.9	3.7	1.8	3.0	5.1
50-54	1.2	0.5	9.4	9.0	0.0	0.0	0.3	0.7	3.4	2.9	2.4	4.8
55-59	0.9	0.5	8.4	8.0	0.0	0.0	0.2	0.3	2.1	1.9	1.7	2.9
60-64	1.1	1.3	7.3	7.3	0.0	0.0	0.1	0.2	2.9	3.1	1.5	1.8
65-69	1.0	0.8	7.0	6.4	0.0	0.0	0.1	0.2	1.9	2.1	1.3	1.8
70+	0.8	1.0	10.9	9.0	0.0	0.0	0.1	0.3	13.0	3.0	2.0	1.6
NS	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	1.0	1.0	1.1	1.3
All Ages%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. Sick	162291	112777	56339	49961	9038	8342	26053	17631	29710	25309	2255	1199
			275068				43684		55019			3454

Source: Philippine Health Statistics, MOH, 1983.

TABLE 23c (Continuation)
Percentage Distribution of Morbidity Cases from Selected Leading Causes by Age and Sex, Philippines, 1983

AGE	Malignant Neoplasm (140-209)			Bronchitis (466)			Pneumonias (480-486)			Influenza (487)		
	Male	Female	BS	Male	Female	BS	Male	Female	BS	Male	Female	BS
<1	1.0	1.2	1.1	25.0	23.1	24.1	28.0	32.0	30.0	12.8	7.2	9.8
1-4	1.9	1.6	1.8	37.0	32.0	34.5	33.6	37.9	35.7	14.8	13.1	13.9
5-9	1.8	2.0	1.9	14.0	11.9	13.0	12.0	12.6	12.3	13.6	12.5	13.0
10-14	1.9	2.1	2.0	5.2	4.8	5.0	4.0	1.7	2.8	10.3	12.0	11.2
15-19	3.1	1.6	2.4	4.0	2.0	3.0	2.9	1.3	2.1	9.2	9.0	9.1
20-24	1.7	2.1	1.9	3.2	5.4	4.3	2.5	1.6	2.0	6.0	8.5	7.3
25-29	2.9	2.4	2.7	3.0	4.0	3.5	2.0	1.2	1.6	6.5	7.6	7.1
30-34	4.0	3.9	3.6	2.0	3.2	2.6	1.6	1.2	1.4	5.7	6.6	6.2
35-39	5.2	5.0	5.1	1.1	2.3	1.7	1.1	1.0	1.1	5.0	5.9	5.5
40-44	6.2	8.2	7.1	1.0	3.0	2.0	1.0	0.9	1.0	3.1	4.0	3.6
45-49	7.3	8.0	7.6	0.9	1.9	1.4	0.8	0.7	0.7	2.8	3.0	2.9
50-54	19.1	9.8	9.4	0.9	1.6	1.2	0.9	0.4	0.7	2.9	3.8	3.4
55-59	10.0	10.0	10.0	0.7	1.5	1.1	1.2	0.5	0.9	1.5	1.9	1.7
60-64	12.7	11.0	11.9	0.5	1.3	1.0	1.3	0.8	1.0	1.9	2.1	2.0
65-69	11.2	10.8	11.0	0.5	0.9	0.7	1.4	0.7	1.1	1.4	1.0	1.2
70+	19.3	21.0	20.1	0.7	1.0	0.8	5.2	5.4	5.3	1.4	1.6	1.5
NS	0.6	0.2	0.4	0.1	0.1	0.1	0.5	0.1	0.3	1.1	0.2	0.6
All Ages%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No. Sick	12686	12152	25838	179562	172885	352447	62944	604776	123420	119574	136968	256534

Source: Philippine Health Statistics, MOH, 1983.

TABLE 24a:
Leading Causes of Morbidity (per 100,000 population) by Region, Philippines, 1978.

Diseases	Philippines		Region I		Region II		Region III		Region IV		Region V		Region VI		Region VII		Region VIII		Region IX		Region X		Region XI		Region XII	
	Rate	N C R	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate
Influenza (470-474)	487.7 (222064)	245.4 (13893)	573.6 (19779)	589.7 (12324)	844.2 (38753)	507.8 (28619)	363.1 (12083)	322.8 (14441)	208.3 (7540)	398.6 (10855)	467.7 (10376)	963.4 (24349)	564.7 (17076)	547.6 (11976)												
Gastro-enteritis (008-009)	462.6 (210608)	242.0 (13703)	554.6 (19125)	567.0 (11849)	582.0 (24878)	395.0 (22262)	493.4 (16434)	332.9 (14892)	348.2 (12607)	618.7 (16851)	516.9 (11468)	730.0 (18956)	531.2 (16062)	526.8 (11521)												
Bronchitis (460-493)	455.6 (207426)	355.9 (20149)	491.6 (16947)	587.3 (12273)	572.0 (27778)	492.8 (27778)	234.6 (7805)	299.7 (13405)	272.8 (9876)	313.5 (8530)	606.4 (13453)	686.8 (17359)	770.8 (23308)	449.2 (9825)												
Tuberculosis (010-019)	260.5 (118587)	226.2 (12807)	305.9 (10550)	183.0 (3825)	279.6 (12837)	372.8 (21014)	245.6 (8168)	228.3 (10211)	143.7 (5201)	329.5 (8975)	182.2 (4043)	294.8 (7451)	301.5 (4388)	200.6 (4388)												
Pneumonia (480-486)	248.8 (113257)	213.5 (12088)	252.1 (8694)	239.7 (5009)	195.1 (8956)	175.5 (9890)	259.7 (8643)	206.3 (9230)	293.2 (10614)	390.1 (10624)	230.5 (5113)	322.0 (8139)	358.4 (10838)	247.8 (5419)												
Measles (055)	61.2 (27843)	70.3 (3979)	66.0 (2277)	40.7 (850)	59.0 (2710)	49.4 (2784)	31.1 (1034)	46.3 (2073)	38.9 (1409)	88.8 (2419)	59.9 (1328)	108.1 (2731)	64.1 (1938)	105.6 (2310)												
Malignant Neoplasm (40-209)	43.6 (19865)	69.9 (3960)	50.6 (1745)	23.9 (500)	54.5 (2504)	46.2 (2602)	28.0 (931)	40.7 (1819)	64.6 (2337)	38.9 (179)	46.5 (180)	37.9 (62.9)	115.4 (1591)	44.4 (1679)												
Whooping Cough (033)	33.5 (15243)	-	28.2 (974)	-	32.0 (1471)	24.1 (1359)	38.6 (1284)	22.1 (988)	17.9 (647)	92.7 (2525)	36.5 (180)	-	-	-												
Malaria (084)	77.7 (35353)	-	26.1 (900)	361.7 (7558)	-	175.3 (9881)	-	-	-	46.5 (1267)	379.1 (8411)	67.2 (1698)	115.4 (3489)	44.4 (971)												
Dysentery (all forms) (004-006)	60.7 (27653)	-	36.1 (1246)	33.1 (692)	26.6 (1219)	27.3 (1554)	36.2 (1203)	37.9 (1695)	20.7 (749)	81.1 (2210)	71.2 (1580)	168.8 (4267)	201.1 (6081)	218.4 (4777)												
Tetanus (098)	-	-	-	20.6 (430)	-	-	10.3 (344)	-	-	-	-	-	-	-	-											
Infectious Hepatitis (070)	-	15.8 (892)	-	-	-	-	-	19.8 (884)	-	-	-	-	-	-	-											
Diphtheria (032)	-	14.8 (836)	-	-	-	-	-	-	-	-	-	-	-	-	-											
Schistosomiasis (120)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
Typhoid and Paratyphoid (002)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
Gonococcal Infection (098)	-	19.1 (1082)	-	-	78.9 (3621)	-	-	-	15.1 (548)	-	-	-	-	-	-											

Note: Figures in parentheses () are the number of cases
Source: Philippine Health Statistics, MOH, 1978.

TABLE 24b
Leading Causes of Morbidity (per 100,000 population) by Region, Philippines, 1980

Diseases	Philippines	N C R		Region I		Reg. II		Reg. III		Reg. IV		Reg. V		Reg. VI		Reg. VII		Reg. VIII		Reg. IX		Reg. X		Reg. XI		Reg. XII	
	Rate	Rate		Rate		Rate		Rate		Rate		Rate		Rate		Rate		Rate		Rate		Rate		Rate		Rate	
Bronchitis (466)	427.3 (206469)	367.0 (21910)	511.9 (18137)	517.4 (10523)	640.9 (30934)	269.4 (16582)	230.1 (8028)	486.2 (22062)	319.7 (12136)	240.8 (6756)	335.8 (8553)	762.6 (21147)	545.1 (18362)	453.7 (10338)													
Influenza (487)	419.9 (202884)	263.6 (15737)	578.9 (20510)	459.1 (10225)	687.9 (33201)	370.4 (22798)	252.9 (8826)	312.9 (14000)	171.4 (6507)	368.9 (10347)	467.8 (11914)	780.1 (21633)	300.0 (10105)	736.5 (16781)													
Diarrhea (009)	413.0 (199574)	332.3 (19837)	509.4 (18047)	449.2 (10006)	492.9 (23791)	331.6 (20409)	284.6 (19932)	272.4 (12363)	284.6 (10804)	597.2 (16752)	480.8 (12245)	546.5 (15154)	406.9 (13704)	637.7 (14530)													
Pneumonia (480-486)	242.7 (117270)	288.5 (17225)	266.3 (9435)	127.7 (2844)	201.0 (9700)	130.7 (8045)	238.6 (8324)	213.5 (9686)	292.2 (11091)	355.5 (9972)	228.3 (5815)	353.0 (9789)	250.3 (8431)	303.4 (6913)													
Tuberculosis (010-018,139)	232.4 (112307)	210.5 (12566)	277.2 (9820)	120.1 (2674)	260.7 (12584)	219.2 (13490)	219.8 (7669)	249.5 (11323)	146.8 (5574)	296.6 (8320)	223.9 (5702)	252.5 (7003)	251.0 (8456)	312.8 (7126)													
Malaria (084)	82.1 (39678)	-	66.1 (2339)	379.9 (8462)	26.7 (1290)	213.6 (13146)	-	-	-	-	-	354.1 (9019)	56.4 (1901)	71.0 (1619)													
Malignant Neoplasm (140-239)	59.8 (28905)	93.5 (5591)	47.25 (1674)	32.0 (712)	54.0 (2604)	47.9 (2950)	34.9 (1218)	80.0 (3630)	70.9 (2691)	48.5 (1361)	42.5 (1083)	97.7 (2709)	52.0 (1753)	40.8 (929)													
Dysentery (004-004)	56.7 (27378)	-	40.2 (1425)	18.8 (419)	-	11.9 (730)	20.9 (729)	35.7 (1619)	8.2 (312)	79.7 (2236)	115.8 (2950)	189.1 (5244)	189.9 (6395)	171.4 (3904)													
Measles (055)	55.4 (26765)	101.6 (6066)	64.8 (2297)	29.2 (650)	54.8 (2646)	45.6 (2805)	29.1 (1014)	56.7 (2574)	30.4 (1154)	63.4 (1779)	69.2 (1762)	56.5 (1566)	37.2 (1254)	52.6 (1198)													
Whooping Cough (033)	41.1 (19844)	30.1 (1798)	42.3 (1499)	-	63.2 (3051)	21.0 (1294)	21.6 (755)	20.6 (936)	20.3 (774)	109.0 (3057)	-	64.6 (1791)	47.5 (1599)	103.8 (2364)													
Infectious Hepatitis (070)	-	32.4 (1937)	-	-	21.9 (1056)	-	7.1 (247)	16.2 (737)	10.3 (390)	-	42.2 (1074)	-	-	-													
Diphtheria (032)	-	20.1 (1198)	-	-	-	-	-	-	-	-	-	-	-	-													
Tetanus (032)	-	-	-	10.1 (225)	-	-	-	-	-	-	-	-	-	-													
Schistosomiasis (120)	-	-	-	-	-	-	-	-	-	-	-	-	-	-													

Note: Figures in parentheses () are the number of cases.
Source: Philippine Health Statistics, MOH, 1980.

TABLE 24c
Leading Causes of Morbidity (per 100,000 population) by Region, Philippines, 1983

Diseases	Philippines	N C R		Region I		Region II		Region III		Region IV		Region V		Region VI		Region VII		Region VIII		Region IX		Region X		Region XI		Region XII	
	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
Bronchitis (466)	678.1 (352447)	639.9 (45283)	675.3 (25161)	957.3 (22918)	914.3 (47416)	345.5 (23209)	294.7 (10934)	756.8 (37018)	437.1 (13002)	752.0 (20403)	815.0 (24694)	708.5 (26219)	1344.6 (32487)														
Diarrhea (009)	529.2 (275068)	309.5 (20195)	531.6 (19807)	867.0 (20757)	804.4 (41716)	305.6 (20526)	296.3 (10996)	489.4 (23655)	537.4 (18205)	923.9 (25066)	575.1 (17427)	370.8 (13721)	1125.4 (27190)														
Influenza (487)	493.6 (256534)	200.9 (13113)	418.5 (15595)	834.9 (19989)	883.4 (45815)	247.2 (16605)	132.2 (4906)	330.4 (15970)	213.2 (9959)	1167.6 (31680)	422.2 (12793)	528.3 (19550)	1175.7 (41935)														
Pneumonia (480-486)	237.5 (123420)	127.1 (8292)	236.7 (8819)	158.1 (3785)	327.7 (16997)	123.4 (8291)	170.7 (6336)	204.1 (9868)	331.6 (7280)	283.0 (9806)	401.8 (12175)	193.6 (7163)	698.2 (16870)														
Tuberculosis (010-018,137)	204.5 (106300)	177.5 (11586)	187.8 (6997)	148.0 (3545)	201.2 (10432)	132.3 (8886)	3093.7 (11479)	245.0 (11846)	328.5 (6097)	244.2 (9772)	168.5 (5105)	164.9 (6104)	323.9 (7825)														
Malaria (084)	105.9 (55019)	-	30.6 (1139)	681.8 (16322)	19.1 (989)	117.9 (7921)	8.9 (332)	-	-	-	510.0 (6021)	165.2 (6113)	73.5 (1775)														
Dysentery (004-006)	90.8 (47188)	-	70.2 (2615)	64.3 (1540)	30.5 (1584)	11.8 (795)	27.1 (1007)	84.4 (4080)	145.2 (5873)	95.4 (2839)	207.5 (6085)	173.2 (6410)	332.2 (8026)														
Measles (033)	84.1 (43684)	91.5 (5970)	88.3 (3289)	65.0 (1555)	96.1 (4985)	56.4 (3788)	63.3 (2349)	56.3 (2733)	63.0 (2547)	106.9 (3181)	128.4 (3890)	99.0 (3663)	116.0 (2803)														
Malignant Neoplasm (140-239)	49.7 (25838)	81.4 (5310)	43.4 (1616)	27.9 (668)	49.7 (2579)	42.2 (2832)	26.0 (964)	54.2 (2618)	57.6 (2330)	28.5 (849)	82.4 (2496)	45.2 (1871)	40.5 (978)														
Whooping Cough (033)	33.4 (17380)	-	29.7 (1107)	28.9 (691)	21.2 (1101)	25.5 (1716)	25.7 (958)	27.6 (1334)	10.3 (418)	95.8 (2850)	45.2 (1370)	36.2 (1342)	78.4 (1893)														
Infectious Hepatitis (070)	-	23.4 (1524)	-	-	-	-	-	20.7 (1002)	-9.7 (394)	-	-	-	-														
Diphtheria (032)	-	17.1 (923)	-	-	-	-	-	-	-	-	-	-	-														
H-Fever (754)	-	11.6 (754)	-	-	-	-	-	-	-	-	-	-	-														
Schistosomiasis (120)	-	-	-	-	-	-	-	-	-	42.1 (1252)	-	-	-														

Note: Figures in parentheses () are the number of cases
Source: Philippine Health Statistics, MOH, 1983.

TABLE 25a
Relative Ranking of the Leading Causes of Morbidity by Region, Philippines, 1978

Diseases	Philippines	NCR	Region											
			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Influenza (487)	1	2	1	1	1	1	2	2	4	2	3	1	2	1
Diarrhea (099)	2	3	2	3	3	3	1	1	1	1	2	2	3	2
Bronchitis (466)	3	1	3	2	2	2	5	3	3	5	1	3	1	3
Tuberculosis (010-019)	4	4	4	6	4	4	4	4	5	4	6	5	5	6
Pneumonia (480-486)	5	5	5	5	5	5	3	5	2	3	5	4	4	4
Measles (055)	7	6	6	7	6	7	8	6	7	7	-	7	8	7
Malignant Neoplasm (140-239)	9	7	7	9	7	8	9	7	6	-	10	-	-	-
Whooping Cough (033)	10	-	9	-	8	10	6	9	9	6	-	9	9	8
Malaria (084)	6	-	10	4	-	6	7	-	-	10	4	8	7	9
Dysentery (004-006)	8	-	8	8	9	9	-	8	8	8	8	6	6	5
Tetanus (037)	-	8	-	10	-	-	10	-	-	-	-	-	-	-
Infectious Hepatitis (070)	-	9	-	-	-	-	-	-	-	-	9	-	-	-
Diphtheria (032)	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Schistosomiasis (120)	-	-	-	-	-	-	-	-	-	9	-	10	-	-
Typhoid, Paratyphoid (002)	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Gonococcal Infection (098)	-	-	-	-	10	-	-	10	10	-	-	-	10	-

Source: Philippine Health Statistics, MOH, 1978.

TABLE 25b
Relative Ranking of the Leading Causes of Morbidity by Region, Philippines, 1980

Diseases	Philippines	NCR	Region										XI	XII
			I	II	III	IV	V	VI	VII	VIII	IX	X		
Influenza (487)	2	4	1	2	1	1	2	2	4	2	2	1	3	1
Diarrhea (099)	3	2	3	3	3	2	1	3	3	1	1	3	2	2
Bronchitis (466)	1	1	2	1	2	3	4	1	1	5	4	2	1	3
Tuberculosis (010-019)	5	5	4	6	4	4	5	4	5	4	6	5	4	4
Pneumonia (480-486)	4	3	5	5	5	6	3	5	2	3	5	4	5	5
Measles (055)	9	6	7	8	7	8	7	7	7	8	8	9	10	9
Malignant Neoplasm (140-239)	7	7	8	7	8	7	6	6	6	9	9	7	8	10
Whooping Cough (033)	10	9	9	-	6	9	8	9	8	6	-	8	9	7
Malaria (084)	6	-	6	4	9	5	-	-	-	-	3	-	7	8
Dysentery (004-006)	8	-	10	9	-	10	9	8	10	7	7	6	6	6
Tetanus (037)	-	-	-	10	-	-	-	-	-	-	-	-	-	-
Infectious Hepatitis (070)	-	8	-	-	10	-	10	10	-	-	10	-	-	-
Diphtheria (032)	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Schistosomiasis (120)	-	-	-	-	-	-	-	-	-	10	-	10	-	-
Typhoid, Paratyphoid (002)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gonococcal Infection (098)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Philippine Health Statistics, MOH, 1980.

TABLE 25c
Relative Ranking of the Leading Causes of Morbidity by Region, Philippines, 1983

Diseases	REGION												
	Philippines	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Bronchitis (466)	1	1	1	1	1	3	1	1	2	3	1	1	2
Diarrhea (487)	2	2	2	3	2	2	2	2	1	2	2	3	3
Influenza (009)	3	3	3	2	3	5	3	3	3	1	3	2	1
Pneumonia (480-486)	4	5	4	4	5	4	5	4	4	5	4	4	4
Tuberculosis (10-018,137)	5	4	5	5	4	1	4	5	5	6	7	7	6
Malaria (084)	6	-	9	4	10	6	10	-	-	4	6	6	9
Dysentery (004-006)	7	-	7	8	10	7	7	6	8	7	5	5	5
Measles (55)	8	6	6	7	6	7	6	7	6	8	8	8	7
Malignant Neoplasm (140-239)	9	7	8	10	8	8	8	8	10	10	9	9	10
Whooping Cough (033)	10	-	10	9	9	9	9	9	7	9	10	10	8
Infectious Hepatitis (070)	-	8	-	-	-	-	10	10	-	-	-	-	-
Diphtheria (032)	-	9	-	-	-	-	-	-	-	-	-	-	-
H-Fever	-	10	-	-	-	-	-	-	-	-	-	-	-
Schistosomiasis (120)	-	-	-	-	-	-	-	9	-	10	-	-	-

Source: Philippine Health Statistics, 1983, MOH.

Tables 26a-26c show the percentage contribution of each region to the total cases for each of the 10 leading causes of illness in 1978, 1980 and 1983. In 1978, 50.2 per cent of total influenza cases came from Regions III, IV, X and I; 48.3 per cent from Regions III, IV, X and I in 1980, and 46.5 per cent from Regions III, XII and IX in 1983. Forty-eight per cent of total diarrhea cases in 1978 came from Regions III, I, X and VII; 47.7 per cent from Regions III, V, IV, V, NCR and I in 1980; and 42.8 per cent from Regions III, XII, IX and VI in 1983. In 1978, 56.8 per cent of total tuberculosis cases came from Region IV, NCR, III, I and VI; 44.5 per cent from Regions IV, III, NCR, and VI in 1980 and 51.9 per cent from Regions VI, NCR, V, III and VIII in 1983. For measles, 58.9 per cent of total cases in 1978 came from Region VII, NCR, Regions III, X, IV and XI.

The results seem to point to Region III's prominent contribution to influenza and diarrhea cases and of NCR's large contribution to tuberculosis and measles cases for all of the years considered. While this may be due to better reporting of cases in these more developed regions, it is possible that these observations are also due to urban poverty, malnutrition, crowding and lack of access to health facilities.

From the death and illness profiles presented above, it seems that improvement in health status of the country would depend in large measure on improving the health status of children who comprise the bulk of those falling ill and dying. To do this would require a good understanding of the interrelationships of nutrition, disease transmission and health care factors and in the socioeconomic context within which these factors are synergistically or antagonistically interacting. It has often been asserted that lack of care and harmful treatment particularly of young children, maternal depletion, young age at infection and high disease load are major causes of severe infection, and that immunosuppression due to malnutrition has been the dominant factor to explain why many infections become fatal in poor and depressed communities than in developed ones. An attempt to find support to this contention is as follows.

5. Nutritional Status: Levels, Trends and Differentials

Malnutrition is a global problem and it can be widespread especially among low-income and rapidly growing populations. Although it can affect persons of all ages, malnutrition is usually rampant among infants and preschool children of poor families. Malnutrition has several ill-effects particularly among preschoolers: it can predispose them to serious infections from communicable diseases that may lead to early death. If the child survives, his mental and physical development may be seriously impaired that he suffers from learning, behavior and work capacity handicaps as a result of inadequate diet and recurring illness. Malnutrition prevents the achievement of the full physical and mental potentials of individuals and thus may adversely affect the productivity of society.

TABLE 26a
Percentage Distribution of Morbidity Cases from Selected Leading Causes by Cause
and by Region, Philippines, 1978

Diseases	No.	%	REGION												
			NCR	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Influenza (470-474)	222064	100.0	6.3	8.9	5.5	17.4	12.9	5.4	6.5	3.4	4.9	4.7	11.0	7.7	5.4
Gastro-enteritis (008-009)	210608	100.0	6.5	9.1	5.6	11.8	10.6	7.8	7.1	6.0	8.0	5.4	9.0	7.6	5.5
Bronchitis (490-498)	207426	100.0	9.7	8.2	5.9	12.8	13.4	3.8	6.5	4.8	4.1	6.5	8.4	11.2	4.7
TB, all forms (010-019)	118587	100.0	10.8	8.9	3.2	10.8	17.7	6.9	8.6	4.4	7.6	3.4	6.3	7.7	3.7
Pneumonia (480-486)	113257	100.0	10.7	7.7	4.4	7.9	8.7	7.6	8.2	9.4	9.3	4.5	7.2	9.6	4.8
Measles (055)	27843	100.0	14.3	8.2	3.1	9.7	9.9	3.7	7.4	15.1	8.7	4.8	9.9	6.9	8.3
Malignant Neoplasm (140-209)	19865	100.0	23.0	10.1	2.9	14.5	15.2	5.4	10.6	13.6	-	4.7	-	-	-
Whooping cough (033)	15243	100.0	-	7.1	-	10.7	9.9	9.4	7.2	4.7	18.4	-	11.6	8.8	12.2
Malaria (084)	35353	100.0	-	2.6	22.1	-	29.0	-	-	-	3.7	24.6	5.0	10.2	2.8
Dysentery, all forms (004-006)	27653	100.0	-	4.6	2.5	4.5	5.7	4.4	6.2	2.7	8.2	5.8	15.6	22.3	17.5

Source: Philippine Health Statistics, MOH, 1978.

TABLE 26b
 Percentage Distribution of Morbidity Cases from Selected Leading Causes by Cause
 and by Region, Philippines, 1980

Diseases	No.	%	NCR	REGION											
				I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Bronchitis (466)	206469	100.0	11.0	8.8	5.6	15.0	8.0	3.8	10.6	5.8	3.3	4.1	10.2	8.8	5.0
Influenza (487)	202884	100.0	7.8	10.1	5.0	16.4	11.2	4.4	7.0	3.2	5.1	6.0	10.6	5.0	8.2
Diarrhea (009)	199574	100.0	9.6	8.7	4.8	11.5	9.8	9.6	6.0	5.2	8.1	5.9	7.3	16.6	6.9
Pneumonia (480-486)	117270	100.0	14.7	8.0	2.4	8.3	7.0	7.1	8.2	9.4	8.5	5.0	8.3	7.1	6.0
TB, all forms (010-018,137)	112307	100.0	11.2	8.7	2.4	11.2	12.0	6.8	10.1	5.0	7.4	5.1	6.2	7.5	6.4
Malaria (084)	39678	100.0	-	6.2	22.4	3.4	34.8	-	-	-	-	23.9	-	5.0	4.3
Malignant Neoplasm (239)	28905	100.0	19.3	15.8	2.5	9.0	10.2	4.2	12.5	9.3	4.7	3.8	9.4	6.1	3.2
Dysentery, all forms (004-006)	27378	100.0	-	5.5	1.6	-	2.8	2.8	6.2	1.2	8.6	11.4	20.2	24.6	15.0
Measles (055)	26765	100.0	22.6	8.6	2.4	9.9	10.5	3.8	9.6	4.3	6.6	6.6	5.9	4.7	4.5
Whooping Cough (033)	19844	100.0	9.5	7.9	-	16.1	6.8	4.0	4.9	4.1	13.2	-	9.5	8.5	12.4

Source: Philippine Health Statistics, MOH, 1980.

TABLE 26c
Percentage Distribution of Morbidity Cases from Selected Leading Causes by Cause
and by Region, Philippines, 1983

PHILIPPINES		REGION													
Diseases	No.	%	NCR	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Bronchitis (466)	352447	100.0	12.8	7.1	6.5	13.5	6.6	3.1	10.6	6.7	3.7	5.8	7.0	7.4	9.2
Diarrhea (009)	275068	100.0	7.3	7.2	7.5	15.2	7.5	4.0	8.6	6.6	5.8	9.1	6.3	5.0	9.9
Influenza (487)	256534	100.0	5.1	6.1	7.8	17.9	6.5	1.9	6.2	3.4	3.9	12.3	5.0	7.6	16.3
Pneumonia (480-486)	123420	100.0	6.7	7.1	3.1	13.8	6.7	5.1	8.0	5.9	8.0	6.2	9.9	5.8	13.7
TB, all forms (010-018,137)	106300	100.0	11.0	6.6	3.3	9.8	8.4	10.8	11.1	5.7	9.2	6.2	4.8	5.7	7.4
Malaria (084)	55019	100.0	-	2.1	30.0	7.9	14.5	0.7	-	-	-	25.2	11.0	11.2	3.3
Dysentery (004-006)	47188	100.0	-	15.6	3.3	3.4	1.8	2.1	8.8	13.0	6.0	12.0	13.0	14.0	17.0
Measles (055)	43684	100.0	13.7	7.5	3.6	11.4	8.7	5.4	6.2	5.8	7.3	6.7	8.9	8.4	6.4
Malignant Neoplasm (140-239)	25838	100.0	20.5	6.3	22.6	10.0	11.0	3.7	10.1	9.0	3.2	3.6	9.7	6.5	3.8
Whooping Cough (033)	17380	100.0	-	6.6	4.1	6.6	10.2	5.7	8.0	2.5	1.7	11.8	8.2	8.0	11.3

Source: Philippine Health Statistics, MOH, 1983.

Nutritional status can be operationally defined in terms of "input" or "output" types of indicators. Input indicators are mainly measures of food and nutrient intake, specific examples are diet consumption and breastmilk ingestion. Nutrient intake is, however, an imperfect indicator of nutritional status. For one, diet consumption is difficult to measure reliably. Besides, even if reliably measured, individuals differ in efficiency of nutrient utilization. Furthermore, presence of infection also affects nutrient utilization. Nutritional status can alternately be defined in terms of output indicators such as clinical signs of malnutrition (xerophthalmia), biochemical indicators (hemoglobin content determining anemia) and anthropometry (weight-for-age, height-for-age, weight-for-height, skinfold thickness, head circumference, etc.). The output indicators are advantageous because it can be more closely related to health and functional capacity.

The analysis below will use both types of nutrition indicators to determine the levels, trends and differentials of nutritional status in the Philippines.

5.1 Levels, Trends and Differentials in Input Indicators

Tables 27a and 27b present the levels, trends and differentials in nutrient intake for 1978 and 1982. Nutrient intake of individuals in the Food and Nutrition Research Institute (FNRI) samples are expressed in terms of per cent adequacy of per capita per day intake using standards of adequacy set by FNRI. A value of 100 for an essential nutrient means that the recommended daily allowances are met.

TABLE 27a
Percent Adequacy of Per Capita Nutrient Intake
by Urban-Rural Residence, and by Major Island
Group, Philippines, 1978

Characteristics	Energy	Protein	Iron	Vitamin A
<i>Philippines</i>	88.6	102.9	91.7	68.6
<i>Residence</i>				
Urban	91.2	113.3	91.9	79.8
Rural	87.2	98.6	91.5	62.7
<i>Island Group</i>				
Luzon	91.2	105.0	95.9	71.6
Visayas	84.6	100.6	85.7	69.7
Mindanao	85.0	98.4	86.6	52.7

Source: FNRI (1981) First Nationwide Nutrition Survey, 1978. Table A.2.1, p. 17.

TABLE 27b
Percent Adequacy of Mean One-Day Per Capita Nutrient Intake
by Selected Characteristics, Philippines, 1982

CHARACTERISTICS	NUTRIENT							
	Energy	Protein	Iron	Calcium	Thiamine	Riboflavin	Niacin	Ascorbic Acid
PHILIPPINES	89.0	99.6	91.5	80.4	71.8	56.3	119.7	91.1
Residence								
Metro Manila	87.7	100.8	85.5	78.6	80.6	70.2	118.1	81.3
Other Urban	91.3	105.9	100.0	83.9	75.7	64.1	129.0	84.9
Rural	88.6	97.6	90.5	78.9	68.9	50.5	116.0	95.0
Island Group								
Luzon	89.3	98.6	91.5	83.9	74.8	59.2	121.2	92.6
Visayas	86.0	101.0	91.4	75.0	64.7	51.5	113.0	86.8
Mindanao	93.7	101.8	94.0	80.4	72.8	50.5	122.6	93.2
Annual Per Capita Income								
<P 250.00	78.4	77.0	72.9	71.4	62.1	38.8	90.5	125.0
250-499	82.8	89.8	86.4	73.2	66.0	44.7	107.3	84.2
500-999	84.4	90.9	85.6	76.8	68.0	46.6	110.2	92.0
1000-1999	89.7	100.2	91.5	80.4	69.9	53.4	123.4	84.0
2000-3499	92.1	106.5	94.9	85.7	74.3	62.1	125.5	91.1
3500-6999	96.4	114.0	103.4	89.3	82.5	74.8	133.6	90.8
7000+	104.0	128.0	111.0	101.8	89.3	88.3	143.8	98.1
Occupation of HH Head								
Professional/Tech./Skilled	91.1	109.8	100.8	85.7	77.7	66.0	129.9	89.6
Farm Owner	93.4	102.0	94.9	87.5	76.7	54.4	124.1	104.0
Farm Worker	87.6	92.5	87.63	76.8	66.0	48.5	112.4	103.7
Fisherman	87.3	97.8	84.7	76.8	61.2	44.7	113.9	80.2
Semi-skilled	87.5	97.0	87.3	78.6	70.9	56.3	115.3	80.9
Unskilled	87.3	92.1	80.5	69.6	66.0	50.5	113.9	73.7
Others	92.3	109.3	100.8	94.6	76.7	67.0	129.9	94.1
None	81.8	92.1	91.5	78.6	70.9	52.4	117.5	91.7
Education of Meal Planner								
No Formal Schooling	87.0	84.1	86.4	82.1	57.0	57.6	109.5	99.1
1-6 years	87.7	96.3	89.0	80.4	68.0	51.5	116.1	92.9
7-10 years	90.0	102.0	91.5	78.6	75.7	59.2	123.4	80.6
11 + years	94.4	115.9	103.4	92.9	82.5	75.7	133.6	98.5
Household Size								
1-2	113.4	127.0	123.7	117.9	89.3	66.0	156.9	125.3
3-4	99.2	111.8	102.5	85.7	80.6	63.1	131.4	102.5
5-6	89.7	100.8	93.2	71.8	57.3	57.3	119.7	92.2
7-8	87.3	96.5	88.1	78.6	70.9	54.4	116.1	82.8
9+	84.8	95.5	86.4	75.0	68.0	52.4	114.6	91.3

Source: FNRI (1984) Second Nationwide Nutrition Survey, Philippines, 1982. Table A.2.1-5, pp. 71-76.

a. Levels and Trends of Nutrient Intake Adequacy

From Table 27a, of the four nutrients considered in 1978, the mean one-day per capita intake of only protein met the recommended daily allowance of 51.5 grams per capita per day with 102.9 per cent adequacy. Iron intake met 91.7 per cent of desirable levels of 12.0 mgs per capita per day, energy fell short of desirable levels of 2036 kcal per capita per day with 88.6 per cent and Vitamin A was excessively low at 68.6 per cent adequacy of the 3618 I.U. recommended levels.

From Table 27b, out of the 9 essential nutrients considered in 1982, only niacin met the recommended daily allowance of 13.7 mgs. per capita per day with 119.7 per cent adequacy level. Intake of all eight other essential nutrients fell short of recommended per capita daily allowance: 99.6 per cent for protein (RDA = 50.8 gms), 91.5 per cent for iron (RDA = 11.8 mgs), 91.1 per cent for ascorbic acid (RDA = 67.6 mgs), 89.0 per cent for energy (RDA = 2032 kcal), 80.4 per cent for calcium (RDA = 0.56 gms), 71.8 per cent for thiamine (RDA = 1.03 mgs), and 56.3 per cent riboflavin (RDA = 1.03 mgs).

The Filipino diet may be considered adequate for protein but inadequate for energy and the micronutrients. It is very inadequate in terms of vitamins. Over the 1978-1982 period, Filipino diets appear not to have improved. In fact, even protein intake tended to deteriorate in the more recent period.

b. Differentials of Nutrient Intake

In both 1978 and 1982, nutrient intake was almost always higher in urban than in rural areas. The exception was ascorbic acid for which only 1982 data have been shown. When urban residents were further differentiated into Metro Manila and other urban areas, it appears that Metro Manilans were worst off in nutrient intake in 1982 except for thiamine, riboflavin and niacin. Despite the bias in food supply in favor of Metro Manila, this finding appears to show Metro Manila as the most disadvantaged in terms of energy, iron, calcium and ascorbic acid.

Adequacy of nutrient intake in 1978 was found highest in Luzon, next highest in Visayas and lowest in Mindanao for the four nutrients considered. However, in 1982 reversals in adequacy patterns were observed particularly for proteins and iron. Intake in energy foods was least adequate for Visayas (86.0 per cent), was better off in Luzon (89.3 per cent) and nearly adequate for Mindanao (93.7 per cent). It should be noted that the economic crisis hit the country in 1983 and reversals in protein and iron adequacy may have reflected in some way the areas hardest hit by the crisis. Note that of the three major island groups, Visayas tended to be worst off except in protein and riboflavin intake.

Income is the primary determinant of food intake. As shown in Table 27b, income is positively related to adequacy of intake. For energy foods and calcium, adequacy levels were

not met until annual per capita incomes reached ₱7,000. Adequacy of intake for proteins were met, however, at fairly low levels of per capita income of ₱1,000. For iron intake, adequacy was met only when individuals earned ₱3,500 or more. Thiamine and niacin intake was never adequate no matter what per capita income levels were. This was probably due to intake of polished rice. Niacin appeared to be within the reach of all income brackets except those earning less than ₱250 annually. It is interesting to note that ascorbic acid intake appeared to be adequate for those with incomes below ₱250 but not for higher income classes. It could be that ascorbic acid is taken in tablet form particularly for the high income classes.

These differentials in nutrient adequacy by income levels may be elucidated with information in Table 28 showing that most foods were bought, with the exception of starchy roots and tubers more than half of which was farmed or homegrown. One fifth of meat, fish and poultry as well as dried beans, nuts and seeds was "own produced" or "given in" to the household; more than a third of green leafy vegetables and other fruits was produced on farms owned by households, home-grown or given in. That a large percentage of food sources for protein (except for milk and milk products) and regulating foods was not bought perhaps explains why relatively low income levels achieved adequacy of nutrients from these sources. It is surprising that Filipino diets are deficient in energy foods since cereal production over the 1953-1983 period appeared to adequately fulfill consumption requirements (Florentino, et al, 1987). The above observation points to the need to review food distribution policies in order to promote adequate nutrient intake for our own population.

Occupation of the household head largely determines the per capita income of household members. Data on nutrient intake adequacy by occupation somehow reflect a similar relationship, that is, high status occupations including farm owners were more likely to meet nutrient intake standards than those in low status occupations. Farm workers and fishermen, despite their proximity to food, shared the same nutrient intake inadequacy levels as their low-status counterparts such as the semiskilled and unskilled workers.

Education of meal planner (usually the wife of the household head) was positively related to nutrient intake adequacy. Since education is positively associated with income and occupation, the above result is not surprising. Education of meal planner of itself, may contribute to better nutrient intake, but for such statement to be made requires controlling for the effects of other factors associated with education.

It has often been asserted that the larger the household, the harder it would be to adequately provide for decent meals. Data on nutrient intake adequacy presented in Table 27b bear out this contention. Households with 1-2 members showed adequate nutrient intake in 6 out of the 8 nutrients investigated, in 4 out of 8 nutrients for households with 3-4 members and in 2 out of 8 nutrients for households with 5-6 members. Those with 7 or more members shared

TABLE 28
Percentage Distribution of Mean One-day Per Capita Food
Consumption by Source of Household Food Supply,
Philippines, 1982

Food Group	Household Food Source				All Sources	
	Bought	Farm	Homeyard Garden	Own Produce Livestock Fishpond	Given-in	Con- sump- tion (gms)
Energy Foods						
Cereals and cereal product	81.2	15.7	0.0	0.0	3.1	100.0
Starchy roots and tubers	45.3	23.8	21.4	0.0	9.5	100.0
Sugars and syrups	95.5	n	n	0.0	4.5	100.0
Fats & oil	95.0	n	n	n	5.0	100.0
Body-Building Foods						
Fish, meat and poultry	79.9	n	0.0	8.2	11.9	100.0
Eggs	88.9	0.0	n	11.1	0.0	100.0
Milk and milk prod.	95.5	0.0	n	n	4.5	100.0
Dried beans, nuts, seeds	80.0	n	10.0	0.0	10.0	100.0
Regulating Foods						
Green leafy & yellow vegetables	64.9	2.7	18.9	0.0	13.5	100.0
Vitamin C rich foods	72.2	2.8	11.1	0.0	13.9	100.0
Other fruits	67.3	2.5	14.5	0.0	15.7	100.0
Miscellaneous	75.0	3.1	9.4	n	12.5	100.0

n = negligible (less than 0.5 grams)

Source: FNRI (1984) Nationwide Nutrition Survey, Philippines, 1982, Table A.6.1

nutrient adequacy patterns characterizing the country as a whole, that is, adequate in niacin but inadequate in all other nutrients.

c. Levels, Trends and Differentials in Breastfeeding

Although breastmilk ingestion is much harder to measure than diet consumption, breastfeeding together with its duration may be considered as a sound indicator of a safe and nutritious source of nourishment particularly during the baby's first few months of life.

Table 29 shows the national levels of breastfeeding prevalence and duration. The data reveal that breastfeeding practice and duration between 1973 and 1983 had been declining. About 87 per cent of mothers breastfed their babies in 1973, 84.6 per cent in 1978 and 83.1 per cent in 1983. The mean duration, as measured by the locational averages (trimeans) over the 1973–1983 period, declined by 22 per cent, from 12.3 months in 1973 to 11.4 months in 1978 and to 9.6 months in 1983.

The differentials in breastfeeding practice and duration, shown in Table 30, reveal higher breastfeeding prevalence among younger mothers, rural residents and mothers with lower education. However, younger mothers tended to breastfeed for shorter duration than older women. The trends over the 1978–1983 period reveal that breastfeeding practice was becoming less popular among the younger women, rural residents, and among areas outside of Metro Manila. It was also becoming less popular among women with at most a primary education. The practice appeared to become more popular among women 35–49 years, among urban and metropolitan residents and among women with at least an intermediate education. Despite its increasing popularity among this latter group, only among older, urban, metropolitan, high-school and college educated mothers was the practice accompanied with increasing mean duration. Increasing breastfeeding practice among women with intermediate education was not backed up with increasing duration. The data show that reversals in the declining trend was evident among urban and more highly educated mothers perhaps as a result of efforts to encourage breastfeeding (e.g., efforts of the National Movement for the Promotion of Breastfeeding).

5.2 Levels, Trends and Differentials in Output Indicators

a. Data Limitation

Data on prevalence of malnutrition presented below come mainly from the national weighing program, Operation Timbang (OPT) of the Department of Health (DOH) and the national surveys of the Food and Nutrition Research Institute (FNRI) of the National Science and Technology Authority (NSTA). Before proceeding to a discussion of their results, a short remark is warranted due to the diversity in their methods of data collection. The OPT is an annual data collection activity of the DOH whose aim is to identify individual malnourished

TABLE 29
Trends in Breastfeeding Prevalence and Duration
Philippines, 1973-1983

Year	Source and Nature of Data	Breast-feeding Prevalence (%)	N	Duration Mean 3 (mos)	Trimean 4 (mos)	N
1973	NDS ¹ (last child)	86.8	7190		12.3	7190
1978	RPFS ² (All children before RPFS)	84.6	7780	12.6	11.4	9531
1983	NDS ¹ (All children between 01/78 to 12/82)	83.1	11846	10.4	9.6	9531
	NDS ¹ (All children born between 01/78 to 07/83)	83.2	12865	11.2	9.6	10677

¹ National Demographic Survey

² Republic of the Philippines Fertility Survey (RPFS), a survey conducted under the auspices of the World Fertility Survey, London.

³ Arithmetic mean based on reported durations.

⁴ Locational average computed as: $\text{Trimean} = (T_{25} + 2T_{50} + T_{75})/4$

Source: Zablan, Z.C. "Philippine Trends in Breastfeeding Practice." Work Agreement Paper No. 4. Population Institute, University of the Philippines, July 1985, Tables 1 and 3.

TABLE 30
Trends in Breastfeeding Prevalence by Selected Characteristics,
Philippines, 1978 and 1983
(for children born 2 years before the 1978 RPFS and those born between
January 1978 and December 1982 reported in the 1983 NDS)

Selected Characteristics	Ever Breastfed				Duration (months)			
	1978		1983		1978		1983	
	%	NI	%	NI	Mean	N	Mean	N
All Births	84.6	7783	83.1	11486	12.6	7783	11.3	9531
Current age								
15-24	87.8	1740	85.3	2264	11.4	1740	10.4	1932
25-34	85.4	3818	83.3	6029	12.6	3818	10.9	5011
35-49	80.1	2225	81.3	3194	13.5	2225	12.7	2588
Residence								
Urban	72.2	2155	73.8	3822	9.0	2155	9.7	2818
Rural	89.1	5628	87.8	7664	14.4	5628	12.0	6707
Region								
Metro Manila	65.0	797	67.9	1263	6.6	797	7.8	857
Other Luzon	85.4	3306	84.1	4754	13.3	3306	11.4	3996
Visayas	89.1	1929	87.9	2734	15.0	1929	12.9	2386
Mindanao	86.6	1750	83.9	2729	12.2	1750	10.8	2291
Mother's education								
No schooling	93.3	361	90.8	295	17.0	361	12.5	268
Primary	92.3	1900	89.4	2056	15.9	1900	12.4	1833
Intermediate	87.4	3103	87.7	4533	13.6	3103	12.0	3966
High School	77.8	1619	79.7	2955	10.0	1619	10.6	2350
College 1 +	64.2	801	67.5	1641	7.3	801	7.9	1107

¹ Excludes cases with no information on breastfeeding practice, on the selected characteristics or on both.

² Prevalence/incidence mean based on proportions still breastfeeding.

³ Arithmetic mean based on reported duration of breastfeeding for children who were weaned, had died, and those still breastfeeding during the 1983 NDS.

Source: Zablan, Z. C. (1985) "Philippine Trends in Breastfeeding Practice" UPPI-POPCOM Work Agreement Paper 4, UPPI, July, 1985, Tables 4 and 5.

children in municipalities. Their coverage is not complete and therefore their figures are not representative. The OPT may in fact over-select malnourished children since the activity is connected with a program to reduce malnutrition among preschoolers. On the other hand, the FNRI surveys are nationwide in scope and the sample is nationally representative. Thus, it is expected that absolute levels of malnutrition given by the OPT data would be higher than that of the FNRI.

b. Interpretation of Measures

Inadequacies in nutrient intake eventually result in many adverse effects or outcomes. The scheme developed by Martorell and Ho (1984) for stages of protein-calorie malnutrition will be adopted here to organize the discussion. According to their scheme, as dietary intake becomes deficient, children cope by slowing their growth rate and by reducing their activity. These changes can be observed with indicators of physical activity, growth rates, biochemical indicators, body wasting and clinical signs. With the use of standard growth velocities in height or weight for a given age, a child may be classified as normal, mildly, moderately or severely malnourished, as follows:

STAGES IN THE DEVELOPMENT OF PROTEIN-ENERGY MALNUTRITION

Stage	Physical Activity	Growth Rates	Bio- chemical Indicators	Body Wasting	Clinical Signs
Mild	+	+			
Moderate	++	++	+	+	
Severe	+++	+++	+++	+++	+++

Note: Crosses (+) indicate deviations from normality.

Prospective studies could measure growth velocities in height or weight plotted against a normal growth curve and judgments made of deceleration or cessation of growth. Alternatively, the cumulative effect of malnutrition can be measured by means of indicators of stunting such as height-for-age, of underweight such as weight-for-age, and of wasting such as height-for-weight. Anthropometric indicators are sensitive over the full range of malnutrition. On the other hand, biochemical and clinical indicators are useful only at the extreme of the malnutrition continuum. Anthropometric indicators are also easier to measure and less costly

to collect. However, they lack specificity due to the numerous factors to which they are sensitive such as essential nutrients, infection, climate, stress and genetics. In general, anthropometrically-based malnutrition estimates are at best diagnostic of the presence and level of malnutrition problems but cannot provide information as to the factors causing it.

c. Underweight

Trends in malnutrition prevalence among preschoolers (0-6 years of age) as gleaned from OPT data are shown in Table 31. According to data from the DOH, within the 1974-1979 period, 67 to 68 per cent of preschoolers showed varying degrees of malnutrition: 46-48 percent was suffering from first-degree malnutrition weighing from 76 to 89 per cent of the recommended weight for their corresponding ages. About a fourth (24-26 per cent) of the children was suffering from second-degree malnutrition and weighing from 61 to 75 per cent of standard weight-for-age, and from 5-6 per cent was suffering from third-degree malnutrition with weight 60 per cent or below of standard weight-for-age. The levels of malnutrition among preschoolers over the 1974 to 1979 period appeared unchanging.

Using the same OPT data source, Dianzon and Villamejor (1984) showed that the levels of severe malnutrition (2nd and 3rd degree) among preschoolers in the country have increased by 6.5 per cent over the 1976-1979 period (Table 32). Of the 13 regions, Central Luzon and Bicol appeared to have increasing prevalence of severe malnutrition, increasing at 31.6 and 30.7 per cent, respectively. Eastern Visayas showed a 9.4 per cent increase, 4.5 per cent for Western Mindanao, 4.8 per cent for Southern Mindanao, 4.4 for Central Visayas and 2.6 per cent for Metro Manila. Central Mindanao, on the other hand, showed a 16.2 per cent reduction, followed by Western Visayas (10.8 per cent), Northern Mindanao (8.5 per cent), Cagayan Valley (2.1 per cent), Southern Tagalog (1.4 per cent) and Ilocos (0.6 per cent). The above results need to be interpreted with caution due to the lack of representativeness of the data.

Data from the national nutrition surveys of 1978 and 1982 conducted by FNRI are presented in Table 33a. According to the FNRI results, the level of underweight among preschoolers of the country was unchanging at around 69 per cent. However, those suffering from 2nd and 3rd degree malnutrition decreased by 22.5 per cent from a level of 22.2 per cent in 1978 to a level of 17.2 per cent in 1982. The problem of underweight was particularly high among children one year of age and the problem appeared to be diminishing for ages beyond one year, although underweight was lowest for the infants (below age 1). However, when underweight was partitioned into its mild, moderate and severe components, reduction in the underweight problem came about more as a result of declining prevalence of the moderate and severe than of the mild form as the child ages. In fact, there was a tendency for the mild form to increase with increasing age.

TABLE 31
Trends in Nutritional Status Distribution (%) Among
Preschool Children Using Weight-for-Age Standard by
Nutritional Status, Philippines, 1974-1979

Nutritional Status	Year					
	1974	1975	1976	1977	1978	1979
Normal ¹	23	22	22	69	21	22
Malnourished ²						
First degree ³	48	47	47	-	46	46
Second degree ⁴	24	25	25	25	26	26
Third degree ⁵	5	6	6	6	6	6
Total Children						
Weighted	1.5M	2.03M	4.13M	1.6M	5.12M	5.37M

¹ Includes first-degree malnourished children 0-6 years

² Normal: weights that are 90-110% of standard weight-for-age

³ 1st degree: weights that are 76-89% of standard weight-for-age

⁴ 2nd degree: weights that are 61-75% of standard weight-for-age

⁵ 3rd degree: weights that are 60% and below standard weight-for-age

Source: Operation Timbang, National Nutrition Service, Department of Health, cited by Dianzon, B. D. and F. Villamejor. "Philippine Malnutrition Update: Focus on Pre-schoolers." Table 1, pp.43-44 in Iglesias, G. et al. (eds) **Severe Malnutrition of Filipino Pre-School Children, Vol. 111, UPCPA, Manila, 1985.**

TABLE 32
Percentage Distribution of Severely Malnourished Preschool
Children by Region, Philippines, 1976 and 1979 *

Region	Percent Distribution of Severely Malnourished Children 0-6		Incidence of Severely Malnourished (% of all children 0-6)	
	1976	1979	1976	1979
PHILIPPINES	100.0	100.0	30.6	32.6
NCR	5.9	3.4	30.4	31.2
Ilocos	1.2	7.7	31.0	30.8
Cagayan	4.1	5.3	29.3	28.7
Central Luzon	11.5	12.1	32.3	42.5
Southern Tagalog	13.3	9.5	29.2	28.8
Bicol	11.4	17.0	30.6	40.0
Western Visayas	17.5	15.2	39.0	34.8
Central Visayas	10.1	10.1	27.0	28.2
Eastern Visayas	5.4	4.7	36.3	39.7
Western Mindanao	4.1	3.3	28.9	30.2
Northern Mindanao	4.9	3.8	28.2	25.8
Southern Mindanao	7.7	6.1	24.9	26.1
Central Mindanao	2.9	2.1	27.7	23.2

* Includes only second and third degree cases

Source: National Nutrition Service, Department of Health cited in Dianzon, Bernardita and Maria Fe Villamejor. "Philippine Malnutrition Update: Focus On Pre-Schoolers" in Iglesias, G. et al. (eds), A Policy Review, Severe Malnutrition of Filipino Pre-School Children. UPCPA, Manila, 1984, Vol. III, p. 44.

TABLE 33a
Trends in Nutritional Status Distribution (%) among Pre-School Children Using
Weight-for-Age Standard by Age, Philippines, 1978 and 1982

Nutritional Status	Philippines		Below 1		1 year		2 years		3 years		4 years		5 years		6 years	
	1978	1982	1978	1982	1978	1982	1978	1982	1978	1982	1978	1982	1978	1982	1978	1982
Normal ¹	27.2	26.9	38.2	36.0	17.3	15.0	20.2	24.9	25.4	26.4	28.4	30.8	26.5	26.3	33.7	29.8
Overweight ²	3.9	4.4	13.4	18.4	3.0	1.1	3.3	1.7	1.8	2.9	2.3	1.8	1.2	3.6	1.8	3.0
Total Underweight	68.9	68.7	48.4	45.6	79.8	83.9	76.5	73.4	72.8	70.7	69.3	67.3	72.3	70.0	64.6	67.2
Mild ³	46.6	51.5	30.5	34.3	41.8	53.6	49.7	52.3	50.2	54.5	55.7	54.4	56.4	56.8	42.4	52.8
Moderate ⁴	20.6	15.6	15.5	8.5	33.2	26.8	25.4	19.0	21.5	14.5	13.2	12.6	15.7	13.0	20.8	13.8
Severe ⁵	1.6	1.6	2.4	2.8	4.8	3.5	1.4	2.1	1.1	1.7	0.4	0.3	0.2	0.2	1.3	0.6
N of Cases	3274	3634	498	472	440	541	485	530	452	481	440	562	502	521	457	527

¹ Over 110% of standard weight-for-age.

² 91-110% of standard weight-for-age.

³ 76-90% of standard weight-for-age.

⁴ 61-75% of standard weight-for-age.

⁵ 60% and below of standard weight-for-age.

Source: National Nutrition Survey, 1978 and 1982, FNRI.

All regions of the country showed declines in the level of moderate and severe underweight. However, only in Central Visayas, Southern Tagalog, Bicol, Western Visayas and Eastern Visayas were the declines statistically significant (Table 33b).

d. Stunting

Table 34 shows that 20.6 per cent of preschoolers in 1982 was stunted, showing heights below 90 per cent of their standard height-for-age.

Stunting was highest (23.7 per cent) for children 1 year of age and the prevalence appeared to be lower among infants and declining somewhat as the child becomes older.

TABLE 33b
Trends in Prevalence (%) of Undernourished 0-6 Year
Old Children Using Weight-for-Age Standard by Region,
Philippines, 1978-1982.

Region	1978		1982		Percent Change
	Total Subjects	75% & Below	Total Subjects	75% & Below	
NCR	396	14.7	399	16.8	2.1
Ilocos	239	18.0	294	18.0	-
Cagayan	176	15.7	168	14.9	(0.8)
Central Luzon	318	15.1	388	16.7	1.6
Southern Tagalog	552	22.6	550	18.7	(3.9)
Bicol	326	24.0	388	15.5	(8.5)*
Western Visayas	397	27.1	364	16.8	(10.3)*
Central Visayas	300	29.3	329	15.2	(14.1)**
Eastern Visayas	249	28.5	269	20.1	(8.4)*
Northern Mindanao	235	16.1	247	16.6	0.5
Southern Mindanao	213	27.7	240	20.0	(7.7)
TOTAL	3400	21.9	3634	17.2	(4.7)**

* Significance level = 5%

** Significance level = 1%

Source: FNRI (1984) Second Nationwide Nutrition Survey, Philippines, 1982, Table B.7.3.

TABLE 34
Percent Distribution of 0-6 Year Old Children by
Standard Height-for-Age by Selected Characteristics,
Philippines, 1982

Characteristics	N of Cases	> 90	< 90	Total
Philippines	3695	79.4	20.6	100.0
Age				
< 1	476	80.0	20.0	100.0
1	546	76.3	23.7	100.0
2	539	78.9	21.1	100.0
3	501	79.8	20.2	100.0
4	569	81.9	18.1	100.0
5	527	78.2	21.8	100.0
6	537	80.7	19.3	100.0
Urbanization				
Urban	1095	82.7	17.6	100.0
Rural	2600	78.1	21.9	100.0
Region				
Ilocos	297	77.8	22.2	100.0
Cagayan	173	77.1	22.9	100.0
C. Luzon	395	84.9	15.1	100.0
S. Luzon	557	78.8	21.2	100.0
Bicol	389	78.9	21.1	100.0
W. Visayas	367	80.5	19.5	100.0
C. Visayas	334	78.4	21.6	100.0
E. Visayas	273	74.4	25.6	100.0
N. Mindanao	252	77.9	22.1	100.0
S. Mindanao	241	72.2	27.8	100.0

N.B. Children with heights below 90% of standard height-for-age are considered "stunted".

Source: FNRI (1984) Second Nationwide Nutrition Survey, Philippines, 1982, B.1.7-8.

More rural children were stunted than urban ones (21.9 vs 17.6 per cent). Children from Southern Mindanao showed the highest level of stunting (27.8 per cent); Eastern Visayas next highest (22.1 per cent); and Cagayan Valley, Ilocos and Northern Mindanao third highest: 22.9, 22.2 and 22.1 per cents). Twenty-one per cent of children in Central Visayas, Southern Tagalog and Bicol was stunted, and 19.5 per cent in Western Visayas. Children in Central Luzon showed the lowest level of stunting (15.1 per cent).

e. Wasting

To be considered normal by this indicator, a child must be 85 per cent or more of standard weight-for-height. Those falling below 85 per cent of standard are considered to be wasted or undernourished. Table 35 shows levels and trends of wasting among preschoolers. In 1978, 13.8 per cent of preschoolers are considered undernourished, while in 1982, only 9.5 per cent of these children fell under this same category.

TABLE 35
Comparison of Distribution of Undernourished 0-6 Year
Old Children Using Weight-for-Height Standard by Age,
Philippines, 1978 and 1982.

Age	1978		1982		Percent Change
	Number of Cases	% Under- ¹ nourished	Number of Cases	% Under- ¹ nourished	
< 1	323	22.6	466	16.9	-5.7*
1	454	16.7	538	16.2	-0.5
2	499	14.6	528	11.1	-3.5
3	465	16.0	482	7.0	-9.0**
4	461	8.1	562	7.4	-0.7
5	522	9.8	519	4.4	-5.4*
6	475	8.7	523	4.4	-4.3*
Total	3400	13.8	3615	9.5	-4.3**

¹ Less than 85% of standard weight-for-height.

* Level of significance = 5%

** Level of significance = 1%.

Source: FNRI(1984), Second Nationwide Nutrition Survey, Philippines, 1982, Table B.7.1, p. 197.

Undernourishment among preschoolers was highest for the infants but appeared to improve with age. Over the 1978–1982 period, the level of this indicator declined in all age groups. The highest declines were exhibited by children 3 years of age (9.0 per cent), the decline among infants next highest (5.7 per cent) and among 5-year-olds third highest (5.4 per cent). Under nourishment among preschool children in other age groups showed slight and non-significant declines over the periods considered.

According to data presented in Table 36, and using the McLaren and Reed weight-for-height standard, 69 per cent of Filipino preschool children in 1982 were considered to be normal, 5.7 per cent was overweight, and 15.7 per cent was mildly underweight. Nine and one-half percent was undernourished which is partitioned into 7.9 per cent moderate and 1.6 per cent severely undernourished. In general, these problems appeared to diminish as the child becomes older.

Of the preschoolers, the infants had the most problems. Only 35.4 per cent was considered normal, 13.7 per cent was overweight, 14.0 per cent mildly underweight and 17.0 per cent undernourished. Poor infant feeding practices as well as recurring infections may be the major causes of this state of affairs. The problem of overweight appeared to be slightest among the one-year-olds (2.7 per cent) and there is a tendency for it to increase with age but to a level twice lower than among infants (2.7 to 6.6 per cent). Underweight is a problem for 16–37 per cent of children 1–6 years of age, and undernourishment is a problem of from 4.4 to 17.0 per cent of these preschoolers. The first three years of life appeared to be a period of high risk for undernourishment affecting 11–17 per cent of children 0–2 years.

Metro Manila preschoolers in 1982 were the most malnourished children of the country relative to children in other urban and rural areas. About 18 per cent of them was mildly underweight compared with only 14.2 per cent in other urban and 15.9 per cent in rural areas. Further, about 1 out of 7 Metro Manila preschoolers was undernourished while slightly over one out of 10 in other urban and slightly less than one out of 10 in rural areas was undernourished. This observation points to urban poverty, and poor environmental sanitation and housing, as probable culprits.

f. Range of Malnutrition Problem in 1982

It should be noted that the estimate of the level of malnutrition depends on the type of anthropometric indicator that is used. When taken singly, each indicator presents a different picture. For 1982, data in Table 33a showed that 17.2 per cent of preschoolers was moderately to severely underweight and was considered malnourished as represented by children who fell below 75 per cent of standard weight-for-age. When standard height-for-age was used as yardstick, 20.6 per cent of preschoolers was stunted and considered malnourished (Table 34), but when standard weight-for-height was used, only 9.5 per cent of preschoolers was

TABLE 36
Percentage Distribution of 0-6 Year Old Children by
Nutritional Status Using Weight-for-Height Standard
by Selected Characteristics, Philippines, 1982

Selected Characteristics	Number of Cases	Normal ¹	Over- ² weight	Mildly ³ Under-weight	Undernourished	
					Moderate ⁴	Severe ⁵
Philippines	3615	69.7	5.7	15.7	7.9	1.6
Age						
<1	466	35.4	13.7	14.0	12.1	4.9
1	538	60.4	2.7	20.7	13.4	2.8
2	526	69.2	3.9	15.7	10.0	1.2
3	482	70.6	6.2	16.2	5.2	1.8
4	562	74.8	3.4	14.4	7.0	0.4
5	519	77.0	6.6	12.1	4.4	0.0
6	523	74.0	4.8	16.8	3.6	0.8
Urban-Rural						
All Urban	1051	68.1	5.3	15.4	9.0	2.2
Metro Manila	397	63.8	4.3	17.5	11.3	3.1
Other Urban	654	70.7	5.8	14.2	7.6	1.7
Rural	2564	69.3	5.9	15.9	7.5	1.4

¹Normal = 90-109% of standard weight at a given height

²Overweight = 110% of standard weight at a given height

³Underweight (mild) = 85-89% of standard weight at a given height

⁴Undernourished, moderate = 75-84% of standard weight at a given height

⁵Undernourished, severe = 75% of standard weight at a given height

Source: FNRI (1984). Second Nationwide Nutrition Survey, Philippines, 1982, Tables B.1.1 and B.1.2.

considered wasted and/or stunted. Trend data are available only for the moderately and severely underweight and the picture appeared to be improving over the 1974–1982 period.

Malnutrition Levels (%) Among 0-6 Children

Source	Year	Underweight	Stunted	Undernourished
OPT	1974	29.0	—	—
	1976	31.0	—	—
	1979	33.0	—	—
FNRI	1978	22.2	—	—
	1982	17.2	20.6	9.5

1. Below 75% of standard weight-for-age.
2. Below 90% of standard height-for-age.
3. Below 75% of standard weight-for-height.

Table 37 cross-classified those stunted and wasted and came up with a much higher degree of malnutrition than when each measure was taken singly. It would seem that 27 per cent of the preschoolers in 1982 was malnourished: 17 per cent was stunted only, 8 per cent was acutely malnourished or wasted only, and 2 per cent was severely and chronically malnourished or was both wasted and stunted.

g. Low Birth Weight Among the Newborn

Children who weigh 2.5 kilograms or less at birth are considered to be of low birthweight. Mothers who are of poor nutritional status prior to conception as well as during pregnancy have higher risk of giving birth to a baby weighing 2.5 kilo grams or less. Low birthweight reflects an overall growth impairment of the fetus.

Data from the Department of Health's Nutrition Division for 1977 to 1983 (Table 38) show that the proportion of newborn infants with low birthweight declined from a level of 18.3 per cent in 1977 to 15.4 per cent in 1983. Although the data came from babies born in hospitals and may not be taken as representative of the total population of newborns, they somehow reflect a growing awareness of mothers of the importance of maternal care.

TABLE 37
Percentage Distribution of 0-6 Year Old Children
by Height-for-Age vs. Weight-for-Height
Classification, Philippines, 1982

Percentage of Height-for -Age Standard	Percentage of Weight-for-Height standard		Total
	>85	<85	
	Normal 2655	Wasted 273	2928
>90	73.3	7.5	80.8
	Stunted 619	Wasted and Stunted 73	692
<90	17.1	2.0	19.1
	3274	346	
Total	90.4	9.5	3620

Source: Second Nationwide Nutrition Survey, 1982, FNRI.

TABLE 38
Trends in Proportion of Newborn Infants with Low Birth Weight,
Philippines, 1977-1983

Year	% Newborn with Low Birth-Weight	N of Cases	No. of Hospitals Surveyed
1977	18.3	9511	54
1978	19.0	24893	70
1979	16.6	19772	NS
1980	18.8	14945	56
1981	18.0	15387	45
1982	17.7	10930	39
1983	15.4	4396	15

Note: Percentages exclude births without medical attendance.
 Newborn with low birth weight weigh less than 2.5 kgs.

Source: Nutrition Division, Ministry of Health

h. Prevalence of Anemia

Adhering to the World Health Organization standards set for hemoglobin content, data in Table 39 show that the prevalence of anemia was 50.0 per cent for persons of all ages in 1978 and declined to a level of 26.5 per cent in 1982.

Anemia prevalence was highest among pregnant women and lowest among those 15-59 years of age in 1978 and 1982. Children 0-6 years ranked 5th highest in 1978 but moved to third position in 1982. It is observed that pregnant and lactating women and children 0-6 years old contributed 27 per cent to the anemia prevalence of the country in 1978 and 24 per cent in 1982. The decline in anemia prevalence was highest for lactating women (68 per cent), next highest for males 13-59 years of age (55 per cent) and females 15-59 years of age (48 per cent), fourth highest for pregnant women (43 per cent), fifth highest for persons 60 years and over, and last for children 0-6 years of age. It would seem from the above observation that children 0-6 years of age were the least benefited from a general reduction in anemia levels.

TABLE 39
Prevalence of Anemia by Age, Sex and Physiological Status,
Philippines, 1978 and 1982.

Age/Sex Physiological Status	1978		1982		Percent Decline 1978-1982
	Preva- lence (%)	Number Examined	Preva- lence (%)	Number Examined	
0-6 Both Sexes	55.8	3434	34.5	3694	-38
7-12 Both Sexes	59.7	2752	31.0	3102	-48
13-59 Male	33.3	3833	14.9	5193	-55
13-59 Female ¹	51.5	3616	27.0	4439	-48
60 + Both Sexes	60.9	697	37.2	1106	-39
Pregnant Women	85.0	260	48.6	276	-43
Lactating Women	62.5	477	20.2	516	-68
ALL AGES	50.0	15269	26.5	18326	-47

¹ Excluding pregnant and lactating females.

Source: National Nutrition Survey, FNRI, 1978 and 1982.

6. Summary

Analysis of the levels, trends and differentials of mortality, morbidity and nutritional status of the Philippine population brings out the following observations:

1. The long-term trend in mortality is a declining one. However, the pace of decline has slackened over the 1975–1983 period.

2. The slackening in the decline of mortality was traced to the still large contribution (40 per cent) of communicable diseases to total deaths, the victims of whom were mostly infants and very young children.

3. Declines in mortality were not uniformly felt across population sub-groups. Rural and uneducated persons with low-status occupations had higher risks of dying than those who resided in urban areas, were well-educated and held high status occupations. The wide class differentials in mortality observed in the early '70s were still maintained up to 1983.

4. Seven out of the 10 leading causes of morbidity over the 1978–1983 period were also found in the list of the 10 leading causes of deaths and 6 of these were communicable diseases (tuberculosis, bronchitis, influenza, acute respiratory infections, diarrhea and measles). The seventh was hypertension. Of those who fell ill of pneumonia, bronchitis, diarrhea and measles, nearly half of them were infants and children 1–4 years of age.

5. The Filipino diet in 1982 was somewhat adequate in protein but inadequate in energy and the micronutrients except niacin. With the exception of ascorbic acid, nutrient intake was almost always higher in urban than in rural areas but Metro Manila was worst off than other urban or rural areas. Intake of energy foods in 1982 was least inadequate in Mindanao, slightly lower for Luzon but worst for Visayas. Nutrient intake was positively related with income and education, but was negatively related with household size. Those in high-status occupations were better off than those in low-status jobs.

6. Breastfeeding practice and duration have been slowly declining but reversals in these adverse trends were observed among urban and more educated mothers. Declining trends were observed among the disadvantaged sub-groups who would be most benefited and where breast feeding practice would have the most impact on infant and child survival.

7. Anthropometric indicators of nutritional status showed that 17 per cent of children 0–6 years were moderately and severely underweight, 21 per cent was stunted, and 10 per cent were undernourished in 1982. When two measures were cross-classified, the problem of severe malnutrition was placed at 27 per cent, broken down into 17 per cent stunted only, 8 per cent wasted only, and 2 per cent both wasted and stunted. Of the preschoolers, the one-year-olds were the most underweight and stunted while the infants were the most under-nourished or wasted.

8. The problem of undernutrition among preschoolers in 1982 was higher in rural than in urban areas, but Metro Manila showed the highest level. More pre-schoolers in the less developed regions were underweight, stunted and undernourished than in more developed ones.

9. Low birth weight was a problem of 15 to 18 per cent of newborns in hospitals. No information is available for all newborns.

10. Anemia was highest among pregnant mothers, next highest among the elderly, and third highest among children 0-6 years of age. Over the 1978-82 period, the prevalence of anemia declined in all age groups but the 0-6 year olds which showed the smallest rate of decline.

Despite the lack of reliable information on a good number of the health indicators presented, particularly that of morbidity by disease, the general impression one gets out of the above review of existing data is that infectious diseases and their synergistic interaction with malnutrition still predominate and probably caused mortality decline to slacken in the more recent years. These major disease problems are varied in their origins and in the intervention measures they require. However, it was noted that majority of these leading killers attack infants and young children. To hasten the decline of mortality and the promotion of health of the Philippine population, there is a need to look more into the mechanisms of disease causation. There is also a need to clarify the complex web of interrelationships between biological, socioeconomic and environmental factors that determine health outcomes in order to assess alternative health promoting strategies.

The next section will deal with a review of existing information regarding the determinants of infant and child survival.

III. DETERMINANTS OF INFANT AND CHILD HEALTH AND SURVIVAL

In reviewing the knowledge base for illuminating health policy and intervention programs in developing countries, Mosley (1984) noted the lack of a common ground among biomedical and social scientists for defining and solving health problems. Traditionally, social science research has focused on the relationship between socioeconomic processes and health outcomes, while medical research has focused primarily on the biological processes of specific diseases as they relate to health intervention measures. While both approaches have each contributed to some understanding of what causes the various health outcomes, their results often leave unspecified the mechanisms through which the processes interact in order to help the international development community to establish program priorities and select the best mix of program strategies. This view is strengthened by the realization that it is within the family, where the modern (Western) health systems interact with traditional social systems, that most health interventions succeed or fail.

In an attempt to bridge the conceptual gap between the social and biomedical scientists, Mosley and Chen (1984) proposed an analytical framework for the study of the determinants of child survival which incorporates both social and biomedical variables. The key to their analytical framework is the identification of a set of proximate determinants, or intermediate variables, that directly influence the risk of morbidity and mortality. Their framework specifies that all social and economic determinants affect health outcomes through their impact on these intermediate variables.

1. Conceptual Framework

The analytical framework proposed by Mosley and Chen (1984) and modified by Herrin and Bautista (1986) is shown in Figure 1. It will be used here for analyzing the determinants of health outcomes and for organizing the review of the literature. The framework has four basic components: health outcomes, proximate determinants, socioeconomic determinants, and public policies and programs and other exogenous changes. The framework is a model of individual/household decision making.

The health outcomes included in the review and analysis of determinants are infant and child mortality, morbidity and nutritional status.

The proximate determinants, as proposed by Mosley and Chen (1984), are grouped into five major categories:

1. Maternal factors: age, parity, birth interval;
2. Environmental risk factors: air, food, water, fingers, skin, soil, inanimate objects;
3. Nutrient deficiency: intake of calories, proteins, micronutrients, breastmilk;

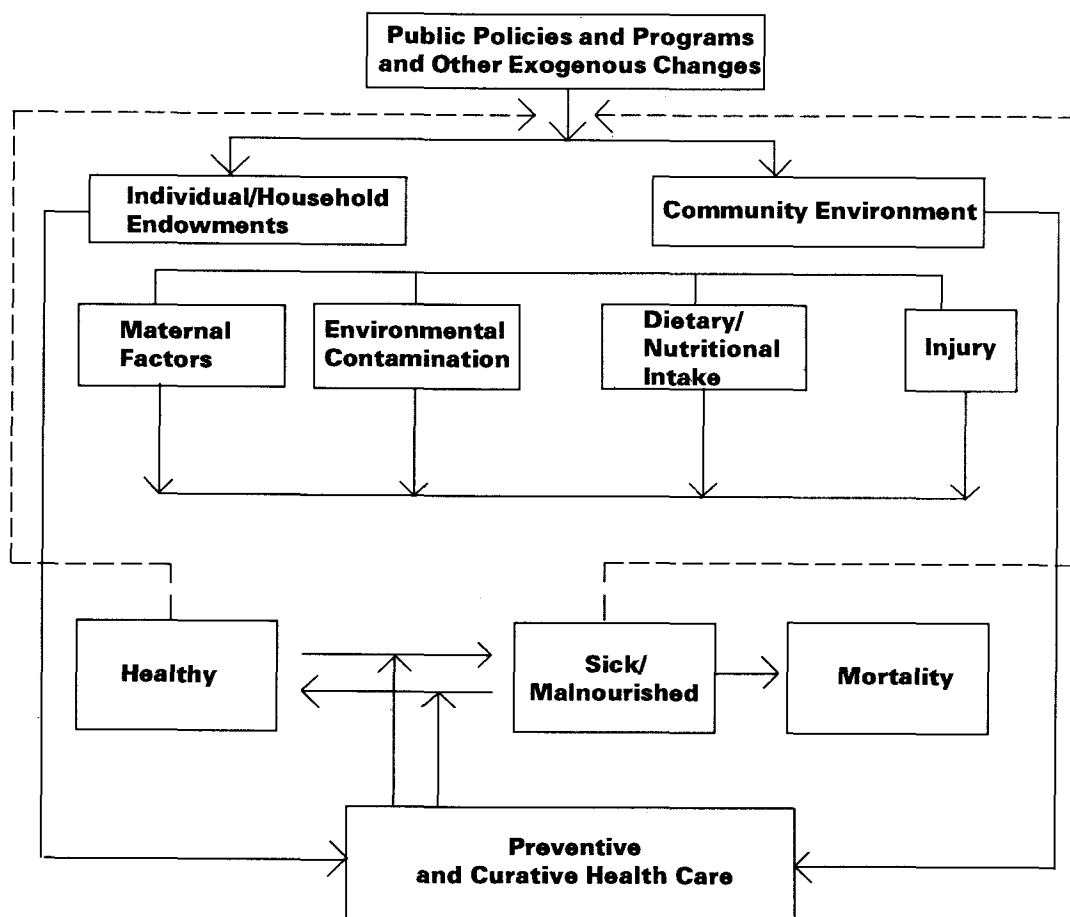


Figure 1

Conceptual Framework For Analyzing the Determinance of Health Outcomes

Source: Herrin, A. & M. Bautista, 1986. "Health and Development: A Review of the Determinants and Consequences of Changes in the Health Status of the Population." A paper prepared for the PIDS-UPSE Seminar - Workshop on "A Program of Research on Health Policy and Development," December 1986.

4. Injury: accidental, intentional; and

5. Health care: quality of care during pregnancy and childbirth, preventive measures, medical treatment.

These five groups of proximate determinants operate on the health dynamics of the population in a manner depicted in Figure 1. Accordingly, the first four proximate determinants influence the rate of shift of healthy individuals toward sickness. This is captured by the morbidity indicators. The last group of factors influence both the rate of illness (through prevention) and the rate of recovery (through treatment). Ultimately, sickness either leads to complete recovery, to growth faltering or other disability among survivors, and/or death.

With regard to the classification by Herrin and Bautista (1986), the socioeconomic determinants consist of three major categories:

1. Individual endowments: unobserved biological endowments, age, education, preference, beliefs, attitudes;

2. Household endowments: income/wealth, age-sex composition and human capital of household members; and

3. Community environment which include:

a. ecological setting and natural resource endowments: climate, soil, rainfall, temperature, etc.

b. the structure of markets and prices for products and factors of production, including labor;

c. the size and structure of the population;

d. social structure and organization;

e. physical infrastructure and economic and social services other than health; and

f. health infrastructure and services.

The exogenous changes that affect the nutritional status, health and survivorship of infants and children come primarily from public policies and programs which include economic policies, agricultural policies, public expenditure on physical infrastructures (such as roads, irrigation, flood control, electrification) and social infrastructures and services (such as those on education, health, nutrition, environmental sanitation and family planning).

According to Herrin and Bautista (1986), the framework specifies that the individual household, in an attempt to improve its welfare, is assumed to make various kinds of decisions subject to a set of opportunities and constraints defined by its individual/household endowments and by the community environment.

The exogenous changes affect the structure of opportunities and constraints facing individual/household endowments or indirectly through services available to individuals/households or by modifying the structure of economic incentives through prices and wage rates. The individuals/households are then expected to respond to these changes in a manner they perceive will improve, or at least prevent, a deterioration of their present economic and social welfare including their health status. Depending upon the nature of the emerging structure of opportunities and constraints, a “multiphasic response” is expected from these individuals/households in terms of decisions regarding savings/consumption, investment in physical and human capital, time allocation and labor force participation, fertility, migration, diseases avoidance and medical treatment. These decisions in turn affect the proximate determinants and ultimately the health outcomes together with other socioeconomic outcomes, e.g. income, employment, education of children, etc..

2. The Hypotheses

2.1 Proximate Determinants

Each of the five proximate determinants is expected to exert independent effects on the health outcomes.

a. Maternal Factors

Maternal health influences the outcome of pregnancy and infant survival. Childbearing at very young (under 17) and very old (over 35) ages increases mortality risks of mother and child as well as affects the genetic quality of the child. Interactions between maternal variables of age, parity and birth interval, and the nutritional status of the mother, affect her ability to bring a pregnancy to full term, to nourish the fetus, and to breastfeed the baby. Low order births (firstborns) and high parity ones have higher mortality risks, due to lack of experience in childcare in the former and to the interaction of higher age and lower birth intervals in the latter which reduce the quality and quantity of childcare, the ability to provide adequate food, while likewise shortening breastfeeding. Maternal depletion resulting from tightly spaced births affects the nutritional status of the fetus as well as the ability of the mother to provide quality child care.

b. Nutritional Factors

Availability of nutrients (calories, protein, micronutrients) to the mother during pregnancy affects birth weight, while during lactation it affects the quantity and nutrient quality of breastmilk. Since breastmilk alone cannot be expected to cope with the child's growing needs beyond 4-6 months, the availability of nutrients to the child will affect the timing and adequacy of food supplementation thus affecting the child's nutritional status. Breastmilk has added qualities which promote better child survival chances: it contains antibodies that protect the child from infection, it is a source of low-cost complete food, it is sterile and has antiallergenic properties. Fully breastfed infants tend to have higher survival chances than artificially fed ones. This relationship is partly due to the interaction among artificial feeding, environmental contamination and nutrient intake. Bottled milk may be contaminated by unsterilized bottles and unsafe water, and due to high cost of infant milk formulae, dilution or resorting to inferior commercial milk substitutes may reduce the infant's nutrient intake.

c. Infection and Environmental Contamination

Maternal infections, particularly of the uro-genital tract, adversely affect the health and survival chances of the newborn. The rate of infection and its severity leading to death depends on the exposure and infective dose of pathogens through the major routes of environmental contamination (air, food/water/fingers, skin/soil/inanimate objects, insect vectors), host resistance (partly determined by nutritional status), and health behavior as a response to illness.

d. Child Care Factors

Preventive measures such as immunization, sanitation of the environment, prenatal care and adequate feeding reduces the rate of falling ill or of malnutrition. Early treatment/care increases the chances of recovery or rehabilitation from disabilities. Childcare practices determine mortality risk either by influencing the exposure to pathogens or by influencing the utilization of health care services.

e. Injury

This includes birth injury, physical injury and accidents such as burns and poisoning. Birth injuries can often be prevented by qualified birth attendance. Accidental injuries are influenced by environmental hazards. Injury-related disabilities can be remedied by availment of rehabilitative services.

f. Interactions Among Proximate Determinants

Although admittedly complex to measure (Chen, 1983), some biological interactions are worth mentioning. The proximate determinant "nutrient deficiency" is modulated by the physiological factors of appetite, absorption and metabolism. The effects generated by "environmental contamination" are influenced by host resistance to infection which may either be compromised by injury, low birthweight, or immaturity at birth, or be strengthened by improved nutrition and by immunization. Synergisms are also implicit in the framework, notably that of nutrition and infection. Infections reduce appetite and cause unnecessary metabolic wastage of nutrients thereby precipitating or aggravating malnutrition. Malnutrition, in turn, reduces host resistance thereby increasing the risk of more severe outcomes due to infection.

2.2 Socio-economic Determinants

Socioeconomic factors influence both the proximate determinants and the health outcomes (of malnutrition, morbidity and mortality) through the proximate determinants by their net effects. The relevant hypotheses are:

1. Income of household head and household are positively related with the demand for children, for nutritious food, sanitary facilities (water, toilets, housing), and preventive and curative health services. An increase in income of household head and household would increase infant/child nutrition, health and survival net of their effects on the proximate determinants.

2. Work status of wife: Demand for children and the time allocated to child care and other health related home activities are expected to be lower if the wife works than if she does not work. Work status of wife is expected to affect child nutritional status, health and survival either of two ways. It would tend to favorably affect health outcomes through increased income or to adversely affect them through diminution in the quality and quantity of child care.

3. Mother's education is positively related to intake of nutritious food, child care, use of health services and preference for small families. The effect of higher education on nutritional status, health and survival of infants and children would be to increase their level net of the effects of the proximate determinants.

4. Adverse environmental characteristics would increase the exposure to risk of infection.

5. Higher prices of health services, food and sanitation facilities would tend to reduce the demand for such goods and services. Higher prices of such goods and services would tend to increase malnutrition, sickness rate and mortality.

3. Review of Existing Literature: An Update

Very few studies exist on the determinants of specific health outcomes based on nationally representative samples. Multivariate analyses on the correlates of their proximate determinants are scarce and the knowledge available on the proximate variables are based on bivariate relationships. Most of these studies have been included in a comprehensive review conducted by Herrin and Bautista (1986) on the determinants of health improvement. This review is an attempt to augment their review with studies both here and abroad on the determinants of infant/child survival. Recent publications on nutrition, maternal and child health services availability, and child feeding practices are also included in the review.

3.1 Proximate Correlates of Health Outcomes

a. Maternal Factors.

In an analysis of the 1978 Republic of the Philippines Fertility Survey (RPFS) data, Reyes (1980) was able to show that infants of very young (under 20) and very old (40 and over)

TABLE 40
Trends in 5-Year Probabilities of Dying within the
First Year of Life (q o) by 5-Year Periods prior to
the Survey and by Age of Mother at Child's Birth, Philippines

Age of Mother at Child's Birth	Number of Births	Period Prior to Survey						TOTAL
		1974	1969	1964	1959	1954	1949	
		1978	1973	1968	1963	1958	1953	
15 - 19	5066	.053	.055	.057	.084	.071	.111	.070
20 - 24	13110	.048	.051	.050	.054	.063	.078	.055
25 - 29	11664	.049	.051	.050	.051	.070	-	.052
30 - 34	7641	.055	.059	.064	.074	-	-	.060
35 - 39	3722	.069	.064	.074	-	-	-	.068
40 - 44	987	.082	.071	-	-	-	-	.078
45 - 49	74	(.055)	-	-	-	-	-	(.059)
TOTAL	42264	.055	.057	.056	.059	.066	.097	.059

Note: Figures in parenthesis () were based on less than 50 cases

Source: Reyes, Florentino 1980. Evaluation of the Republic of the Philippines Fertility Survey (1978). WFS/Tech. 1472, July, Table 21, p. 52.

mothers had far less chances of survival than children of mothers in intervening ages (Table 40). Her analysis also showed that the probability of dying within the first year of life was declining over time particularly for children of mothers who bore them at ages below 35 years. Children of mothers 15-19 years showed greatest decline in infant mortality.

Using the same data source, Zablan (1981) analyzed this relationship among first births and found that the risk of dying at infancy among first borns of mothers below age 15 years was almost four times higher than for those born to mothers at ages 25-29 years. Survival chances during infancy start high among those whose mothers were 20-24 years and pick up again among children of older mothers. In fact, the level of infant mortality for children of mothers 15 years of age was similar to those whose mothers were in the ages 35-39 years (Table 41).

The interaction between maternal factors such as age and parity as they influence infant mortality is shown on Table 42. Although infant mortality was higher for children of younger (under 20) and old (35 and over) mothers, the rates were more than twice for children of those who bore their 3rd to 6th births below the age of 35 years. This interaction was observed for early (neonatal) infant deaths among mothers below 20 years and for late (postneonatal) infant deaths among older mothers. These findings suggest that maternal health is compromised by early and frequent childbearing leading to higher risk during the first few days of life. Frequent childbearing among older mothers compromises the care of the infant more than it does her health at pregnancy.

Another maternal factor that influences infant survival is the length of the birth interval. Shorter previous birth intervals means more tightly spaced births thus compromising both the mother's health and child care time as a result of too many births. Data from Zablan (1980) shown in Table 43 bear out this contention. As shown, infant mortality was highest when the previous birth interval was shorter than 18 months and lowest if it was 36-47 months.

b. Nutritional Factors

Although data on nutrient intake are available (Section 5 of this report) from the national nutrition surveys, no attempt has ever been made to relate the nutrient intake indicators to nutritional status, health or survival. Consequently, information on breastfeeding and infant/child feeding practices as they relate to infant child survival will be the one reviewed here.

Data from the 1983 NDS analyzed by Zablan (1985) shown in Table 44 reveal that the proportion of infants who survived up to the first year was higher for those who were breastfed (.864) than those not breastfed (.583).

TABLE 41
Infant Mortality Rate of First Child, According
to Mother's Age at Birth, Philippines, 1978
(For all recorded first births, excluding
those in the last year before the survey)

	Infant Mortality/100 live births	Number of first births
Under 15	142	136
15 years	94	206
16 years	72	402
17 years	58	662
18 years	74	911
19 years	61	1090
15 - 19	67	3271
20 - 24	41	3592
25 - 29	37	1155
30 - 34	57	241
35 - 39	90	61
40 +	(87)	12
TOTAL	53	8469

Note: Figures in parenthesis () are based on less than 50 cases.

Source: Zablan, Z.C. "Health-Related Aspects of Fertility: Philippines, A Country Report," a project report submitted to WHO/Geneva, December 1981, Table 4.10.

TABLE 42
 Neonatal (NN), Postneonatal (PNN) and Infant Mortality (IM) Rates and Percentage of Births (%)
 by Age of Mother at Birth and Birth Rank, Philippines, 1968-1977
 (Confined to births 10 and 1 year before the survey)

Birth Rank	Age of mother at birth in years																			
	< 20				20-24				25-34				35 +				All ages			
	NN	PHN	IM	%	NN	PHN	IM	%	NN	PHN	IM	%	NN	PHN	IM	%	NN	PHN	IM	%
1	31	23	53	6	19	20	39	8	51	0	47	4	51	0	50	0	25	20	45	17
2	12	38	49	2	23	32	54	8	22	13	47	5	22	13	38	0	22	29	50	16
3 and 4	71	47	118	1	18	44	61	9	33	17	44	15	33	17	48	2	18	35	52	27
5 and 6	(49)	-	(67)	0	25	94	120	1	15	42	50	14	15	42	56	3	22	34	55	18
7 and higher	-	-	-	-	-	(0)	(0)	0	32	48	81	9	32	48	78	13	33	48	79	22
All ranks	29	28	57	9	20	35	35	26	29	33	53	47	29	33	71	18	24	34	57	100

Source: Zablan, Z.C. "The Health Related Aspects of Fertility, A Country Report," A project report submitted to WHO/Geneva, December 1981, Tables 7.5, p. 126.

TABLE 43
Infant Mortality Rates (per 100 live births) and Percent
Distribution of Cases by Length of Last Closed Birth
Interval, for the Next-to-last and the Last Child,
Philippines, 1978. (Confined to Not Currently
Pregnant Women with 2 Live Births and Whose
Open Interval is > 24 Months)

Length of last closed birth interval	Next to last live birth		Last live birth		Still alive % distn.	All births % distn.
	IMR	% of Total Deaths	IMR	% of Total Deaths		
Under 18 mos.	142	36	55	17	12	14
18-23 months	97	19	40	17	19	19
24-35 months	3	22	37	34	35	34
36-47 months	39	23	45	32	34	33
TOTAL		100.0		100.0		100.0
N of cases		446		234	7328	8008

Source: Zablan, Z.C. "Health-Related Aspects of Fertility: Philippines, A Country Report," A project report submitted to WHO/Geneva, December 1981, Table 7.3, p.124

TABLE 44
Proportions Surviving (P) of All Children Born Between
January 1978 and the 1983 NDS by Whether or Not the
Child was Breastfed and by Current Age of Child,
Philippines, 1983

Age of Last Child On Last Birthday	Breastfed this child?						Total	
	Yes			No				
	p	N	p	N	p	N	p	N
Under 1 year	.864	2148	.583	636	.800	2794		
1	.947	1828	.945	399	.946	2227		
2	.976	1877	.979	385	.977	2262		
3	.991	1854	.987	391	.990	2245		
4	.998	1651	.997	372	.998	2023		
5	1.000	1026	1.000	194	1.000	1220		
Total	.956	10394	.878	2377	.941	12771		

Source: Zablan, Z.C. "1983 Levels and Patterns of Breastfeeding" in Concepcion (ed) Demography at the Crossroads, 1985, Table 2, p. 101.

Children born between January 1978 and the 1983 NDS data presented by Zablan (1985) showed higher survival rates among children who were breastfed than among those not breastfed after controlling for other proximate environmental and child care variables. Several interactions are observed in Tables 45 and 46:

1. Highest child survival rates were observed for breastfed children and where the source of water supply was piped (.960) but lowest for nonbreastfed children and where the source of water supply was surface water (.793).

2. Highest survival rates were observed for breastfed children and where the household had a toilet (.961) but lowest among nonbreastfed children and where the household did not have a toilet (.785).

3. Highest survival rates were observed for breastfed children who were immunized (.985) but lowest for those not breastfed and were not immunized (.843).

4. Highest survival rates were observed for the breastfed children whose mothers had a prenatal checkup (.978) but lowest among nonbreastfed children and whose mothers did not go for prenatal check-up (.875).

5. For home-delivered babies, highest survival rates were observed for those breastfed and were delivered by a trained medical practitioner (.985) but lowest for those not breastfed and delivered by a family member or untrained birth attendant (.806).

c. Environmental Contamination Factors

Data in Table 45 can be used to illustrate the effect of environmental contamination factors on child survival. Notably, children whose households have safe water source had higher survival rates (.941 to .945) than those with unsafe water source (.921). Child survival rates were higher among children whose households had toilets (.948) than those who had none (.917).

d. Child Care Factors

Table 46 also shows that children who were immunized had higher survival rates (.984) than those not immunized (.940). Those whose mothers had prenatal checkup had higher survival rates (.967) than those whose mothers did not go for one (.947). Children whose births were attended in the clinic/hospital had higher survival rates (.970) than those who were delivered at home (.952). Children whose births were attended by medical professionals had highest survival rates (.971), those attended by traditional birth attendants next highest (.952) and those attended by untrained practitioners showed lowest survival rates (.937).

TABLE 45

Proportions Surviving of all Children Born Between
January 1978 and 1983 NDs by Breastfeeding Practice
and Sanitation Facilities, Philippines, 1983.

Sanitation Facilities	Breastfed this child?						Total	
	Yes			No				
	p	N	p	p	N	N	p	N
Source of Water Supply								
Piped water	.960	2719	.893		1023		.941	3742
Wells	.959	6123	.871		1131		.945	7254
Surface water	.940	1541	.793		222		.921	1763
TOTAL	.956	10383	.873		2376		.941	12759
Presence of Toilet								
Yes	.961	7886	.892		1960		.948	9846
No	.940	2475	.783		414		.917	2889
TOTAL	.956	10361	.873		2374		.941	12735

Source: Zablan, Z.C. "1983 Levels and Patterns of Breastfeeding" in Conception (ed) **Demography at the Crossroads**, 1985, Table 2, p. 101.

TABLE 46
Proportions Surviving (p) for all Last Children
Born Between January 1978 and 1983 NDs
by Breastfeeding Practice Status and by Selected Child
Care Factors, Philippines, 1983.

Child Care Factors	Breastfed this child?				Total	
	Yes		No			
	p	N	p	N	p	N
1. Was Last Child immunized	.973	5331	.911	1206	.962	6537 ¹
Yes	.985	2539	.980	602	.984	3141
No	.962	2792	.843	604	.940	3396
2. Went To Any Health Facility for Treatment or Check-up While Pregnant With Last Child?	.972	5750	.916	1295	.962	7045
Yes	.978	4171	.924	1090	.967	5261
No	.956	1579	.873	205	.947	1784
All Children Before Last Child	.937	4640	.836	1074	.918	5713
3. Place of Birth/ Attendant at Birth of Last Child	.972	5732	.915	1293	.962	7025
At home	.969	4599	.986	721	.952	5320
MD/Trained	.985	1702	.913	281	.971	2083
Trad. Birth	.960	2674	.883	308	.952	2983
Family Member, Others	.955	223	.806	31	.937	254
Hospital/Clinic	.984	1133	.940	572	.970	1705
MD/Trained	.984	1117	.940	570	.969	1687
TBA	(1000)	11	(1000)	2	(1000)	13
Family Member, Others	(1000)	2	-	0	(1000)	2
All Children Before Last Child	.937	4640	.824	1073	.948	5713

¹Last Children Only

Source: Zablan, Z.C. "1983 Levels and Patterns of Breastfeeding" in Concepcion (ed) *Demography at the Crossroads*, 1985, Table 2, p. 101.

Querobin and Bongga (1986), in a study in 1984 of Tabon, a poor squatter community along the Las Piñas portion of Manila Bay, wanted to determine the relationship between maternal employment status and nutrient intake of preschoolers in this low-income urban community. Their results showed that non-working mothers had significantly higher diet rating (62.6) than working mothers (56.0). This is because working mothers spend less time on child-care activities. Child-care time of mothers and substitute mothers was further broken down into nutritional care time (food preparation) and feeding time. Child-care time was correlated with diet rating and weight-for-age and their coefficients among nonworking mothers were compared to those who were working. Significant and positive correlations were observed between diet rating and child-care time among nonworking mothers ($r = .386^{**}$). Although a positive correlation was exhibited among working mothers, it was not statistically significant ($r = .046$). The authors concluded that time input of working mothers was too short (166 minutes/day) to have any impact on nutritional care or feeding time compared with nonworking mothers (400 minutes/day). Child-care time was positively correlated with weight-for-age of preschoolers of working mothers and the coefficients were statistically significant for substitute mothers ($r = .370^{*}$ for feeding, $r = .317^{*}$ for nutritional care time). However, no consistent pattern was observed for nonworking mothers. The effect of child-care time inputs of substitute mothers on diet rating and weights of children differed between the two groups. For the nonworking group, a negative effect was observed while for the working group, there was a positive relationship suggesting that substitute mothers of nonworking women may be inferior in quality and quantity than those for working mothers. In fact, substitute mothers for working women consisted of other adults or husband while for nonworking mothers, these were older children in the household. Other socioeconomic and demographic variables were correlated with diet rating and weight-for-age. Those that showed significant coefficients with diet rating were: nutrition knowledge ($r = .291^{*}$), per capita income ($r = .185^{*}$) and per capita food expenditures ($r = .303^{*}$). Weight-for-age was significantly correlated with birth order ($r = -.234^{*}$), health index ($r = -.236^{*}$), mother's age ($r = -.190^{*}$), nutrition knowledge ($r = .234^{*}$), household size ($r = -.273^{**}$), per capita income ($r = .331^{*}$), and per capita household expenditure ($r = .352^{**}$).

The above results suggest the importance of child-care time on nutrient intake and weight of the preschooler. This is compromised when the mother is working. The relationship between maternal time input and the child's nutrient intake is to a large extent influenced by socioeconomic and demographic characteristics both of mother and of child. The effect of

* Significant at .05

** Significant at .01

education on diet rating and weight was insignificant and appeared to work through nutritional knowledge. Important interactions were observed particularly with maternal age and household size as they affected weight of the child. Negative correlations of these characteristics to weight means that as the mother grows older, nutritional status of preschool children deteriorates, but this is because family size exerts a synergistic effect tending to lower nutritional status.

The above results demonstrate the important variables on infant/child survival. Results of trivariate analysis reveal strong interactions particularly among breastfeeding, child-care and environmental contamination factors and among the maternal factors. Assessment of their relative effects on child survival would require multivariate analysis to be done.

3.2 Correlates and Covariates of Proximate Variables

a. Breastfeeding

Using data collected in the 1973 National Demographic Survey, Raymundo (1985) analyzed the correlates of breastfeeding among modernization variables such as woman's place of residence, migration status, employment and education. Odds ratios were calculated for each category of the correlates which can be interpreted as the propensity of a woman to breastfeed compared to a woman with a different set of characteristics. A value of 1.0 indicates the standard group for comparison with odds ratios in other groups on the same variable. A value below or greater than 1.0 means a drop or an increase in the probability to breastfeed compared with the standard. The results of the final model are as follows:

Woman's Employment: The odds ratio for women working in the home (.93) did not differ from those unemployed (1.0, standard); both promote the practice of breastfeeding. However, employment outside the home decreases the odds (.53) that a woman will breastfeed.

Residence and Migration: Breastfeeding is more popular in rural areas (1.0, standard) than in urban areas, but within cities, urban natives and lifetime migrants did not display any difference in practice (with odds ratios of 0.46 in each group). Recent migrants shared similar propensity to breastfeed (odds ratio = .50) as other urbanites.

Education Attainment: Educational attainment depresses the odds to breastfeed but its effect interacts with age, thus:

		AGE	
Education	25	25-29	30-45
Elementary	1.0	0.64	0.60
High school	1.0	0.40	0.45
College	1.0	0.45	1.09

		EDUCATION	
Age	Elementary	High School	College
< 25	1.0	0.69	0.23
25-29	1.0	0.42	0.16
30-45	1.0	0.52	0.42

College-education mothers had lower odds ratios than those with lower education but is lowest among college-educated women 25-29 years of age (0.16). Except for college-educated mothers, age has a depressing effect on the odds to breastfeed.

The same variables were used as covariates of the duration to breastfeed. The log linear modelling results showed the following net effects of each covariate on the duration of breastfeeding:

Education	Net Effects	Employment	Net Effects
Elementary	0.833	Unemployed	0.918
High School	1.0909	Employed at home	0.973
College	1.331	Employed outside	1.120
Age		Residence/Migration	
< 25	1.070	Rural natives	0.895
25-29	1.040	Lifetime migrants	0.992
30-45	0.894	Recent migrants	1.150
		Urban natives	0.982

The above results show that the probability that women have stopped breastfeeding at each duration is smallest for elementary-educated women (0.833) and highest for those college-educated (1.331). The relative risk for the college-educated of discontinuing breastfeeding at each duration compared with the least educated is therefore 1.6 (i.e., 1331/0.833). Women under 30 are more likely than older women to have discontinued breast feeding at each duration. Women who are employed outside the home are most likely to

discontinue (1.120), and unemployed women least likely (0.918). Recent migrants to cities are least likely to discontinue breastfeeding than urban natives whose likelihood is similar to that of lifetime migrants. Rural natives are least likely to stop breastfeeding.

In sum, the analysis of correlates and covariates of breast feeding shows that modern women (i.e., highly educated, employed outside the home, residing in cities) are at a higher risk of not breastfeeding and of stopping to breastfeed earlier. Although these 1973 results reveal the adverse effects of modernization in breastfeeding, more recent trends in breastfeeding practice and duration (shown earlier in the analysis of trends for 1978 and 1983) showed some signs of an upturn on both variables.

The study conducted by Popkin (1978) on the socioeconomic and demographic determinants of breastfeeding among infants of 99 Laguna households was included in the comprehensive review by Herrin and Bautista (1986) and will be briefly mentioned here. Regression analysis results reveal that higher breastfeeding practice was positively related to (1) mother's belief that breastmilk is best, (2) number of siblings age 1-6 years, and (3) number of other persons in the household. Increases in the predicted wage rate of the mother reduce breastfeeding practice only in richer but not in poorer households. Breastfeeding duration was positively related with variables 1 and 2 above, and the presence in poor households of older girls (13-15 years) possibly as mother substitutes reduces breastfeeding duration but not in rich households.

b. Dietary/Nutrient Intake

Three studies reviewed by Herrin and Bautista (1986) analyze the determinants of dietary intake of calories and protein as well as vitamin A in the first two studies (Gonzalo and Evenson, 1978, Valenzuela, 1978, Popkin, 1980). The socioeconomic variables which they included in their analysis were household income, wife's education and wife's labor force participation. Demographic variables include age, family size, and presence in the household of preschoolers, children 7-15 years of age of both sexes, and other persons. Their results point to the effect that higher education increases nutrient intake specially among low-income families, but reduces calorie intake in higher income families. Labor force participation of mother reduces per capita food intake. Presence in household of children 7-15 years of age increases nutrient intake of preschoolers but presence of infants and older persons in household reduces their food intake. The last finding was explained by the observation that children 7-15 years supplement mother's child-care time while infants and older persons reduce the availability of food to preschoolers.

All the studies presented in this and the previous sections underscore the important effects of socioeconomic and demographic variables on the proximate variables as well as on the health outcomes.

IV. CONCLUSION

The review of long-term trends in mortality indicators shows that the rapid declines observed during the post World War II have started to level off around the late 1960s at prematurely high levels and in fact may have halted. All mortality indicators (CDR, expectation of life at birth, IMR) point to a slackening in their rates of decline/improvement. At the same time, great disparities in survival chances still exist between urban and rural residents, between the highly educated and the lowly educated and among regional and occupational sub-groups. Communicable diseases still claim a major proportion of deaths even as a rising trend in deaths is observed from degenerative causes.

More than one-fifth of the deaths is to infants most of whom die of communicable diseases such as pneumonia, bronchitis and diarrhea. The slackening in the pace of mortality decline seems to arise from ineffectiveness of current health intervention measures to reduce deaths to infants and young children.

The death and illness profiles of the country depict a great similarity in the causes of deaths and illnesses. Seven out of the 10 leading causes of illness are also found in the list of the 10 leading causes of deaths. These diseases are highly communicable ones such as tuberculosis, bronchitis, influenza, acute respiratory infections, measles and diarrhea. The only degenerative disease that is both a major killer and a cause of illness is hypertension. Three chronic diseases – inflammatory diseases of the eye, peptic ulcer and arthritis – although major causes of illness never figured as major causes of death. They may, however, sap the productivity of working members of the population. The communicable nature of the leading causes of illness almost guarantees its heavy toll among the very young and the very old members of the population who are most vulnerable. This vulnerability arises from the known synergy between malnutrition and infection.

Data on the nutritional status of children 0-6 years in 1982 showed that 17 per cent of them was stunted (below 90 per cent of weight-for-age), 7.5 per cent was wasted (below 85 per cent of weight-for-height) and 2.0 per cent was both wasted and stunted. The level of severe malnutrition was 27 per cent. Anemia, a clinical manifestation of malnutrition, was highest for pregnant women (48.6 per cent), 37.2 per cent among those aged 60 years and over, and 34.5 per cent was children 0-6 years of age.

The Filipino diet in 1982 was somewhat adequate in protein but inadequate in energy and the micronutrients. Nutrient intake adequacy was highest in urban areas, next highest in rural areas but worst in Metro Manila. Nutrient intake was positively related with income and

education, negatively related with household size with those in high-status occupations being better off than those in low-status jobs. Breastfeeding practice was more popular among rural and less educated than among urban and more educated mothers, and its duration was longer in the former than in the latter group of mothers. However, what seems alarming is the fact that the trends over time appeared to be declining among the disadvantaged groups where breastfeeding would have the most impact on infant and child survival. Urban mothers and those with higher education appear to show a reversal in the declining trend, perhaps as a result of the increasing awareness of the benefits derived from breastfeeding.

The above discussions of levels, trends and differentials of course are useful in identifying where the problems lie. What information do we need to establish priorities? To answer this question would require identification of the emerging important correlates of the various health outcome of interest. Before one can do this, however, a sound theoretical framework is required, one that would enable the untangling of the complex web of interrelationships among the various factors affecting health outcomes.

Our review of extant literature on the determinants of health outcomes pointed out important gaps in our knowledge base both resulting from the lack of sound data and from the limitations on what we currently know about the mechanisms underlying the process of health-illness-death.

With the few multivariate analyses of health outcomes reviewed here and extensive ones by others, some generalizations are possible. These are:

1. The common notion of high infant mortality risks among very young and very old mothers as well as among new borns and parities beyond 2 is further qualified by the interactions observed among parity, age and birth interval. Early and frequent childbearing compromises the health of young mothers leading to higher risks of neonatal mortality. Frequent and late childbearing compromises child-care time as a result of too many children more than it does the health of the mother and this is reflected in higher post-neonatal than neonatal mortality risks.

2. Nutritional intake is largely influenced by income and mother's education. Nutritional status in turn influences child survival in a rather complicated way. The synergisms of malnutrition and illness point to the importance of breastfeeding as a safe and complete source of nutrient particularly in early infancy when immunization does no good, and particularly among children of poor families where the infective dose is expected to be heavy as a result of unsanitary and contaminated environment, and crowding as a result of large family size.

3. Modernization has some adverse effects on the proximate variable breastfeeding. Modernization without development implies crowding in urban places that would hamper city governments in their ability to provide essential social services, such as health, environmental

sanitation, housing and education. Coupled with an uneven distribution of income, the poor would be disadvantaged due to the higher standards of living in the cities.

The viewpoint that ill health is the outcome of specific diseases which are biological in origin leads to a logical emphasis on treatment of the biological disorder. However, if ill health and malnutrition are seen as the outcome of environmental, socioeconomic, cultural, demographic and psychological variables, then the logical solution to these health problems would lie in removing the constraints that inhibit the improvement of health and nutrition. More information is needed on the determinants of illness and health-seeking behavior. The plethora of factors that comprise the ecology of ill health would require their condensation into a few factors. The classification of Jimenez, et al. (1986) would be useful here. These are: (1) the available local resources which may be constrained by the degree of structural support to grassroot agencies, motivation and commitment of the staff, adequacy of supplies and accessibility, (2) adequacy of family resources which constrains health-seeking behavior, (3) sociocultural factors which determine attitudes and beliefs regarding illness and health, and (4) the nutrition-disease interaction.

When faced with the problem of rational resource allocation for health promotion activities, a wholistic perspective would result from an analysis of the contributions that family resources, social, cultural factors and nutrition-infection interactions have on health. This broad-based approach is needed to alter the underlying social and ecological conditions that are producing the high levels of morbidity and mortality.

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FERTILITY, NUPTIALITY AND CONTRACEPTIVE PRACTICE IN THE PHILIPPINES

Eliseo A. de Guzman

I. INTRODUCTION

The Philippines experienced a demographic revolution during the fifties and the sixties. During these periods, its population grew at an all-time high of over 3 per cent annually. This rapid population growth rate, which could double the population of the country in only 23 years, was attributed primarily to a rapidly declining death rate interacting with a consistently high birth rate.

Contrary to what has happened in the now developed nations, declines in mortality over time saw no parallel reductions in fertility. The sluggish decline in fertility in the face of a low and now slackening death rate (estimated to be around 8 deaths per 1000 population in 1980) has resulted in only meager reductions in the growth rate as noted from the recent censuses (2.8 per cent per year between 1970 and 1975 and 2.7 per cent annually during the subsequent quinquennium, 1975–1980).

The combined effects of a high and slowly declining fertility and a rapidly declining mortality are apparent from the large proportion of the population in the ages 0–14 years. Although the proportion has demonstrated minor reductions over time, the number of persons in these ages in absolute terms has increased by 63 per cent between 1960 (12.4 million) and 1980 (20.2 million). This phenomenon was accompanied by a motherhood boom during the same period with the number of women in the childbearing ages in 1960 (about 6.3 million) increasing by 83 per cent in 1980 (about 11.5 million).

With further declines in mortality and the increasing number of women in the childbearing ages, the population growth rate is not likely to fall any faster unless the fertility rate drops drastically. Thus the national population program has been mainly a family planning program until recently when its goals were broadened to include not only fertility curtailment but total family welfare. The population policy statement of the Commission on Population (POPCOM) under the Aquino government is even more explicit by encompassing other population concerns like "family formation,... child survival, morbidity and mortality, population distribution and urbanization, internal and international migration, and population structure"; but fertility reduction will continue to be an important focus specially because of the "continued rapid growth" and the "deceleration in fertility and mortality decline". The policy statement emphasizes that "given

these demographic trends ... the country faces a tremendous challenge in alleviating poverty and improving the quality of life of the Filipino people.”

The examination of fertility levels, trends and determinants constitutes an important input in relevant program formulation and implementation. However, the determination of fertility levels and trends in the Philippines is seriously handicapped. Despite efforts of the government to improve birth registration, vital registration data yield spuriously low estimates of the crude birth rate and do not permit accurate assessment of the extent of childbearing among women in the reproductive ages. Recourse has been had to the application of indirect methods of estimation to data on age distribution and children ever born from the censuses and sample surveys to generate national and regional crude birth rates and age-specific fertility rates. Existing estimates of the birth rate have been derived utilizing various techniques and adopting various assumptions with the result that observed variations depend not so much on the techniques employed as on the nature of the assumptions made.

This paper attempts to assess earlier estimates by examining the different assumptions adopted. Alternative estimates are presented to check for consistency¹ and determination of firmer estimates. A more meaningful analysis of levels and trends of fertility can then proceed after the assessment as more robust estimates are identified.

The determinants of fertility have been examined by social demographers by adopting an approach which looks at fertility as being influenced by a group of intervening variables, “intermediate” (see Davis and Blake, 1956) or “proximate” (see Bongaarts, 1978). This approach² stresses the supply or production aspect of fertility as compared to the approach of economists which emphasizes the demand aspect of fertility by explaining why couples want or do not want to control births. The National Academy of Sciences (1982) developed a comprehensive framework which incorporates the “synthesis” framework of Easterlin (1978) identifying appropriate intervening variables that encompass both the supply and demand aspects of fertility.³ NAS framework is shown in Figure 1 which will guide the presentation of current knowledge on the determinants of fertility in the local setting.

In brief, Figure 1 shows that policies and programs influence individual, household, and community characteristics which in turn determine the demand for and supply of children and nuptiality patterns. The motivation for fertility regulation ensues if the potential supply of children

¹ Alcantara, Cabigon and de Guzman (1980) and Cabigon (1983) have assessed indirect estimates of fertility for consistency but failed to examine the different underlying assumptions and present new estimates.

² See Population/Development Planning and Research Project, NEDA (1953, p. 61) for the graphical representation of the intermediate or proximate determinants framework.

See also Herrin (1983, pp. 31-42).

exceeds the demand or the desired number. Actual fertility is then determined by the extent to which perfect fertility regulation is achieved so that the potential number of children and the demand for children are equated. The extent of fertility regulation is affected by the cost (monetary, psychic, physical, etc.) of contraception. Nuptiality is likewise affected by the same basic background variables in (1) and (2) and in turn directly determines the supply of children.

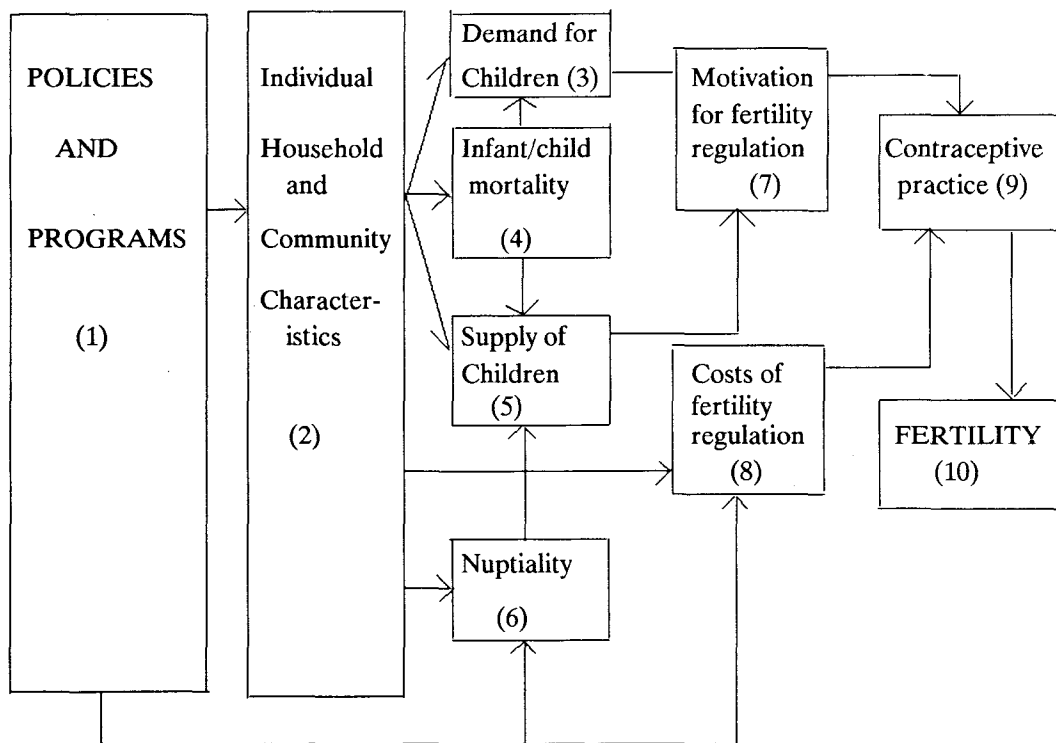


Figure 1. A simple framework for the review and synthesis of information on levels, trends, and determinants of fertility.

II. FERTILITY LEVELS AND TRENDS

1. The Crude Birth Rate

Prior to 1967 when the United Nations came out with a publication describing methods of estimating basic demographic measures from incomplete data, estimates of the crude birth rate have been subject to serious limitations. No checks for internal consistency were available as there was inadequate coverage of births and deaths. In 1956 only 76 per cent of the local registrars sent reports to the Register General and only 88 per cent did so in 1960 (Madigan, 1965). Several studies covering various localities in the country also point to an acute under-registration of births in the past, ranging from 35 to 55 per cent (Concepcion, 1970). In 1980, death registration was estimated to be 25 per cent deficient, and birth coverage could have been worse. Demographers also bewailed the lack of adequate correction factors for estimates to approximate more or less reality.

An examination of the fertility estimation methodologies adopted prior to 1967 reveals that these relied upon in (1) making assumptions about the *reasonable level* of mortality for the period for purposes of reverse-surviving the population aged 5-9 or 0-4 years to derive the births in the past 5-10 years (e.g. United Nations, 1960; Mendoza Pascual, 1962; Inter-Agency Committee on Demography, 1964; Madigan, 1965); and in (2) making assumptions about what seemed to be a *reasonable level* of fertility for the period (e.g. Adams, 1958; Aromin, 1959; Ramachandran, Almendralo, and Sivamurthy, 1963; Lorimer, 1966). Consequently, with few exceptions, estimates of the crude birth rate (CBR) for various periods during the first six decades of the twentieth century do not manifest large deviations.⁴ In fact, the estimates seem to indicate that the CBR hovered around 50 births per 1000 population during the first half of the century. The availability of more elaborate estimation techniques and increasingly more accurate data has allowed the generation of new estimates of fertility. As an aid to fertility estimation, more accurate independent estimates of mortality parameters can now be obtained (see e.g., Zablan, 1978 and 1983). More censuses as well as national and subnational surveys have been conducted.

Five different approaches were employed by the writer to derive new estimates of the CBR for various periods from 1903 to 1970 utilizing census data and independent estimates of mortality (see de Guzman, 1975). A reexamination of the results allows an evaluation of existing estimates and the generation of firmer point estimates of the CBR for trend analysis.

The estimates made by the writer in most instances do not deviate very much irrespective of approach. The estimates manifest internal consistency and likewise demonstrate a discernible

⁴

For a comprehensive listing of the estimates, see Alcantara, Cabigon and de Guzman (1980) and Cabigon (1983).

trend. For reasons mentioned above, the CBRs presented in Table 1 were based on the new estimates and will now serve as benchmark figures for ascertaining firmer estimates of the crude birth rate.

The University of the Philippines Population Institute, in collaboration with different agencies, has conducted five nationwide surveys: the 1968 National Demographic Survey (NDS), the 1973 NDS, the 1978 Republic of the Philippines Fertility Survey (RPFS), the 1983 NDS, and the 1986 Contraceptive Prevalence Survey (CPS).

These surveys elicited the complete pregnancy histories of all ever-married respondent women in the reproductive ages of 15–49 years. It is thus possible to make a birth history analysis which yields fertility rates specific for age for various periods. A detailed assessment of the birth histories particularly of the 1973 NDS and the 1978 RPFS revealed relatively few errors of omission of births and event misplacement (see Flieger, 1975; Cabigon, 1976; and Reyes, 1981), giving some degree of confidence in the use of the age-specific fertility rates (ASFRs).

TABLE 1
Benchmark Estimates of the Crude Birth Rate, Philippines, 1903-1970

Period	CBR
1903-1948	50.0-55.8
1950-1955	47.2-48.5
1955	46.8
1960	44.0
1960-1965	43.1-43.5
1960-1970	42.0
1970	41.3

Source: de Guzman, 1975

Applying the age-specific fertility rates from the surveys (see Table 5) to the appropriate census population of women in the ages 15-49 years yields the estimated number of births for the period. Dividing this number by the total population gives an estimate of the CBR. The results of this procedure are displayed in Table 2.

The period estimates (Col. 2) derived from the application of age-specific fertility rates contained in Table 5 and the CBRs estimated through the reverse-survival method (Col. 3) applied on census data are in very close agreement. The CBRs estimated by Gonzales, Cross, and Adlakha (1979) were also consistent with the figures in Table 2 (37.2 for 1970-75 and 40.6 for 1965-75). No check can be made for the 1975-1980 estimate for lack of data.

The estimates presented in Table 2 also conform closely with the figures presented in Table 1. The difference between the corresponding rates range from 0.5 per cent (between the 1960-1970 rates⁵) and 4.8 per cent (between the 1970 rates).

TABLE 2

Crude Birth Rates for Various Periods Estimated Through the Application of Age-Specific Fertility Rates (ASFRs) and the Reverse Survival Method: Philippines

Period	Application of ASFRs		Reverse-Survival Method
	Point Estimate (1)	Period Estimate (2)	Period Estimate (3)
1960	45.1		
1960-1965		44.3	44.6
1965	43.4		
1965-1970		41.4	41.2
1970	39.3		
1970-1975		37.1	37.6
1975	34.8		
1975-1980		35.7	
1980	36.3		

No consistency check can be made due to limited data.

⁵

The 1960-1970 rate for Table 2 is computed by getting the average of the 1960 and the 1970 rates (42.2).

From the above discussion, firmer estimates of the CBR can now be identified. These are shown in Table 3. The CBRs indicate that the crude birth rate for the country was fairly constant during the first half of the century, ranging from 50 to about 56 births per thousand population. An apparent decline in the CBR appeared to have been initiated during the fifties. Between 1950 and 1955, the CBR was around 47 to 49 births per thousand. From 1955 the CBR pursued an accelerated decline. Larger reductions were noted for the periods when family planning activities were being initiated (1965–70) and when the family planning program of the government was launched and became increasingly pervasive (1970–75). By 1970, the CBR had dropped to 39 per thousand and in 1975, 35 per thousand. These declines can be viewed against the significant changes in nuptiality in terms of non-marriage and marriage timing. The age at marriage has been steadily rising over time accompanied by pronounced downward changes in the proportion of women marrying by age (Smith, 1978; de Guzman, 1983; de Guzman and Domingo, 1984). Family planning methods have become generally known and the proportion of currently married women aged 15–44 years who were using some form of contraception rose from 24 per cent in 1973 to 37 per cent in 1978.

TABLE 3
Estimates of the Crude Birth Rate (CBR)
Philippines: 1903-1975

Period	CBR	Per Cent Change Successive Periods
1903-1948	50.0-55.8	
1950-1955	47.2-48.5	—
1955	46.8	-21*
1960	45.1	3.6
1965	43.4	-3.8
1970	39.3	-9.4
1975	34.8	-11.5
1980	36.3	+4.3

* Assuming a 1952 CBR of 47.8, the average of 47.2 and 48.5, thus the interval encompassed is 3 years.

While during the decade of the sixties, the economic growth slowed down to an average annual rate of 5.1 per cent, the seventies witnessed an increase in GNP growth (6.1 per cent per annum) in spite of the worldwide recession because of the restructuring of development strategies. With the slowing down of population growth and the perking up of the economy, per capita GNP in the seventies also registered an acceleration in the growth rate (PDPR/NEDA, 1983).

Decomposition of changes in CBR for different periods between 1960 and 1980 by source of variation has shown marital fertility⁶ to have always exerted a depressing effect on the crude birth rate (University of the Philippines Population Institute, 1985). Between 1960 and 1975, its effects have only been slightly offset by countervailing effects of changes in the age structure (number of women in the ages 15–49 years) and in marriage pattern. Between 1975 and 1980, while downward changes in marital fertility had a substantial reducing effect on the CBR, this was effectively offset by the swelling number of women in the reproductive ages and increases in the proportions currently married. Had these two factors presented only a negligible influence as in 1970–75, the CBR in 1980 would have been around 32 births per 1000 population!

Since the increasing number of women in the reproductive ages is primarily a given factor (nothing can be done about it short of catastrophe selectively affecting these women), it is clear that efforts must be exerted to address the recent reversals in nuptiality. Marital fertility must fall more rapidly if only to offset the adverse effects of increasing numbers of women (expected to be 15 million in 1990 and 18 million in 1995) and of more women getting married and being exposed to the risk of pregnancy.

Regional CBRs depicted a pattern following the development dichotomy (Table 4). The CBR tends to be lowest in Metropolitan Manila, the most developed geographic area of the country, and intermediate in the relatively developed areas of Central Luzon, Central Visayas, and Southern Tagalog. The CBRs appear high in the less developed areas of Mindanao, Cagayan Valley, Bicol, and Eastern Visayas.

Application of the decomposition procedure to the regional rates for 1975 and 1980, if the latter figure is to be accepted, yields interesting results (see Cabigon, 1985). In terms of the change in the CBR, the challenge appears greatest in Metro Manila, Bicol, Ilocos, Eastern Visayas, and Central Mindanao where age structure, marital fertility, and marriage pattern all positively contributed to a bloated increment in the crude birth rate. Given an age composition of women which is favorable to high fertility, more effective measures need to be undertaken to alter the

⁶

Marital fertility refers to the fertility of married women in the childbearing ages.

quantum and timing of marriage and to control marital fertility to more desirable levels in these regions.

The national experience of increasing CBRs brought about by positive shifts in age structure and marriage offsetting reductions in marital fertility was duplicated by the Cagayan Valley, Central Luzon, Western Visayas, and Southern Mindanao. The problem seems more manageable though in Central Visayas and Southern Mindanao where marriage pattern, a more manipulable variable, emerged as the most important component of upward change in the CBR; in contrast to Central Luzon, Cagayan Valley, and Western Visayas where age structure was the major component. In any case, given the high birth rate in these regions, the downward trend in marital fertility in these areas must be sustained and accelerated further.

TABLE 4
Crude Birth Rates by Region, Philippines: 1960-1980

Region	Y e a r			
	1960	1970	1975	1980
PHILIPPINES	46.0	39.3	34.8	36.3
NCR National Capital Region	43.1	33.6	28.8	34.8
I Ilocos	42.0	34.8	31.3	37.7
II Cagayan Valley	49.1	35.8	35.6	36.9
III Central Luzon	42.9	37.3	31.4	31.5
IV Southern Tagalog	43.0	35.3	34.4	33.7
V Bicol	43.4	37.5	35.6	40.2
VI Western Visayas	43.1	38.3	36.4	37.0
VII Central Visayas	41.9	38.1	30.8	32.8
VIII Eastern Visayas	44.9	42.6	35.5	38.8
IX Western Mindanao	55.8	50.9	35.5	34.5
X Northern Mindanao	52.8	49.0	39.4	37.4
XI Southern Mindanao	51.2	47.4	37.6	38.9
XII Central Mindanao	-	-	35.7	43.1

Source: For the years 1960-70, de Guzman, E.A. 1977. "Fertility and Contraception in the Year 2000: Part I. Fertility Levels and Trends." University of the Philippines Population Institute (UPPI), Population, Resources, Environment and the Philippine Future (PREPF) Final Report, 3(1). Text Table B. For 1975 and 1980, Cabigon, 1985.

In Southern Tagalog, Western Mindanao, and Northern Mindanao, the crude birth rate pursued a declining trend, fueled by reductions in marital fertility. The decrements in marital fertility in these areas have more than compensated for the reversals in age structure and marriage pattern.

2. Age-Specific Fertility Rates and Total Fertility Rates

The age-specific fertility rates and total fertility rates for the country as a whole are shown in Table 5. Generally the age-specific fertility rates exhibited a declining trend over time. The important exceptions were the increments registered by women aged 15-29 years between 1975 and 1980. Large decreases can be noted for the period 1970-1975.

TABLE 5

Age-Specific Fertility Rates (ASFRs) Per Thousand Women and Total Fertility Rates (TFRs) Per Woman: Philippines, 1960-1980

Period	Births Per 1000 Women Aged							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1960 (1958-62)	84	261	314	292	212	108	27	6.49
1965 (1963-67)	75	255	315	284	218	101	20	6.34
1970 (1968-72)	56	228	302	273	200	101	23	5.92
1975 (1973-77)	47	209	249	240	179	89	26	5.20
1980 (1978-82)	51	213	254	220	164	76	14	4.96
<i>Per Cent Change</i>								
1960 - 1965	-11	-2	-3	-3	3	-6	-26	-2
1965 - 1970	-25	-11	-4	-4	-8	0	15	-7
1970 - 1975	-16	-8	-17	-12	-11	-12	13	-12
1975 - 1980	8	2	2	-8	-8	-15	-46	-5

Sources: For 1960-1970: 1973 National Demographic Survey
 1975: 1978 Republic of the Philippines Fertility Survey
 1980: 1983 National Demographic Survey

The total fertility rate (TFR) or completed family size estimated at 6.49 children in 1960 portrayed an acceleration in the rate of decline up to 1975 but a deceleration thereafter, pegging the level of 4.96 children in 1980. This level is still very much above the level of exact replacement,⁷ which under more favorable mortality conditions is achieved approximately at a TFR of 2.0. At the rate the TFR has been declining during the last three quinquennia, we might not reach replacement level till about year 2035! The effects of such levels and the seemingly sluggish downward trend are described in the Annex.

3. Cumulative Fertility

Our discussion has so far been limited to current fertility measures. The cumulative fertility or mean children ever born (CEB) per married woman by age for selected years is displayed in Table 6. One shortcoming of this measure compared with the earlier ones is that the data reflect behavior that in some cases took place many years prior to the survey. Nonetheless, certain trends in patterns of family building can be observed among the women of different ages over time. Only women in the peak childbearing ages of 25 to 34 years exhibited consistent declines in cumulative fertility. The other age groups experienced a diminution only between 1978 and 1983.

TABLE 6

Mean Children Ever Born Per Married Woman by Age, Philippines: 1968-1983

A G E	Y E A R			
	1968	1973	1978	1983
15-19	1.11	0.85	0.85	0.70
20-24	1.84	1.85	1.89	0.76
25-29	3.18	3.14	2.96	2.10
30-34	4.58	4.48	4.27	3.40
35-39	5.68	5.58	5.66	4.71
40-44	6.24	6.54	6.74	5.50
45-49	6.22	6.41	7.00	6.01

Sources: 1968, 1973, 1983 National Demographic Survey
1978 Republic of the Philippines Fertility Survey

7

Exact replacement means only one daughter survives to the reproductive ages. In technical terms, exact replacement is attained when the net reproduction rate (NRR) is equal to unity (1.0). Exact replacement must not be equated with zero population growth, a situation where the population ceases to grow simply because the number of births is the same as the number of deaths.

Homogeneity is enhanced when the women are grouped according to their time of birth, the advantage being that each cohort of mothers will have been exposed to similar cultural, social, and economic conditions and will have undergone similar changes in tastes and values. The data in Table 6 have been rearranged here to identify such cohorts. It is apparent from the data that within each age group, the younger cohorts successively reported slightly lower cumulative fertility, with the exception of age group 20–24. Another interesting feature is the slackening of the tempo of childbearing within each successive younger cohort. For example, among women born in 1944–1948, they experienced an increase in their fertility by 71 per cent cumulated from ages 20–24 to ages 25–29. The corresponding increase among the women 5 years their junior (1949–53 cohort) was 60 per cent. This implies that the women have been increasingly spacing their children.

Fertility cumulated at ages

Year of Birth of Woman	Current Age	20–24	25–29	30–34	35–39	40–44
1949–1953	30–34	1.85	2.96	3.40	**	**
1944–1948	35–39	1.84	3.14	4.27	4.7	**
1939–1943	40–43	**	3.18	4.48	5.66	5.50
1934–1938	45–49	**	**	4.58	5.68	6.74

* As of 1983

**Data truncated

Among those born between 1939 and 1943 there is not much difference between the CEB at ages 35–39 and 40–44 (ages near the end of childbearing) suggesting that childbearing is virtually completed by age 40 for these women. In contrast, among women in the oldest cohort, born 1934–1938, childbearing is virtually complete by age 45 (CEB cumulated at ages 45–49 is equal to 6.01). The data suggest a shortening of the duration of childbearing with a consequence of reducing completed family size in the long run.

Understandably, the younger the woman, the better educated and the more receptive to less traditional life styles she becomes. With opportunities becoming increasingly egalitarian, the younger woman is more prone to adventurism and widening her horizons. The implication is clear that to sustain the fall of fertility due to birth spacing and possibly limitation, the means to effectuate such changes must be made more readily available.

4. Fertility Differentials

The analysis of fertility differences by associated factors has become increasingly important in view of efforts to attain a population growth rate which is conducive to national development and the improvement of human welfare in the country. The identification of variations in the reproductive behavior among subgroups of the population such as by education, work status or place of residence is specially relevant for development planning because these can be directly addressed by government policies and programmes.

A large number of studies have been made to investigate the factors affecting differences in fertility levels (see Alcantara, Cabigon and de Guzman, 1980). The level of analysis of extant research has largely been descriptive, although lately there has been an emphasis on multivariate analyses. A major advantage of the first approach is that it permits a useful view of simple relationships.

The studies have mainly utilized cumulative fertility or children ever born as a measure of fertility. Because of the inherent limitations of this measure, an attempt is made here to supplement the existing literature with differentials in current fertility using age-specific fertility rates or total fertility rate.

Explicit from Figure 1, many of the socioeconomic factors do not affect fertility directly. Education and residence, for example, operate through the intervening factors like age at marriage, breastfeeding, and use of contraception (see Cochrane, 1983).

This section is limited to factors which cannot be accommodated in the determinants section such as education and residence and which can be treated at greater length here.

4.1 Education

The individual-level effects of education on fertility can be segregated into those that affect the demand for children, those that influence the supply of children, and those that influence fertility regulation.

For example, schooling may directly change attitudes, values and beliefs toward family size. Education may operate to reduce the economic value attached to children and increase opportunity cost among women. With respect to contraceptive use, education affects the supply of living children by possibly altering entry into marriage and improving the survival of infants and children.

The fertility-education relationship in the Philippines is not monotonic. In-depth investigations revealed a hump-shaped association implying the existence of a threshold level only beyond

which an increase in education necessarily entails a decrease in fertility (Stinner, 1975; Concepcion and Smith, 1977; Encarnacion, 1978; de Guzman, 1978). Control for current age, age at first union, current residence, husband's occupation, and respondent's place of work through multiple classification analysis somewhat dampened the relationship but did not eliminate the hump in the 1-3 years of schooling whether fertility was measured by cumulative fertility (CEB) or recent fertility – children ever born in the past five years (United Nations, 1985). The TFRs for 1980 by education show the same configuration. This implies the need not only to improve educational status in general, but also to elevate the educational level of the population, specially among females, beyond the threshold. The presence of a hump-shaped relationship may also imply the involuntary suppression of fertility because of poor health and nutritional inadequacies among the population below the threshold level. It is also possible that the lower fertility among women with modicum schooling is due to other causes such as lower fecundity and longer post-partum amenorrhea because of greater tendency to resort to breastfeeding (see Zablan, 1985).

Education in years	1980	
	TFR	CEB*
0	5.4	7.0
1-3	7.0	7.4
4-6	6.2	6.9
7 and over	3.8	5.2

* Refers to women aged 40-49 years

4.2 Urban-Rural Residence

Philippine data support the general hypothesis of higher rural than urban fertility. The mean children ever born of women nearing the end of their childbearing in 1978 was 7.4 children among the ruralites, 6.4 among other urbanites, and 6.0 among Metro Manila residents. These differentials in favor of the urban residents may actually reflect differences in attitudes and motivations as compared with the more conservative rural values. These may also arise because of disparities in opportunities for services in education, employment, health, and family planning and other mechanisms through which residence may affect the supply and demand for children and the use of contraceptives.

Turning to current fertility, the 1980 age-specific fertility rates for the nation as a whole by residence are shown below.

Births Per 1000 Women in 1980 Aged								
Residence	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Urban	32	168	223	172	128	56	13	3.98
Rural	66	248	273	252	187	88	15	5.65
Philippines	51	213	254	220	164	76	14	4.96
Difference	106	48	22	46	46	57	15	42

(R/U - 1.0 x 100)

The largest differential by residence was manifested by the youngest age group where the number of births per 1000 among rural women was 106 per cent higher than that reported by the urban women. Substantial differences were also noted for women aged 20-24, 30-34, 35-39 and 40-44. The total fertility among rural residents was two-fifths higher than among their urban counterparts. These differentials in rates have tremendous implications because while overall fertility in the rural areas was only 40 per cent higher than in the urban areas in 1980, the absolute number of births in the rural areas was actually 76 per cent higher.

On the regional level (Table 7), the urban-rural difference in TFR was sharpest in Western Visayas, 56 per cent in favor of the rural women followed by Central Mindanao (39 per cent), Southern Tagalog (34 per cent), Bicol (31 per cent), and Northern Mindanao and Ilocos (29 per cent). Incidentally these disadvantaged regions in terms of rural dominance manifested relatively high values of the overall TFR, with the exception of Southern Tagalog.

One proposition that has been advanced in relation to urban-rural differentials in fertility is that these "may eventually disappear with the growing sophistication of both the rural and urban populations in successful contraceptive practice" (United Nations, 1975). Data from the local setting does not seem to provide support to this proposition, as yet. Since 1968, the urban-rural differentials in cumulative fertility have been expanding contrary to expectations. Between 1973 and 1978, the differentials on relative terms among women aged 45-49 doubled (Metro Manila vs. rural, 12 per cent to 23 per cent and other urban versus rural, 7 per cent to 16 per cent). The age-specific fertility rates by region and by residence are shown in Table 8.

TABLE 7
Total Fertility Rates by Region and by Residence, Philippines: 1980

Region	Urban	Rural	Total
Philippines	4.0	5.6	5.0
Metropolitan Manila	3.5	-	3.5
I Ilocos	4.5	5.8	5.5
II Cagayan Valley	4.8	5.4	5.3
III Central Luzon	3.7	4.6	4.2
IV Southern Luzon	3.8	5.1	4.6
V Bicol	5.1	6.7	6.3
VI Western Visayas	3.9	6.1	5.5
VII Central Visayas	4.1	5.0	4.7
VIII Eastern Visayas	5.2	6.5	6.2
IX Western Mindanao	4.6	4.8	4.7
X Northern Mindanao	4.5	5.8	5.3
XI Southern Mindanao	4.6	5.8	5.3
XII Central Mindanao	4.4	6.1	5.8

Source: 1983 National Demographic Survey

TABLE 8
Age-Specific Fertility Rates and Total Fertility Rates
by Region and by Locale: 1980

Region/Locale	Number of Births Per 1000 Women in Ages							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
<i>Philippines</i>								
Urban	32	168	223	172	128	56	13	3.98
Rural	66	248	273	252	187	88	15	5.65
Total	51	213	254	220	164	76	14	4.96
<i>Metropolitan Manila</i>								
Urban	29	154	203	153	110	43	14	3.52
I Ilocos								
Urban	30	203	247	161	202	51	8	4.51
Rural	64	275	238	249	188	99	7	5.85
Total	56	255	277	225	192	89	7	5.50
II Cagayan Valley								
Urban	50	234	265	207	157	36	6	4.78
Rural	66	233	314	216	166	58	18	5.36
Total	64	233	307	215	164	55	16	5.36
III Central Luzon								
Urban	27	178	217	151	92	64	15	3.72
Rural	49	198	270	175	120	91	24	4.63
Total	39	189	248	164	107	79	20	4.22
IV Southern Tagalog								
Urban	33	170	229	155	104	62	8	3.80
Rural	42	251	246	264	151	59	-	5.06
Total	38	219	239	224	135	60	2	4.59
V Bicol								
Urban	40	155	296	255	163	112	-	5.10
Rural	85	315	299	261	233	130	18	6.70
Total	73	274	298	259	219	126	14	6.3

TABLE 8 (Continuation)
Age-Specific Fertility Rates and Total Fertility Rates
by Region and by Locale: 1980

Region/Locale	Number of Births Per 1000 Women in Ages							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
VI Western Visayas								
Urban	36	145	233	181	103	54	26	3.90
Rural	60	226	272	338	230	96	6	6.14
Total	51	200	261	293	198	84	11	5.49
VII Central Visayas								
Urban	40	166	192	192	170	51	7	4.09
Rural	66	180	262	216	186	74	26	5.05
Total	55	174	238	207	180	67	22	4.72
VIII Western Visayas								
Urban	56	176	266	237	190	89	35	5.25
Rural	73	324	239	267	211	110	35	6.54
Total	69	287	234	261	206	105	35	6.24
IX Western Mindanao								
Urban	50	191	242	191	122	96	20	4.56
Rural	66	226	223	220	144	84	-	4.82
Total	63	220	227	214	140	86	2	4.76
X Northern Mindanao								
Urban	29	178	255	203	168	63	11	4.54
Total	53	234	261	224	201	94	23	5.45
XI Southern Mindanao								
Urban	27	190	278	199	172	42	10	4.59
Rural	85	248	270	273	183	73	22	5.77
Total	63	227	273	179	246	62	18	5.34
XII Central Mindanan								
Urban	39	220	230	210	130	41	6	4.38
Rural	92	279	313	273	188	75	6	6.13
Total	81	267	296	260	175	70	6	5.77

Source: 1983 National Demographic Survey

III. FERTILITY DETERMINANTS: DEMAND VARIABLES⁸

1. Measuring the Demand for Children

Desire for children is universal. In the Philippines, among ever-married women who responded to questions on family size and family composition preferences, only a negligible number declared that they did not want any child (0.4 per cent in 1968 and 1973). By 1981, almost no one wanted to be childless, in spite of the fact that about 7 per cent had no children at the time of the interview (1986 CPS).

To gain information on the demand for children or the desired number of surviving children that a couple wants to have, the respondents were asked the following questions in the 1968 and 1973 surveys:

If you could start your married life over and have just the number you would want by the time you will be 45, how many children would you want altogether?

If it were up to you, is the number of children you now have sufficient for you, or would you have preferred fewer than you have now, or would you want more?

If the respondents preferred fewer or more children than what they had, they were asked how many they would prefer.

In the 1978 RPFS, the first question asked was:

If you could choose exactly the number of children to have in your life, how many would that be?

Additionally, the desire for more children was asked of women who have had at least one pregnancy. For currently married pregnant women, the question was:

How many more do you want to have?

The same questions as in 1978 RPFS were asked in the 1983 National Demographic Survey and the 1986 Contraceptive Prevalence Survey.

The validity of the replies to such questions has been subject to criticism. As phrased, the questions are described as very hypothetical and frequently foreign to thinking in various cultural or social settings. Even if such were not the case, it has been argued that the stated preferences may be an expression of current intentions only and could be altered by a change

8 See Lee and Bulatao (1983) for a comprehensive discussion of the concept.

in any of the woman's circumstances (Ware, 1974). Another contention is that the woman's preferences may not coincide with her husband's and any discrepancy could be important in settings where husbands make major family decisions (Cho, 1978).

McClelland (1983) examined the problems in the use of the different measures of family size preferences and "found no evidence to preclude considering measures of family-size desires as measures of demand".

Support to the above conclusion is provided by data from the 1973 NDS where currently married women 35-44 years old reported a mean desired family size 30 per cent lower than their mean children ever born while those aged 25-34 actually wanted to have more children than what they already had (de Guzman, 1977). Morada and Alegre (1984) noted family size desires to be higher than the number of living children when the latter is five or less, and a reversal beyond five children. The data suggest that the women preferred to keep their family size at around six children once they reached this number, but the number of living children increased just the same for failure to implement their preferences. This is also supported by the finding that the proportion of women admitting unwanted pregnancies rises with the number of living children (RPFS, 1979).

2. Desired Family Size Trends and Correlates

Desired family size among Filipinos has been decreasing over time (the mean was 5.6 children in 1968, 4.4 in 1978 and 4.1 in 1986). The proportion of women wanting smaller families (less than 5 children) has also increased substantially (from 39 per cent in 1968 to 66 per cent in 1978 and 68 per cent in 1986). What are the possible explanations for this shift from a desire for a large family to a smaller family size?

2.1. Socioeconomic Factors

If the factors that influence a woman's preferences about family size were the same as those which affect cumulative fertility, one would expect a situation where the desired family size would fall with increasing levels of education, would be lower among women (or their husbands) in white-collar occupations and higher among woman in agricultural occupations, and would be less in urban areas than in rural areas.

In general, studies on the local setting and elsewhere demonstrate the expected pattern (RPFS, 1979; de Guzman and Nartatez, 1976; Morada and Alegre, 1984; United Nations, 1982 and 1986). Education, occupation, ethnicity, and geographic subdivision emerged as important sources of variations. In 1978, women with no education reported a preference for 5.7 children while the college-educated wanted 3.6 children. Urban-rural differentials were not important. The occurrence of death among children tended to raise the desired family size. To illustrate,

among women with one living child and at least one child dead, the desired family size was 3.4 children in contrast to 2.8 among their counterparts who experienced no child deaths.

Utilizing potentially sensitive and powerful measures of preference for number and sex of children (see Coombs, McClelland and Coombs, 1973; Coombs, 1976), the University of the Philippines Population Institute (1981) examined the family size preferences of various population subgroups: the youth (ages 7- 12, 13-18, 19-21), the newly-weds, couples where the women were in the peak of childbearing (ages 25-29), menopausal women, and grandparents. Among the youth and the newly-weds, the females demonstrated more bias toward smaller family size than males. The reverse was true among the couples in the peak of childbearing and among grandparents.

Multivariate analysis revealed the occurrence of child deaths, type of residence and ethnicity as important determinants of desired family size (Morada and Alegre, 1984). The relationship of desired family size with education and type of work experience was not statistically significant because of the categorization used in the explanatory variables.

2.2. Preference for Sex of Children

A common theme permeating a number of analyses of family size preferences is the underpinning given these preferences by norms relating not only to overall family size levels but also to the composition of families in terms of the sex of children. More specifically, it is advanced that in various cultural settings, a high premium is placed on bearing sons as opposed to daughters, or vice-versa. This preference may arise because of a variety of sociological and economic reasons. If indeed couples have a strong preference for a particular sex for their children, it is possible that they will surpass their desired number of surviving children if their desired sex composition of offspring is not achieved. An analysis of data on the desire for additional children as a function of current family sex composition involving 15 countries revealed a general preference for a sex balance (United Nations, 1981). Son preference appears strong in the Asian countries and daughter preference is evident for the Latin-American countries.

In the Philippines, studies covering selected municipalities in Luzon and the nation as a whole disclose a slight girl preference among the women respondents (dela Paz, 1976; RPFS, 1979). Women who have children of both sexes are more likely to want to stop childbearing than women with children of only one sex, indicating a strong preference for families balanced as to the sex of the offspring. In terms of geographic area, the proportions of women manifesting desire for equal balance of the sexes dropped as one moves from the most urbanized areas to the rural areas (de Guzman, 1977). Within the rural sector, there is also a consistent drop in sex balance preference from Luzon (51 per cent) through Visayas (44 per

cent) to Mindanao (42 per cent). In these areas, the women reported higher mean number of sons preferred and the highest was found in Mindanao.

In the UPPI (1981) study covering three generations of respondents, the youngsters (aged 7-18 years) and the newly-married couples displayed the greatest propensity to be unbiased about the sex of their children. Generally across all groups, the males tended to be biased in favor of male children while the females preferred a female offspring.

3. Value of Children

Leibenstein (1957) suggested that parents evaluate the costs and benefits of children in deciding on whether or not to have another child. This consideration is now commonly called the "value of children" which is taken as a composite factor which encompasses the social, psychological, and economic benefits and costs associated with having children.

Early studies on the value of children have been mainly impressionistic, ethnographic, or superficially treated (Guthrie, 1968; Jocano, 1974; Madigan, 1967; Castillo, 1970; Concepcion and Jocano, 1973) and hence suffered from lack of analysis of meaning, content, and interrelationships among values, systematic presentation of data, and absence of attempt to relate the values to fertility behavior or preferences (Bulatao, 1978).

The report on a survey specifically on perceived values and disvalues of children to parents in Greater Manila and Bulacan was an attempt to fill in existing deficiencies (Bulatao, 1975). This also served as the basis for a cross-cultural analysis by Arnold and others (1975) which disclosed that Filipinos seemed to value children more highly than other Asian respondents, to have slightly higher expectations of financial assistance from children and to mention help in housework more often.

Bulatao (1978) identified the domains in which the Filipino child is perceived to provide some utility and determined whether the degree of a person's concern with these domains relates to childbearing preferences. These domains are: (1) instrumental assistance or practical help, (2) values derived from interactions with children that are rewarding to parents, (3) psychological appreciation values, (4) coping with social pressures, (5) marital security and closeness, and (6) family or kin preservation. Childbearing intentions were found to be influenced by value considerations which vary as the family increases its number. The most commonly mentioned values were in the first two domains.

In a recent study, Bulatao (1979) attempted to evaluate five explanatory factors in the fertility transition by comparing the values parents attach to children in seven Asian countries (including the Philippines) and two Western countries at different stages of development. The study suggests that declining fertility is associated with declining economic value of children as productive agents even as their investment value remains the same or increases.

The most important reasons for wanting another child in the family as identified by the Filipino youth were practical help and happiness to the family that the additional member provides (Araral, 1978; UPPI, 1981). Among the newly-weds and the women past the childbearing ages, it was old-age security. For couples in the peak of childbearing ages, it was old-age security. Couples in the peak of childbearing understandably mentioned the need to fulfill their desired family size.

In Philippine society, the old-age security is not without basis. A study by Antonio (1974) revealed that once the children start to earn, they in turn also help support their parents. Evidence suggests that the grown-up child will assume responsibility for the care of parents in old age (Yin and Yu, 1968). When parents expected old-age support, they would rely equally on sons and daughters (de Vos, 1984).

A trend seems to be emerging in which the expectation for old-age support among younger women tends to be lower than among older women (Domingo and de Guzman, 1984). Such changes in attitude imply that a transition toward greater independence in old age will become more salient with each successive cohort of mothers.

Of the values of children to parents, perhaps their work value and old-age support are the most capable of being influenced by policy. The enactment of strict legislation or ordinance that governs child work as well as those that address the constitutional provision of free elementary and high school education in the entire country may influence the work benefit of children. The expansion of old-age security programs to include other sectors not covered by SSS, GSIS and the Medicare System and other appropriate institutional changes may contribute to a decline in fertility. As demonstrated by cross-sectional regression analyses using indices of extent of coverage and level of benefits in the social security programs of 67 countries, these programs had about as much effect on fertility reduction as such traditional predictors as infant mortality, education, and per capita domestic product (Holm, 1975; Bulatao, 1982).

4. Costs of Children

The financial burden due to direct costs entailed by children is often cited by respondents irrespective of the life-cycle stage they were in (Concepcion, 1984; UPPI, 1981; Bulatao, 1978). Among the young, this was the primary reason why they did not want any additional child in the family. The women in the peak of childbearing ages reported it as one of the most important reasons for avoiding an additional offspring. Their concern for overpopulation was foremost, followed by children being perceived as entailing a "lot of work". The other reasons mentioned by the youth in their order of importance were: less time with parents or friends, strain in

father-mother relations, a lot of work for parents, reduction of one's privileges, and restriction of one's freedom. A national sample of women aged 15-35 years mentioned financial costs, disciplinary problems, emotional stress and other childbearing problems.

A regression analysis of the relationship between the number of additional children desired and parity, life cycle, socioeconomic, and value of children variables pinpointed the "costs of children" and "the number of children already a burden" as significant predictors (Bulatao, 1975).

Ho (1979) attempted to determine the opportunity costs of the mother's time spent on child care in four circumstances: (1) when a young child is present; (2) as the number of children increases; (3) when older children are present, and (4) as work status or place of work changes. The results show that family composition rather than size appeared to be the major demographic determinants of the mother's time allocation; the presence of older children reduced time spent on child care, and child care costs or mother's time for each additional child decreased as family size increased.

The "lot of work", "restrictions on parents" and disvalues of children imply certain opportunity costs of children which may be related to the woman's work participation or to other income-generation activities. Where a woman works, these disvalues will have more salience than when she does not. The type of work engaged in as well as the presence or absence of parental surrogates (e.g., relatives or older children) will also affect these disvalues.

In-depth studies reveal that it is not labor force status of the woman *per se* that caused fertility differences but rather the type or nature of economic activity that the women were engaged in and the setting in which this activity took place (Feranil, 1985; de Guzman and Feranil, 1977; Ruiz, 1977). Working women in highly urbanized areas as well as those engaged in economic activities away from home, in non-family enterprises, or on an employee basis generally exhibited lower fertility.

Related to the woman's labor force participation is the type of occupation that the woman engages in. It has been advanced that fertility among women in more highly placed occupations is lower than those in lowly occupations. Earlier studies here demonstrated little, if at all, differences in fertility among women in occupation below the non-manual type (Cabigon, 1983; de Guzman, 1978; Concepcion, 1963). In some instances the reverse of what was expected was portrayed (Madigan, 1976). The problem with these studies is that children ever born was used as a measure of fertility, the limitation of which in relation to occupation are understandable.

Philippine data on total fertility rate, a measure of current fertility, are presented below. The type of occupation cannot be categorized further because of the difficulty of generating stable age-specific fertility rates from a limited number of cases.

1980 Total Fertility Rate by Residence			
Type of Occupation	Urban	Rural	Total
Agricultural	5.0	5.9	5.7
Manual	3.2	4.8	3.8
Non-manual	3.2	3.5	3.3

The overall rates portrayed a clear differentiation in fertility by type of occupation with the agricultural workers manifesting the highest with 6 children on the average; followed by the manual workers, 4 children; and non-manual workers, 3 children. Control for residence shows a narrower gap between the agricultural workers and manual workers and a wider one between manual and non-manual workers in the rural area. In the urban setting, no difference between the manual and non-manual workers emerged.

Increases in the labor force participation rate and education of women are expected to lead to improvements in income levels. As in the case of education differentials in fertility, the hump-shaped relationship is also evident from data on income and fertility (Pascual, 1971). Encarnacion (1974) and Canlas and Encarnacion (1977) utilizing data from the 1968 and 1973 NDSs showed an income threshold below which the marginal effect of income is positive.

The prevailing hypothesis on the income-fertility relationship is that increasing income makes children more affordable and thus may lead to an increase in the demand for surviving children. But income increments may also lead to a demand for higher quality of children and open access to substitutes for child services. Additionally, parents may put more importance to the procurement of consumer durables, attaining higher education or better employment, and maintaining improved life styles than having more children. The demand for quality children and increased opportunity costs of children are likely to take place with improved availability of health, educational and other services.

The generational study of UPPI (1981) disclosed the concern for the "quality" of children as a reason for wanting a small family size. Specifically, the youngsters explained that a small family size would result in better education for the children, adequate attention from parents and siblings, and better provision of other needs. The women in the reproductive ages wanted a small family size to be able to satisfy all their children's needs and provide better care and support for children. Concern was also expressed for the children's future.

The implication is that small family size may become the norm if appropriate settings are created in which the opportunity costs of children increase dramatically. For example, women's opportunities for work in modern sectors as well as for gaining higher education may be enhanced. Information and education campaign on the relationship between family size and quality of children may be conducted.

5. Infant and Child Mortality⁹

Existing literature suggests that a secular decline in mortality must eventually result in fertility reductions. Insofar as decreases in fertility are concerned, reducing infant and child mortality appears to be more pertinent than other components of mortality. The most common hypothesis made with respect to this relationship is that high fertility may be due to high general and child mortality levels, making parents, to replace the children who die or to anticipate the toll of mortality produce more offspring than desired (WFS, 1977).

Some studies using Philippine data suggest that parents who experienced child deaths tended to replace them by having more children or by shortening the birth intervals even when controlling for deaths in the interval itself. Harman (1970) demonstrated that losing a child within the first year led to a greater "replacement" tendency than did losing a child at any other age. From the 1978 RPFS, de Guzman (1984b, 1985) found that (1) subsequent birth intervals were shortened by one month to 2.5 months when a child death was experienced; (2) women at any parity tended to manifest higher subsequent fertility when they experienced infant mortality; and (3) parity progression ratios computed for three groups of women according to their age at first marriage (below 18 years, 18-21, and 22 years and over) were higher for each next parity among women who had experienced a child death than those who had not. Thus reducing infant and child mortality appears relevant to attempts at depressing fertility levels.

The impact of accessibility of certain types on health services on infant mortality was established by Engracia (1983). The accessibility of a hospital was strongly related to the incidence of both neonatal and postnatal deaths. The availability of midwives or nurses and access to a

primary health care center likewise affected infant mortality but only during the first month of life.

Paqueo and Herrin (1984) estimated the relationship between infant mortality rates for the period 1957–77 to employment rates in full-time equivalents, real price of food, real per capita health expenditures. The results revealed that the infant mortality rate was positively related to the real prices of food and negatively related to the other macro variables.

In a cross-national study of the covariates of child mortality including the Philippines, Indonesia, and Pakistan, Martin, et al. (1983) identified education of either the wife or husband, the presence of electricity, and modern toilet facilities as important determinants of infant and child mortality, but caution must be exercised in interpreting the relationships because of measurement problems. In a similar analysis by de Guzman (1985), the most important predictors of infant and child deaths while controlling for the effects of other predictors were the birth interval length, the age at first birth, woman's education, region of residence, and toilet facilities. The large and significant effects of the birth interval length and the age at first birth on child mortality suggest the important role played by demographic factors in affecting infant and child mortality over and above the socioeconomic characteristics (see Concepcion, 1982).

Johnson and Nelson (1984) in a study based on a rural sample in Iloilo analyzed the effects of housing conditions on child mortality and linked higher risks of infant and child deaths with unfavorable housing conditions. Madigan (1986) noted strong associations between cash income, education of mother or attendant at childbirth, and infant mortality. Zablan (1985) found that the proportion of infants who survived up to the first year was higher among breastfed than among non-breastfed infants, even after controlling for water and toilet facilities and circumstances surrounding the birth delivery.

The reduction of infant and child mortality appears to be a promising area for policy on fertility reduction. While the issue of a synergistic effect of mortality reduction and fertility reduction programs has been raised, the prevailing sentiment is to conduct a health program in tandem with a family planning program.¹⁰ The discussions above indicate that most of the determinants of infant and child mortality are readily amenable to policy manipulation and fortunately, progress along the same mechanisms is also socially desirable.

10

Studies on comparative cost-effectiveness of health and family programs in relation to fertility reduction are at most preliminary and have come out with inconclusive results (see .g. Cochrane and Zachariah, 1984).

IV. FERTILITY DETERMINANTS: SUPPLY VARIABLES¹¹

The supply of children is affected directly by levels of natural fertility, which in turn is affected by marriage patterns, post-partum amenorrhea and breastfeeding, sexual intercourse practices, breastfeeding, pregnancy wastage, age at menarche, and temporary separations of husband and wife.

There is considerable evidence pointing to the role of increases in age at marriage and proportions never marrying in the decline of fertility in the developed countries and in developing countries which experienced substantial decline during recent decades. Although declines in the Philippine crude birth rate have not been substantial, nuptiality changes have been an important factor in such reductions. Nuptiality will be treated at length in a subsequent section.

1. Post-Partum Amenorrhea and Breastfeeding

Post-partum amenorrhea is the period of infecundity following the termination of a pregnancy in which the woman misses her normal pattern of ovulation and menstruation. Very protracted amenorrheic periods have been observed in some societies like in Indonesia (24 months), Zaire (20 months), and Bangladesh (18.9 months). Under this condition, a large proportion of a woman's potential reproductive years may be spent in the amenorrheic condition (Bongaarts, 1983). Such long durations of post-partum amenorrhea have a powerful fertility-inhibiting effect.

Recent studies show that in the Philippines the duration of post-partum amenorrhea was 8 months in 1978 (RPFS, 1979) and 6 months in 1983 (Zablan, 1985). In 1978, about a quarter of the women had their menstruation back before the third month and about 16 per cent had a post-partum amenorrhea of more than a year.

The duration of post-partum amenorrhea varies by socioeconomic and demographic characteristics. Older women tend to have longer durations than younger women. Longer durations have been observed among women who have less education and resided in the rural areas.

Breastfeeding is the primary determinant of post-partum amenorrhea. In 1983, while those who did not breastfeed had a post-partum amenorrhea of 3 months, those who did had an amenorrheic period of 7 months. Similar relationship has been reported by Osteria (1976, 1977). Zablan (1985) estimated that a month of full breastfeeding results in a half month of post-partum amenorrhea; and a month of partial breastfeeding (full + partial), 0.3 months.

¹¹

See Bongaarts and Menken (1983) for a comprehensive essay on the concept.

The practice of breastfeeding among Filipinas seems to be on a slow decline, from 87 per cent in 1973 to 85 per cent in 1978 and 83 per cent in 1983 (1978 RPFS; Zablan, 1985). The prevalence of breastfeeding was higher among the younger women and among those who resided in the rural areas and in the Visayas and Mindanao. The proportion of women who breastfeed declined monotonically with increasing education. A comparison of the 1978 and 1983 data shows a narrowing of differentials irrespective of the characteristic of the mother.

Those who fully breastfed their children did so for 3.3 months in 1978 and 5.2 months in 1983. In contrast, the mean duration of total breastfeeding (full + partial) fell from 21.6 months to 11.3 months during the same period. The same direction of differentials observed from the data on post-partum amenorrhea by selected characteristics was manifested by the data on breastfeeding. Log-linear analysis of the determinants of the decision to breastfeed and the duration of breastfeeding indicated that these were independently and directly affected by the woman's place of residence, migration status, employment status, and education (Mejia-Raymundo, 1985).

Promoting breastfeeding seems an attractive policy not only because of its fertility reduction effects but also because it enhances child survival (see Zablan, 1985). The development efforts, however, on the basis of the findings, will adversely affect the prevalence and the duration of breastfeeding. With increasing modernization and urbanization, women will become increasingly more educated, will join the labor force in greater numbers and engage in more modern occupations impinging on breastfeeding practice. Thus it will be worthwhile to embark on an informational campaign on the benefits of breastfeeding, but corollary mechanisms such as facilities for preserving breast milk of working mothers or nurseries in or near the place of employment may have to be provided.

2. Exposure to Sexual Intercourse

Three variables are discussed in this subsection, namely, post-partum sexual abstinence, frequency of sexual intercourse, and temporary separations of husband and wife.

Post-partum sexual abstinence is a common practice and if sufficiently prolonged can lengthen the pregnancy interval. Data covering 41 developing nations demonstrate a significant negative relationship between post-partum abstinence and fertility levels (Nag, 1962).

The length of post-partum abstinence in the Philippines has not changed in recent years, 2.9 months in 1978 and 2.8 months in 1983. For 1978 only the level of education and current age appear to have a relationship with post-partum abstinence (positive with age and negative with education). In 1983, the same relationship was observed for age but no consistent pattern was observed for education.

Since the length of post-partum abstinence is less than the length of total breastfeeding in the local setting, it does not constitute an important factor in determining the length of the pregnancy interval.

Barrett and Marshall (1969) demonstrated the fecundability effects of the *frequency of sexual intercourse*. Bongaarts (1983) estimated that as the frequency of coital contacts per cycle increases from 1 to 20, fecundability rises from .035 to .429.

The 1983 NDS elicited the number of days that the wife had sex with her husband during the last 7 days. This question was not asked of those whose husbands were away. The number of days was not considerable (1.6 days). The frequency was a bit higher among the women aged 15–24 years (2 days) than those aged 25–34 years (1.7 days) or 35–39 years (1.3 days). There was no discernible variation by residence and although the number of days rose as education increased, only slight differences were evident.

Periods of *temporary separations* of husband and wife could have an influence on fertility if these are lengthy or frequent and these do not overlap with periods of infecundability. Temporary separations may occur due to illness, work, or family obligations. In 1978, only 3 per cent of the women reported themselves as having experienced temporary separations from their husbands. In 1983, 5 per cent had been separated temporarily from their husbands for 3 months or more, with a mean duration of 0.2 months. It can be concluded that temporary separation is not widespread in the Philippines nor is it of long duration.

3. Age at Menarche

The onset of menstruation marks the beginning of a woman's fecund life. Philippine girls had their first menstruation at 13.9 years on the average (1978 RPFS; 1983 NDS). Very few experienced their first menstruation before age 12 (5 per cent) or after 16 years (6 per cent). A look at age at menarche by age revealed that it has been going down over time. Those aged 45–49 reported having first menstruated when they were 14.2 years, on the average. The average age declined by successive younger cohort reaching 13.4 years among those aged 15–19 years. Urban and better-educated women menstruated slightly earlier than their rural and less educated counterparts.

4. Pregnancy Wastage

Pregnancy wastage or foetal loss here refers to miscarriages or spontaneous abortions and stillbirths. Studies on pregnancy wastage often suffer from important limitations (Leridon, 1977; WHO, 1970). The incidence of a foetal loss has the consequence of lengthening the birth interval because of its gestation period and the subsequent post-partum amenorrhea.

Retrospective data from the 1973 NDS provided information on trends and levels of pregnancy wastage in the country from 1960 to 1970 (Zablan, 1977). In 1960, there were 62 foetal

losses per 1000 live births¹² (51 miscarriages, and 11 stillbirths). The figures went up in 1965 with 65 foetal deaths per 1000 births distributed into 53 miscarriages and 12 stillbirths. The increase by 1970 was even larger, 76 foetal deaths per 1000 live births (62 miscarriages and 14 stillbirths).

Using data from the 1973 National Demographic Survey and 1977 Republic of the Philippines Fertility Survey, Natividad (1985) estimated the level of foetal loss in the Philippines to be around 78 foetal losses per 1000 pregnancies in 1970. This rose to 92 foetal losses per 1000 pregnancies in 1973 and 109 per 1000 pregnancies in 1975. The data suggest an increase in the practice of induced abortion if one were to assume that improvements in mortality conditions in the country also means lesser likelihood of occurrence of spontaneous foetal deaths in the population.

The incidence of a foetal loss was discovered to vary directly with pregnancy order, the number of children ever born, and the age of the woman. High foetal mortality occurred among women at higher level of education and residing in the urbanized areas particularly in Metro Manila and Luzon. Occupational status and place of work did not seem to exert any independent effects on the level of foetal loss.

Natividad (1985) also demonstrates that a foetal loss increases the birth interval by 9.8 months through the components of gestation, post-partum amenorrhea and a second menstruating interval. On the other hand, Concepcion and Flieger (1968) noted that among young Manila women aged 15-34, foetal losses seemed to keep the expectation of additional pregnancies higher than do child deaths.

V. FERTILITY DETERMINANTS: COSTS OF FERTILITY REGULATION¹³

As implicit in the framework, if the demand for children or desired family size is greater than the supply of children, the couple has no reason to contracept. However, the motivation to regulate fertility may arise if the reverse is true. Resort to family size limitation will depend on the perceived and actual costs of fertility regulation.

The costs of fertility regulation may be subdivided into the psychic costs, physical costs, and monetary costs.¹³ Unluckily, the subjective costs of fertility regulation have not been examined systematically as had been done with family size desires and the values of children.

Various studies have shown that fear of side effects is the most important reason for not accepting a family planning method or shifting to another method (Dacanay, 1979; Tiotuico, 1981; Laing, 1981; Cabigon, 1984; de Guzman, 1986). The sacrifice of pleasure involved in a particular method and embarrassment related to sexual modesty (such as submitting oneself to a physical

¹²

The foetal loss ratios have been adjusted here to exclude the intentional abortions.

¹³

For a schema on the costs of fertility regulation, see Bulatao, 1984.

examination or buying condoms from a drugstore) were seldom cited. To a certain extent, conflicts with traditional or religious beliefs and values have been mentioned as important.

The proportion of non-users of contraception decreases as the family planning clinic becomes more accessible (Engracia, Mortel and Nartatez, 1984). When the clinic was found 3 kilometers or more away from home, the level of non-use was 64 per cent. This proportion declined as the clinic was nearer, 53 per cent if the clinic was outside the community of residence but less than 3 kilometers away, and 48 per cent if the clinic was located in the community. On the use of specific methods, the closer the perceived distance to the supply source and the less expensive it is, the more readily the method was chosen (Cabigon, 1984).

The psychological cost is greatly diminished when use of family planning is discussed by the couple. Although the wife may be willing to use family planning, the adverse effects on husband-wife relationship may be disconcerting. Among non-users, 65 per cent reported having discussed the number of their children with their husbands, while among users, the corresponding proportion was 82 per cent. Likewise, improved marital relations was cited as an important reason among users of natural family planning (Notre Dame University, 1985).

Improvement in the mix of family planning methods that are made easily available to the clientele will reduce the costs involved. Improvement, however, should also encompass the enhancement of the quality of practice through improved methods of instruction or consultation. Often, fears may be allayed by the service providers themselves as more and more information about the advantages and disadvantages of the different methods become available to both clients and service providers. There may be a need to strengthen the service outlets in the rural areas and insure the availability of supplies at all times. Proper advice from authoritative sources before a couple adopts a family planning method may help reduce the psychic costs of contraceptive use.

VI. CONTRACEPTIVE PRACTICE

The relationship between use of contraception and fertility has been examined along different lines of inquiry (see e.g., Zablan, 1977; Laing, 1981; Rindfuss, *et al.*, 1981; Cabigon, 1982), the results of which have served as the basis for strengthening the family planning program of the country. It is expected that contraceptive practice will continue to assume greater prominence in the effort to control marital fertility as the effects of other proximate determinants such as post-partum amenorrhea, pregnancy wastage, etc. become eroded by development efforts.

Because of the inability of the management information system (MIS) of POPCOM to provide complete and accurate data, relevant information on levels, trends, and differentials in contraceptive practice had to be gleaned from the 1968, 1973, and 1983 NDS, the 1978 RPFS, the

1986 Contraceptive Prevalence Survey (CPS), the National Acceptors Surveys (NAS), and the Community Outreach Survey (COS).

1. Levels and Trends in Contraceptive Prevalence

The level of knowledge of family planning among currently married women aged 15–44 years is almost universal (95 per cent in 1978 and 98 per cent in 1986). However, ever-use of contraception has lagged behind, with only about 63 per cent and 65 per cent reporting themselves as having ever used a family planning method in 1978 and 1986, respectively.

The contraceptive prevalence rate or the proportion of married women aged 15–44 years currently using a family planning method increased steadily from 16 per cent in 1968 to 37 per cent in 1978. This substantial increase was not sustained as prevalence fell to 33 per cent in 1983 (Perez and Cabigon, 1985; Cabigon, 1985). This drop was accompanied by reductions in the proportion of users of the less effective methods like withdrawal, rhythm, and condom. However, increases were recorded in the use of the more effective methods such as sterilization, pills, and IUD.

In 1968, contraceptive prevalence in the regions was low with only Southern Mindanao and Metropolitan Manila registering a little over one-fifth of their eligible women as current users. Only one out of 10 women was a current user in Ilocos, Eastern Visayas and Southern Tagalog. By 1973, very large increases were exhibited by Central Visayas, Eastern Visayas, Ilocos, Southern Tagalog and Metropolitan Manila.

The contraceptive prevalence rates (CPR) for 1978 and 1983 by region and residence are displayed in Table 9. Large urban–rural differentials were demonstrated by the Visayan regions, Western Mindanao and Southern Tagalog. The rural CPRs were low in Eastern Visayas (16 per cent), Central Mindanao (24 per cent) and Cagayan Valley (25 per cent).

By 1983, all the overall CPRs decreased except in Eastern Visayas which registered an increase of 27 per cent. All the CPRs irrespective of locale declined between 1978 and 1983 with only two exceptions, namely, an increase in the urban CPR in Cagayan Valley and an increase in the rural CPR of Eastern Visayas. The urban rates dropped by at least a quarter in Northern Mindanao, Western Mindanao, Central Visayas and Southern Tagalog. The rural CPR in Bicol fell by almost half, while in Central Mindanao, Northern Mindanao, Western Visayas, and Southern Tagalog, it decreased by at least a fifth. Very wide discrepancies existed between the urban and rural CPRs in the Cagayan Valley, Bicol, Western Visayas, Eastern Visayas and Central Mindanao where the levels of the CPR were low. The differences between the urban and rural rates in Central Luzon and Southern Mindanao were negligible. These two regions are relatively more urbanized regions which have been exhibiting high values of tempo of urbanization (Raymundo, 1983).

TABLE 9

Contraceptive Prevalence Rates by Region and Residence: Philippines, 1978-1983

Region	1978			1983		
	Urban	Rural	Total	Urban	Rural	Total
Philippines	48.2	31.9	37.5	40.4	27.1	32.1
NCR	51.1	-	51.1	45.9	-	45.9
I Ilocos	40.9	32.5	34.1	38.6	27.4	30.0
II Cagayan Valley	30.2	24.7	25.2	36.1	22.2	24.3
III Central Luzon	48.8	43.9	45.4	44.7	41.7	43.0
IV Southern Tagalog	49.4	31.4	36.2	34.0	24.7	28.2
V Bicol	33.6	31.1	31.6	27.4	16.6	18.7
VI Western Visayas	45.9	28.8	32.5	38.3	23.1	27.1
VI Western Visayas	45.9	28.8	32.5	38.3	23.1	27.1
VII Central Visayas	51.8	29.1	34.9	34.2	25.7	28.5
VIII Eastern Visayas	37.7	16.3	19.9	36.1	22.5	25.2
IX Western Mindanao	46.5	30.8	34.2	34.2	29.6	30.4
X Northern Mindanao	55.0	43.6	45.4	41.1	32.0	34.3
XI Southern Mindanao	53.8	42.9	45.9	42.0	41.4	41.7
XII Central Mindanao	31.2	23.7	24.9	31.7	17.1	19.7

Sources: 1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey

Improvements in contraceptive prevalence in the least developed areas of Central Mindanao, Visayas, Bicol, and Cagayan Valley have been very sluggish even prior to 1983. It is surprising that Bicol and Cagayan Valley had rates that were comparable with or even lower than Central Mindanao which is a predominantly Muslim area. While greater efforts have to be made to bring the rural rates upward to bridge the gap, there is a need to strengthen programs in the urban areas if more elevated overall rates are to be attained.

Analysis of advance results from the 1986 Contraceptive Prevalence Survey (CPS) shows that for areas for which data are now available, contraceptive prevalence has increased in all regions of Mindanao and Visayas and Bicol (Concepcion, *et al.*, 1987). The rate of increase was highest for Northern Mindanao. Only Southern Mindanao demonstrated a negligible change over the 1983–86 period. On the basis of this evidence, it is reasonable to assume that prevalence rates might have also increased in the Luzon regions.

2. Differentials in Contraceptive Practice

The median age of current users in 1983 was about 32 years (Table 10). The pill tended to have more appeal to the younger women and as expected, much older women submitted themselves for sterilization. The median age of users of IUD, rhythm, and other methods were relatively younger. The median age of current users was highest in Eastern Visayas and Bicol and lowest in Cagayan Valley and Southern Mindanao. Western Visayas stood out as the only region where acceptors of sterilization were younger than users of pills, IUD, or rhythm.

Analysis of contraceptive practice differentials revealed that education is the most important source of differentials (Cabigon, 1985). Except in the developed regions of Metropolitan Manila and Central Luzon where prevalence rates did not manifest any clear pattern, the differences between the extreme categories of education were large ranging from 13.9 percentage points (Bicol) to 33.8 points (Cagayan Valley). Differences by residence, income, current work studies, and occupational index tended to be lower but the differentials portrayed the expected configuration.

3. Contraceptive Effectiveness

Given a mixture of contraceptive methods currently being used by the women, it may be useful to estimate the amount of protection that they obtain. Such protection may be measured by the contraceptive effectiveness index. Data on contraceptive effectiveness index by region and by locale for 1978 and 1983 are displayed in Table 11. The index was calculated by assuming that sterilization provides 100 per cent protection; the pill, IUD and injectables, 90 per cent; natural family planning, 80 per cent and the other methods, 60 per cent (Laing, 1982; Laing, 1985).

TABLE 10

Median Age of Current Users Aged 15-44, by Method and by Region: Philippines, 1983

Region	Pills	IUD	Rhythm	Sterilization	Others	Total
Philippines	27.6	30.8	30.5	34.5	30.6	31.9
NCR	25.8	31.5	26.5	36.0	30.6	32.1
I Ilocos	27.5	22.0	28.3	35.8	30.5	31.9
II Cagayan Valley	26.8	25.8	31.5	33.3	32.2	30.0
III Central Luzon	27.6	26.5	30.4	34.3	28.4	32.2
IV Southern Tagalog	28.0	30.8	29.5	33.6	31.2	31.8
V Bicol	33.2	31.0	32.6	39.0	33.2	32.8
VI Western Visayas	34.4	36.5	33.8	32.8	28.3	31.9
VII Central Visayas	29.8	35.0	30.0	34.5	30.6	32.2
VIII Eastern Visayas	25.8	29.5	30.5	36.0	31.0	33.2
IX Western Mindanao	27.0	32.2	35.4	33.1	26.6	30.8
X Northern Mindanao	26.9	30.0	30.5	33.7	31.8	32.1
XI Southern Mindanao	31.3	26.8	31.5	35.3	31.2	30.5
XII Central Mindanao	25.0	33.2	31.0	36.5	27.6	31.0

Source: 1983 National Demographic Survey

TABLE 11

Contraceptive Effectiveness by Region and by Residence, Philippines: 1978 and 1983

Region	1978			1983			Dif. (%) (6/-1.0) x100
	Urban	Rural	Total	Urban	Rural	Total	
	(1)	(2)	(3)	(4)	(5)	(6)	
Philippines	79.5	76.6	74.4	84.6	81.3	82.8	8.1
National Capital Region	80.4	-	80.4	86.3	-	86.3	7.3
I Ilocos	79.0	75.5	76.3	83.0	84.0	84.0	10.1
II Cagayan Valley	83.7**	76.0	76.9	75.0**	86.6	86.7	12.7
III Central Luzon	74.8	75.4	85.0	76.5	86.0	85.6	13.5
IV Southern Tagalog	80.0	71.8	74.7	85.1	82.4	83.7	12.0
V Bicol	76.6	74.3	74.8	83.7	80.1	81.4	8.8
VI Western Visayas	76.5	77.0	73.1	74.3	83.4	79.3	6.7
VII Central Visayas	80.0	75.3	77.2	81.7	77.2	78.6	1.8
VIII Eastern Visayas	78.9	70.5	73.0	79.5	79.5	79.4	8.8
IX Western Mindanao	79.7	75.2	76.7	83.6	78.4	79.1	3.1
X Northern Mindanao	80.1	75.6	76.5	82.9	80.5	81.5	6.2
XII Central Mindanao	80.0	76.4	77.5	81.9	78.1	79.1	2.1

* Contraceptive effectiveness values by method are assumed as follows: Sterilization (1.0), RCM (0.9), NFP (0.8), other (0.6)

** Less than 25 cases

Sources: 1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey

While contraceptive prevalence declined between 1978 and 1983, contraceptive effectiveness rose during the same period. This was due to increases in the proportion of women using the more effective methods. Contraceptive effectiveness (CE) on the national level increased from 77 per cent in 1978 to 83 per cent in 1983. High rates of increase were demonstrated by Central Luzon (14 per cent), Cagayan Valley (13 per cent), and Southern Tagalog (12 per cent). It can be noted that Bicol had a higher CE than Central Visayas, Western Mindanao, Northern Mindanao and Southern Mindanao where higher contraceptive prevalence rates were observed. This resulted from the better mix of methods in Bicol, meaning there were relatively more users of the effective methods than the less effective ones.

Although contraceptive prevalence among the less educated was much lower than among the more educated, greater gains in contraceptive effectiveness were achieved by the former during the 1978–83 period. By the end of the period, those with elementary education had achieved the same amount of protection from the risk of getting pregnant as the high school or college educated.

It is alarming that larger reductions in contraceptive prevalence have occurred among women of higher parities (4 and over). Contraceptive use among couples with 6 or more children shifted downwards by a quarter or more. Fortunately, this shift was accompanied by use of a better mixture of contraceptive methods resulting in an increase in contraceptive effectiveness.

The above findings imply that raising the rate of prevalence is not enough to improve the amount of protection the couples get from the method they use. They must additionally be motivated to use the more effective methods.

Unfortunately, the large increases in prevalence shown by the 1986 CPS mentioned above have not been matched by improvements in contraceptive effectiveness (CE). Only minor increases were manifested by Central Mindanao and Western Mindanao. The rest experienced a downward trend in CE. While the more effective methods increased in their adherents, rhythm and withdrawal likewise registered large increments in the proportions of users.

It may be surmised that as prevalence rates continue to rise, effectiveness levels will catch up after some time lag. As more information is given on the variety of methods and better instruction is given on how to use them, users are less likely to stop using family planning once they get dissatisfied with their current method. The possibility is great that they will immediately shift to another method and that method almost will certainly give them more protection.

4. Continuation Rates

Continuation rate measures the probability that a user continues to use the method uninterrupted for a specified period of time. While it is possible to establish levels of continuation rate for different methods, establishing trends is difficult because of measurement problems inherent in the data collected by the surveys.

The 1983 NDS shows that among women who accepted the pill for the first time, 55 per cent continued using it for a year (Cabigon, 1985). Among IUD users, only 85 per cent continued using it up to 12 months. For condom, it was 37 per cent and for other methods, 59 per cent. The twelve-month continuation rate for calendar rhythm in 1985 was 63 per cent and cervical mucus, 46 per cent (de Guzman, 1986).

The probability of continuing contraceptive practice within one year regardless of method varied by region. The overall continuation rate in 1983 ranged from 55 per cent (Western Visayas) to 78 per cent Southern Mindanao. Only five regions — Central Luzon, Central Visayas, Western Mindanao, Northern Mindanao, Southern Mindanao — were above the average of 64 per cent. Low rates were noted for Western Visayas, Cagayan Valley, and Ilocos and Bicol. Cabigon (1985) discovered insubstantial differentials in specific-method continuation rates by residence and education of wife. In recent studies on natural family planning, 12-month continuation rates were greatly differentiated by the woman's current work status, wife's education, SES indexed by housing materials, previous use of family planning, and involvement of the husband in sharing responsibilities in the practice of contraception (de Guzman, 1986; Zablan, 1985).

A third criterion has been added to enhance the use-effectiveness of methods. Both high levels of prevalence and contraceptive effectiveness are desirable, but prolonged use of contraception is likewise encouraged.

5. Characteristics of Non-Users

Unfortunately, very little has been done to link the characteristics of non-users to contraceptive prevalence analysis. Existing studies have traditionally focused on the levels and determinants of use or ever-use of family planning. Such situation may have arisen from paucity of data since interview schedules have ordinarily not given importance to questions on non-use and reasons for non-use. The 1986 Contraceptive Prevalence Survey (CPS) represents the first attempt to ask in-depth questions among never-users and dropouts.¹⁴

The data presented in Table 12 were gleaned from the 1983 NDS. The median ages of non-users and users of ineffective methods do not vary very much. However, non-users tended to have more of their numbers in lowly occupations and lower educational levels. Understandably users of more effective methods like sterilization, pill, IUD and injectables had slightly larger families than the non-users and the users of less effective methods, implying that many of these women were limiters. Husband and wife communication on reproductive behavior tended to be less among non-users than among users. Only 65 per cent of the non-users discussed with their husbands the number of their children compared with 80 per cent among users of the more effective methods and 85 per cent among users of less effective ones.

¹⁴

The results from the 1986 CPS are not yet available as of this writing because the data are still being processed.

TABLE 12

Comparative Data on Non-Users and Users of Contraception: Philippines, 1983

Indicator	Non-User	User	
		More Effective Methods	Less Effective Methods
A. Median age of woman	30.2	32.2	30.0
B. Median number of living children	3.4	3.6	3.3
C. Per cent with at most elementary education	63.1	46.6	45.2
D. Percent engaged in non-manual occupation	61.8	74.9	68.5
E. Per cent of couples discussing the number of their children	64.9	79.9	85.3
F. Per cent not wanting to become pregnant now			
Metropolitan Manila	85.9		
Ilocos	89.1		
Cagayan Valley	1.6		
Central Luzon	80.2		
Southern Tagalog	86.8		
Bicol	83.8		
Western Visayas	91.0		
Eastern Visayas	85.5		
Western Mindanao	90.5		
Northern Mindanao	90.6		
Southern Mindanao	82.3		
Central Mindanao	85.0		
G. Per cent according to reproductive goals:			
1. Unfulfilled (desired family size is greater than actual)	77.9		22.1
2. Fulfilled (desired is equal to actual)	57.9		42.1
3. Excess fertility (desired is less than actual)	62.4		37.6

Sources: A-F: 1983 National Demographic Survey. G. Zablan, 1987

Women who were *not* using any family planning method were asked by the 1983 NDS if they wanted to become pregnant at the time of interview. Amazingly, only as many as 20 per cent (Central Luzon) wanted to become pregnant, justifying non-use of contraception. The figures in Table 12 (Item F) indicate the proportion of women who did not want to become pregnant and yet were not practicing contraception. The extent of unmet need for family planning by region, in terms of this measure, is apparent from the table. The greatest unmet need was suggested for Cagayan Valley, Central Visayas, Northern and Western Mindanao and Western Visayas.

This conflict between fertility intention and use of contraception is also evident when the reproductive goals are considered. Among women whose desired family size was equal to desired family size in 1983, 50 per cent was not doing any family planning. The situation was more critical among women who were experiencing excess fertility, and desired family size is less than actual family size (62 per cent was not using contraception to avoid any unwanted pregnancy).

It is quite possible that for women not currently using any family planning who did not want to become pregnant, or whose actual family size was equal to desired size, or whose actual family size was larger than desired, the means to effectuate their desires to space or limit their children were not available or the costs of fertility regulation for them were high.

6. Determinants of Contraceptive Use

Increase in contraceptive use has been observed where there is better accessibility of the source of family planning supplies (Engracia, *et al.*, 1984; Cabigon, 1984; Laing, 1981; Tsui, *et al.*, 1981).

Bringing the services closer to the clientele through the National Family Planning Outreach Program has resulted in a decline in family size preferences and these preferences were associated with increases in the use of contraception in general and in the use of the more effective methods of contraception (Herrin and Pullum, 1981). Outreach personnel (the full-time outreach worker – FTOW, and the barangay supply point officer – BSPO) in 1986 accounted for over a fourth (26 percent) of all those who got their last supply of pills and condoms (Table 13). Their influence was observed to be greater in the rural areas where they served almost two out of five (39 per cent) women who got their resupply of contraceptives.

In terms of the characteristics of acceptors, the husband's occupation, income, and education were pinpointed as strong predictors of current use in most of the areas covered by the 1980 Area Fertility Survey (Cabigon, 1983). The 1978 RPFS data suggest the primacy of cultural variables in explaining differences in contraceptive use (Pullum, *et al.*, 1984). The same data set tends to provide support to the importance of education although very little influence on current use was exerted by the husband's occupation and the wife's work pattern.

TABLE 13
Percentage Distribution of Current Users of Contraception
by Source of Last Supply, Philippines: 1986

Source of Last Supply*	Urban	Rural	Total
Doctor, nurse, midwife	46.4	43.0	45.0
FTOW	3.1	4.8	3.7
BSPO	15.3	33.7	22.4
Other medical fieldworker	5.6	4.1	5.0
Salesperson	15.5	4.1	11.1
Spouse	2.8	3.3	3.0
Friends, relatives, neighbors	7.1	4.8	6.3
Others	4.2	2.2	3.5
Total	100.0	100.0	100.0

*Last supply of pills, condoms, foams, aerosol tablets or injection

The role of communication agents has been found to exert significant effects on current use of contraception (Cabigon, 1986). However, radio and television manifested very much less influence than the more direct interpersonal communication of the client with the doctor, midwife, FTOW, or BSPO.

Analysis of 1983 NDS data by Madigan (1987) revealed the predictive value of socioeconomic and program variables in relation to the intensity of the desire to avoid an unplanned pregnancy through the use of particular types of family planning methods. The occupation of the household head, the number of children at home, and average household income were important sources of variation in the desire to avoid any unplanned pregnancy.

VII. NUPTIALITY

The analysis of nuptiality patterns is increasingly important not only because of recent basic changes in family formation but also because shifts in marriage¹⁵ are viewed as an important determinant of fertility (Cho and Retherford, 1973; Sinquefield and Sungkono, 1971; Fernando, 1976; Freedman and Casterline, 1982). Increases in the age at marriage specially among females may lead to a decline in fertility since this reduces the number of years a woman is subject to the risk of childbearing, that is if exposure to sexual intercourse is limited within the marital state. Delay in entry into a sexual union may also reduce fertility by way of decreasing the number of potential mothers due to the attrition arising from mortality, although this effect may not be substantial because of mortality improvements.

1. Levels and Trends

A comprehensive perspective on the long-run shifts in marriage in the Philippines can be gleaned from the censuses and the national surveys. An examination of proportions remaining single at various ages and of the average number of years that an individual spends in singlehood, the singulate mean age at marriage (SMAM) for the past 75 years points to significant changes in nuptiality in terms of non-marriage and marriage timing. The shifts have been more marked among the females than males (see Smith, 1978; de Guzman, 1983; Domingo and de Guzman, 1984).

According to the census, the proportion of never married among females aged 15-19 was 75 per cent in 1903 and among those aged 20-24, it was 33 per cent. The corresponding figures in 1975 were 87 per cent and 51 per cent. Increases in proportions of never married were also noted from women in the ages 25-39. At the same time the SMAM monotonically rose from 21 years in 1903 to a little over 23 years in 1975, among the females. Among males, the SMAM was 25 years in 1903; it rose slightly in 1939 and was down to 25 years again in 1948 and 1960. It rose again slightly thereafter reaching 25.5 years in 1975.

The 1980 census revealed a reversal of these trends. The proportion of never marrying among females fell in all age groups except the oldest age group (40-49). The female SMAM likewise decreased by a little over 3 per cent during the 1975-80 period (from 23.2 to 22.4 years). Data from the latest nationwide surveys and the latest censuses are presented in Table 14. The downward shifts suggested by the census in 1980 are confirmed by the 1983 NDS.

¹⁵

Marriage here includes the legal marriages, consensual unions and the relatively stable visiting unions.

TABLE 14
Trends in Marriage Timing and Non-Marriage, Females: Philippines, 1970-1983

Indicator	Census Year			Survey Year*		
	1970	1975	1980	1973	1978	1983
A. Percent Never Married						
15-19	89.2	87.0	85.9	92.7	93.2	92.3
20-24	50.3	51.2	45.5	57.4	59.6	53.7
25-29	21.5	24.3	21.1	25.8	29.4	22.6
30-34	11.2	12.1	11.9	13.8	13.9	11.0
35-39	8.0	8.2	8.0	16.2	8.7	7.1
40-44	7.3	6.8	7.0	5.3	4.9	5.1
45-49	6.7	6.1	6.7	6.3	5.6	4.5
B. Singulate mean age at marriage (years)	22.8	23.2	22.4	23.7	24.4	23.4

*1973 National Demographic Survey
1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey

Based on the 1980 census, regional aggregates in SMAM levels can be identified (de Guzman, 1983). For this purpose, the following classifications have been made: late marriage = 23.1 to 24.0 years; intermediate marriage = 22.3 to 23.0 years; and early marriage = 21.4 to 22.2 years. Two groups belonged to the intermediate marriage range: one comprised the contiguous regions of the Ilocos and Central Luzon and the other group was formed by Western Visayas and Central Visayas. Northern Mindanao also belonged to this group. Two Mindanao regions, Western Mindanao and Southern Mindanao, made up one of two early-marrying groups. The other early marrying cluster was composed of the Bicol Region and Southern Luzon. The other regions stood out individually in their own right.

In 1983, urban–rural differentials in marriage timing among females were largest in Western Visayas, Central Mindanao, and Northern Mindanao (see Table 15). In these regions, women in the urban areas married later than their rural counterparts by as much as 16 per cent. Insubstantial differentials were exhibited by Central Luzon, Southern Tagalog, and Western Mindanao. In the urban areas, the Western Visayas women married the latest (26 years) and the women in Southern Tagalog, the earliest (23 years). Among rural women, the earliest marriers resided in Central Mindanao (21 years) while the latest marriers were in Central Luzon (24 years).

TABLE 15
Female Singulate Mean Age at Marriage by Region and by Residence
Philippines, 1983

Region	Urban	Rural	% Difference
	(1)	(2)	(3) = [(1)/(2) – 1.0] x 100
Philippines	24.4	22.9	6.6
National Capital Region	25.2		
I Ilocos	24.3	22.5	8.0
II Cagayan Valley	23.5	22.4	4.9
III Central Luzon	24.4	24.0	1.7
IV Southern Tagalog	23.3	22.8	2.2
V Bicol	24.0	22.2	8.1
VI Western Visayas	25.6	22.1	15.8
VII Central Visayas	24.7	23.5	5.1
VIII Eastern Visays	23.8	21.9	8.7
IX Western Mindanao	23.8	23.1	3.0
X Northern Mindanao	25.0	21.8	14.9
XI Southern Mindanao	23.9	22.2	7.7
XII Central Mindanao	23.7	20.6	15.0

Source: 1983 National Demographic Survey

The rural women who displayed relatively early marriage were from Central Mindanao, Northern Mindanao and Eastern Visayas. While marriage generally occurred later in the urban than in the rural areas, urban women who tended to marry earlier were found in Southern Tagalog, Cagayan Valley, Central Mindanao, Western Mindanao and Eastern Visayas, and Southern Mindanao. Overall, Eastern Visayas and Central Mindanao were the most disadvantaged regions in terms of marriage timing.

2. Differentials in Marriage Pattern

Nuptiality patterns vary by population subgroups as they are influenced by different social and economic transformations brought about in part by urbanization, the expansion of education, and changes and diversifications of adult roles (Smith, 1975; Smith, 1978; de Guzman, 1983).

The urban-rural contrast is evident from the data in Table 16. Between 1978 and 1983, there was a movement toward later marriage whether urban or rural, although the gain in age at marriage was greater in the rural area than in the urban area.

The women with low education manifested larger proportions marrying before age 18 years or 20 years. Although these proportions diminished irrespective of age cutoff and educational level, the amount of shift was negligible. Increases of half a year in mean age at marriage were recorded for the unschooled and intermediate-educated women.

Since the 1978 data refer to the woman's last occupation since first marriage and the 1983 data refer to the woman's occupation at the time of interview, no meaningful trend analysis can be made. The data nevertheless differentiate clearly the occupations by marriage pattern.

The differentials in marriage tempo are congruent with the marriage timing suggested by the data in Table 15. By age 17, a third of the women in Central Mindanao, Cagayan Valley, and Western Mindanao have already been married. More than half have married by age 19 in the same regions in contrast to only a third in Metropolitan Manila and two-fifths in Western Visayas or Central Luzon.

The data on married women displayed in Table 16 suggest a gradual increase in the mean age at marriage overall. The level, however, is still low leaving the average married Filipina about 28 years of childbearing.

3. Determinants of Nuptiality Patterns

Smith (1975) evaluated the relative effects of five important variables affecting marriage over time from 1903 using regression analysis. He noted the intensification of the significance of the availability of mates (indexed by the sex ratios) over time. The heightened importance of literacy came largely before 1939 while the influence of ethnicity has declined in importance since 1939.

TABLE 16
Indicator of Marriage Pattern of Ever-Married Women
Aged 30-34 by Selected Characteristics: Philippines, 1978 and 1983

Characteristics		Percentage Married*						Mean Age at Union (Years)	
		Below 18		Below 20		Over 25			
		1978	1983	1978	1983	1978	1983	1978	1983
A.	All Women	27.9	27.4	49.2	49.7	12.6	13.4	20.4	20.9
	Residence								
	Urban	19.9	18.5	37.2	18.1	36.5	24.2	21.5	21.7
	Rural	31.9	26.2	55.1	48.2	10.0	16.0	19.8	20.5
B.	Education of wife								
	No schooling	50.5	44.9	68.9	63.9	6.4	12.0	18.2	18.8
	Primary	38.0	37.0	60.0	58.9	7.6	10.7	19.3	19.4
	Intermediate	29.0	24.1	54.1	48.7	9.5	14.5	20.0	20.6
	High School	17.8	18.0	39.2	39.0	13.5	18.8	21.1	21.2
	College	3.7	4.3	13.5	12.3	35.7	44.3	24.3	24.3
C.	Occupation of wife**								
	Non-manual	7.1	15.0	15.6	29.2	37.8	31.4	24.4	22.6
	Manual	13.6	16.2	32.9	36.3	18.8	21.9	22.0	21.5
	Farm	39.4	35.1	61.3	61.5	7.7	9.5	19.9	19.5
	Did not work	32.3	25.3	55.8	47.2	8.3	16.0	19.6	20.5
D.	Region								
	Ilocos		19.0		42.5		19.0		21.2
	Cagayan Valley		34.9		56.9		9.5		19.4
	Central Luzon		20.1		41.9		17.6		20.9
	Southern Tagalog		23.7		42.6		20.8		21.1
	Bicol		19.4		43.7		18.2		20.9
	Western Visayas		22.7		41.6		22.5		21.4
	Central Visayas		23.2		44.0		18.2		21.0
	Eastern Visayas		25.0		46.3		15.2		20.3
	Western Mindanao		33.0		53.8		13.9		19.8
	Northern Mindanao		24.5		47.7		14.0		20.4
	Southern Mindanao		25.8		45.2		20.1		20.9
	Central Mindanao		34.1		54.9		14.3		19.7
	Metropolitan Manila		16.7		33.2		27.8		22.1

*Base is number of ever-married women who were married below age 40.

**The 1978 data refer to the occupation of the woman since first marriage

Sources: 1978: de Guzman, 1983

1983: 1983 National Demographic Survey

Multivariate analysis on the determinants using the woman's characteristics as predictors of age at marriage on the national and regional levels was made by de Guzman (1984a). On the national level, the education of the woman and region of residence exerted the greatest influence on her age at marriage. The wife's education and her occupation were more closely associated with the woman's age at marriage than her husband's education or his occupation.

The analysis revealed large and significant differentials in age at marriage by socioeconomic variables within regions. The differences in age at marriage by these selected characteristics appeared to be sharpest in Bicol but tended to be less in the Ilocos. Woman's education emerged as the strongest determinant of the age at marriage in all regions except in Central Luzon, where occupation before marriage dominated. Urban-rural residence appeared to be an important factor only in Cagayan Valley and Central Visayas and to a lesser extent, in Southern Luzon and Northern and Southern Mindanao.

The foregoing findings are in accord with studies conducted elsewhere identifying education as perhaps the most important determinant causing postponement of entry into marriage. Schooling may be a direct cause for a delay in marriage since females usually remain single while going to school. It is also quite possible that once educated, a woman may find it difficult to find the appropriate mate, specially in the Philippine setting where marriages are essentially homogamous.

VIII. ROLE OF INSTITUTIONS

This section attempts to discuss the role of existing institutional arrangements on fertility, nuptiality, and contraceptive practice.

Family or household formation impinges on the proximate determinants of fertility. Ryder (1976, 1984) theorizes on the "intergenerational contract" which covers certain implicit understanding about the rights and responsibilities of children to parents and parents to children. In traditional and largely rural societies, children represent an important investment and where there is much uncertainty about the future, parents rely on their children for old-age security.

In an attempt to link family and household formation directly with fertility, Pascual (1971) showed that fertility was lower for women who resided in a nuclear household than in a non-nuclear household.

Joining the parents' household after marriage seems to be a predominant practice among newly-weds in the Philippines. In Luzon for example, the 1983 NDS shows that 60 per cent of the newly-weds did so. Such practice tends to be predominant among younger marriers, in contrast to those marrying later who opt to be residually independent (de Guzman and Domingo, 1984). The average age at marriage of those who lived separately from their parents right after marriage was about a year and a half older (21.5 year) than the rest who had been accommodated by their

parents. It is quite possible that for most of those who have been accommodated by parents, parental intervention was dominant in the choice of mates, hence the earlier the marriage.

Those women who gave support to siblings or parents before marriage also tended to tie the marital knot at a later age than those who did not extend any such support, confirming the hypothesis that in families where daughters are valued for their productive inputs into the household, delay in marriage would be economically rational for the household.

Family planning program inputs have affected the accessibility of contraception and the diffusion of family planning information. For example, Herrin and Pullum (1981) disclosed that at least in areas where concentrated population program efforts were being implemented, there was evidence of a decline in family size preferences and that the decline was associated with the increase in the use of contraception in general and of the more effective methods of contraception, in particular. While they found evidence of misperceptions regarding the relative use-effectiveness of various methods of contraception, awareness of contraceptive methods has uniformly increased across social strata in the 1970s. Access to contraceptive services and supplies had improved through the outreach program, thereby reducing the effective cost of contraception.

Multivariate analysis of the determinants of contraceptive prevalence on the clinic level in areas covered by the Outreach Program revealed the importance of the full-time outreach worker's (FTOW) time allotment, barangay supply point officers (BSPO) referrals to clinic, completion of baseline survey and other Outreach Program inputs (Laing, 1981). Non-program inputs with significant effects on clinic prevalence were the number of clinics or hospitals in the area and travel time for ligation.

The *health program* is likely to improve access to health services and other facilities like safe water supply and sanitary toilets which directly affect morbidity and mortality and hence fertility. The importance of such services and facilities in relation to mortality has been demonstrated by various studies in the local setting. Herrin's study (1981) using zero order coefficients between health indicators and male life expectancy at birth suggested that basic development factors (literacy, economic structure and infrastructures) as well as health service and related factors like sanitation, health facilities and manpower are important in explaining regional mortality differentials.

West (1981) demonstrated that higher regional infant mortality was associated with a high proportion of population with poor garbage disposal practices, a low proportion of the population having access to safe water supply, a high proportion of mothers using traditional attendants and greater proportion of the population living a great distance (more than 5 km.) from a hospital.

On the other hand, Flieger, *et al.*, (1981) showed that infant mortality varied negatively with the proportion of households with pumped water supply.

Community development efforts will certainly affect the provision of health services. Herrin (1979) noted that rural electrification was associated with the establishment of small emergency hospitals, increased efficiency in the provision of health services in the rural health units, and increased access to safe water supply.

The effects of the development effort can go even beyond this. For example, the presence of a large rural electricity cooperative has been claimed to have resulted in lower birth rates. Changing patterns of consumption and investment and aspirations of the household were generated by increased incomes and social and economic opportunities. These tended to raise the opportunity costs of additional children, hence, childbearing was limited through contraception (Madigan, 1977; Herrin, 1979). Likewise, fertility and contraceptive use were found to be related to rural electrification and irrigation in the Bicol Region (Herrin, 1986).

Very limited *occupational mobility* occurs in Philippine society (see Castro, 1976; de Guzman, 1983). This limited social mobility with the associated slow change in incomes and opportunities for new patterns of consumption and investment does not favor rapid change in lifestyles consistent with lower fertility. While both upward mobility and downward mobility have been discovered to exert depressing effects on fertility (de Guzman, 1983), increasing downward mobility is entirely unattractive. On the other hand, unless substantial upward mobility occurs, it will not have any effect on overall fertility.

The above discussion has been made to illuminate some of the broad effects of some important socioeconomic characteristics and social institutions as they relate to fertility. The other institutions such as those political, economic or social in nature, are the subject of other chapters in this volume.

IX. CONCLUSIONS AND POLICY IMPLICATIONS

The reassessment of existing fertility estimates has resulted in the generation of more robust estimates of fertility. The application of various tests makes us more confident with the recommended crude birth rates and age-specific fertility rates.

There was an acceleration in the decline of the crude birth rate (CBR) since 1955 but this was suddenly put to a halt during the 1975-80 period when the CBR rose by 4 per cent. This occurrence is rather unusual since demographic experience worldwide shows that the moment the CBR has initiated a determined decline, it will pursue such path until it reaches a low level.

In spite of such unverified increase in the CBR, individual-level information suggests reductions in the children ever born among successive younger cohorts born during the period 1939–1953 and aged 30–44 in 1983. The data also imply that the end of childbearing among Filipinas might be advancing to an earlier age, although slackening in the tempo of childbearing seemed to have happened between 1964 and 1983.

While marital fertility may continue to decline, the age-specific fertility rates among the younger women (15 to 29 years old) may continue to rise because of greater numbers of them entering the reproductive ages (as a result of high fertility and declining mortality during the period 1955–1970) and increasing proportions getting married. It is also expected that as these women get older, there will follow increases in rates among the older age groups unless practice of contraception becomes substantial in the future. Thus within the next few years from 1980, only meager reductions, if any, may be reflected by the total fertility rate.

Desired family size is on a downward trend. While the values attached to children realistically cannot be completely eradicated, there will be some breaking down as a consequence of increasing opportunity costs of children. In the course of socioeconomic development, children's perceived economic contributions fall off sharply, their costs likewise rise in monetary terms, and the time costs of childrearing become progressively heavy (Lee and Bulatao, 1982). The improvements in infant and child mortality are also expected to depress the demand for children.

The traditional sources of negative effects on the supply of children are losing ground to development efforts. Breastfeeding and post-partum amenorrhea are envisioned to decline with improvements in education and female labor force participation. The age at menarche will likewise decline over time.

The age at marriage is a very important determinant of supply and is highly manipulable. As mentioned earlier, there has been a premature reversal in the trend of marriage timing and pattern. There are important socioeconomic and geographic differentials which may be the subject for policy directions. There are certainly important regional differentials in the age at marriage which cannot be ignored.

While contraceptive prevalence has gone down, contraceptive effectiveness has gone up because of the better mix of family planning methods used. Nevertheless, prevalence is quite low and important regional disparities need to be addressed.

If the reverses in nuptiality and in contraceptive prevalence are corrected and the SMAM, contraceptive prevalence, and effectiveness are pushed to newer heights and are substantial

enough to offset the increasing number of women in the childbearing ages, we may succeed to pull the CBR down faster and thus minimize its generational effects.

Advanced report from the 1986 Contraceptive Prevalence Survey (CPS) shows large increases in contraceptive prevalence by 1986, although no parallel changes were observed for contraceptive effectiveness.

With respect to the demand for children, the following issues may be addressed:

1. emphasis on the quality rather than quantity of children;
2. effective substitutes for certain values of children such as old-age security;
3. increased opportunity costs of children;
4. reduction of infant and child mortality.

The first one may not be appealing to parents in low socioeconomic statuses, unless Congress gives substance to the constitutional provisions benefiting the poor. For instance, compulsory and free education and strict laws regulating child labor may reduce the potential labor value of children and increase their direct costs, but these may not be feasible unless the political, social and economic climate for such measures is generally favorable.

To minimize the old-age support expectation of parents, the current social security schemes of the government must be expanded to include all groups, specially the unsalaried persons, for it is among them where this value is expected to be most salient. Suitable cooperatives, credit and saving institutions, and other associations which will develop self-reliance, may be established with government or private support.

Improved opportunities for gaining further education or getting employment or engaging in other income-generating activities will increase the opportunity costs of children. Care must be exercised in creating employment opportunities as these may not yield the desired results for failure to create a conflict between the motherhood role and the worker role. Most women are in low-paying, low-status jobs that are unlikely to compete effectively with childbearing. There is no question that women have experienced and continue to suffer discrimination in employment.

The important determinants of infant and child mortality are now well established and may guide policy formulation. These include improved health and nutrition services, better access to safe water supply and sanitary environment. Education and information dissemination are important avenues for the reduction of infant and child deaths.

While development may have adverse effects on the prevalence of breastfeeding, its nutritional, health and fertility effects justify an education and information campaign to increase its practice. For working mothers, particularly those who work away from home, some support mechanisms may have to be provided such as facilities for the preservation of mother's milk or nurseries within or near the place of work. Where these are not feasible, the decline in breastfeeding must be counteracted by increased efforts to provide contraception.

With respect to nuptiality, steps toward the enhancement of women's autonomy and status may have an impact on the entry into marriage. Better educational and employment opportunities in the urban and rural sectors may have an effect of delaying marriage. Without the necessary legislations to address these issues on the welfare of women and the commitment of the political leadership, very few social and structural changes that favor postponement of age at marriage may occur (see e.g., Duza and Baldwin, 1977).

The family planning program will have to be revitalized and strengthened, not only reorganized. The capabilities of its personnel must be assessed and its programs re-prioritized. This is important in view of increases in the birth rate specific to certain groups of women, slow decline in total fertility rate, decreases in contraceptive prevalence, and reductions in the age at marriage. The recommended measures to address these issues discussed and advanced by the International Conference on Family in the '80s are being endorsed here;

1. To promote improvements in the status of women by seeking changes in laws, customs, and practices which discriminate against them;
2. To assist women to improve their lives by supporting special women's development programs in education, health, nutrition, income generation, etc.;
3. To design family planning services to address inequities between men and women by greatly increasing the participation of women not only in provision of services, but also in management, policy-making, and program design.

Efforts toward self-reliance with respect to the supply of contraceptives must be promoted without sacrificing the quality of services. All methods of family planning that are legal must be made available to the population. All such methods must be included in information, education and service programs to insure the individual's freedom of choice and to strengthen the acceptability and practice of family planning.

(ANNEX)

THE IMPLICATIONS OF THE TRENDS IN FERTILITY

Because of the substantial declines in mortality, fertility has assumed primary importance in influencing recent and future rates of population growth in the country. The analysis above implies that only slight decreases, if any, in total fertility may occur in the years immediately following 1980. Thus the projections prepared by the University of the Philippines Population Institute (see Feranil, Zablan, and de Guzman, 1987) under the UPPI-FAO Project may be more reasonable to represent population trends at least up to the year 2000, than the population projections prepared by the Technical Working Group on Population Projections, NEDA (see Engracia, 1983). Both sets of projections made basically the same assumptions on future changes in mortality, thus the difference substantially lies in their assumptions on future fertility trends.

The TWGPP-NEDA projections did not benefit from the availability of more recent data. The initial fertility rates were based on the results of the 1978 RPFS. In contrast, the UPPI-FAO initial fertility rates were based on the results of the 1983 NDS. Of the three assumptions of fertility decline envisioned by the TWGPP-NEDA, the assumption on slow fertility decline is closest to the UPPI-FAO fertility assumption.

The comparable fertility assumptions are presented below.

Projection	TOTAL FERTILITY RATE BY YEAR					
	1980	1990	2000	2010	2020	2030
UPPI-FAO	4.96	4.77	3.97	2.87	2.05	—
TWGPP-NEDA	4.70	4.06	3.24	2.78	2.14	2.02

Given the recent trends on the total fertility rate, nuptiality and contraceptive practice as well as the socioeconomic environment, the level of fertility for the period 1980-85 under the UPPI-FAO projection has been assumed to remain constant at the level observed for 1980. After this period, the TFR is assumed to decline gradually reaching 3.97 children per couple by 2000. Thereafter the decline is assumed to accelerate as socioeconomic conditions in the country improve, and as higher CPRs with increasing use of more effective methods prevail. By 2020, TFR will have fallen to about 2 children per couple. The TWGPP-NEDA set may be said to represent the more optimistic view of what will happen to the TFR. Some results from the TWGPP-NEDA projections are presented to demonstrate the extent of influence differences in fertility levels may have, no matter how slight, because of diverging patterns of age-specific fertility rates. The discussion essentially deals with the new projections unless otherwise stated.

Demographic Implications

The UPPI-FAO projections show that the 1980 Philippine population is expected to increase by 32 per cent in 1990 (64 million) and 70 per cent by 2000 (82 million). Table 17 also shows that by 2010, the Philippine population would have doubled itself (99 million). This would mean that population density which was 161 persons per square kilometer in 1980 would dramatically increase to 214 in 1990, and 331 in 2010, implying increasing pressure on available resources.

Even if fertility would decline much faster, as assumed by the TWGPP, the increase in numbers is inevitable; but nevertheless total population would be at a lower level. Under this assumption, the Philippine population will reach 77 million in 2000, about 5 million smaller than if fertility declines less faster as envisioned in the UPPI-FAO projections. By 2010, the difference between the two projections would amount to 7 million.

In the transition from a high level of TFR to a low level, the pattern of the schedule of fertility by age necessarily changes. Two features will characterize the schedule as TFR slides down faster. A depression of all age-specific rates occurs first and then is joined by a process of constriction in which childbearing in the advanced ages of 40 to 49 years increasingly becomes negligible. As this happens, the contribution of women in the younger ages to total fertility slightly increases.

Concomitant with the reductions in the proportion of the population aged 0-14 are increases in the proportion of persons in the working ages of 15-64 years. The number of preschool children illustrates the effects of large cohorts of women entering the reproductive ages due to previously high levels of fertility. While the crude birth rate is shown to be declining, the absolute number of births actually rises. The number of preschool children rises monotonically up to year 2000, and decreases thereafter. It will take some time before similar decrements will affect the school-age population of 5-14 years. This is a reflection of the population growth momentum built in the population because of demographic changes in the past.

The Social Aspects of Growth

The Philippine population is characteristically young. The median age was 17 years during the sixties and seventies and was 19 in 1980. The effects of the high birth rate will be reflected in the age structure throughout this century, as the survivors of those births move into adulthood and the working ages (or among women, into the childbearing ages) and in the next century when they join the ranks of the senior citizens.

The future age structure will be affected by future trends in fertility. The UPPI-FAO projections show that the proportion of children aged 0-14 years will follow a declining trend but the population will be slightly younger than if fertility dropped much faster. The median age will be 27 years only in 2015, the same level attained by the United States in 1970.

TABLE 17
Selected Demographic Parameters: A Comparative Presentation of Results
from Two Projections: Philippines, 1980-2010

PARAMETERS	UPPI-FAO				TWGPP-NEDA			
	1980	1990	2000	2010	1980	1990	2000	2010
A. Total Population in millions	48.3	64.0	82.2	99.2	48.3	61.9	77.2	92.5
B. Proportion in								
0-14	42.0	40.7	38.0	31.8	42.0	39.1	35.6	31.5
15-64	54.6	55.7	58.0	63.4	54.6	57.5	60.6	64.1
65 +	3.4	3.6	4.0	4.8	3.4	3.4	3.7	4.5
C. Dependency Burden	83.2	79.6	72.4	57.8	83.2	73.9	65.0	56.2
D. No. of Population (million):								
Ages 0-6	10.5	13.6	15.2	14.6	10.5	11.7	12.2	11.1
7-12	7.5	9.6	12.3	12.7	9.5	9.2	10.2	10.2
13-16	4.2	5.6	7.4	8.6	4.2	5.6	6.4	6.9
E. No. of Female population in reproductive ages (million)	10.7	14.4	18.6	23.5	10.7	14.8	20.0	24.3
F. Vital Rates								
Crude birth rate	34.5*	33.8	28.2	21.9	33.7	31.1	26.5	21.6
Crude death rate	8.0*	7.7	6.1	5.0	8.7	7.3	6.2	5.8
Crude rate of natural increase in %	2.65*	2.61	2.21	1.69	2.53	2.40	2.02	1.58

*Refers to 1985

Children in the ages 5-14 numbering about 13 million in 1980 are expected to reach 16 million in 1990 and 20 million by the end of the century. If fertility drops faster, their number would be a million less in 1990 and be only about 18 million in the year 2000.

The increasing number of school-age children exerts additional pressures on the provision of social services. Already the country is beset by lack of classrooms, lack of educational facilities and high pupil-teacher ratios as well as low salaries of personnel. Education, along with health, takes a big chunk of the national budget. This means that recurrent expenditures will depress further the amount that may be tapped for investment to generate additional income or employment. In the provision of services where funds are limited, greater attention may be given to maintaining current standards of service delivery rather than improving its quality. Unless population increases are surpassed by the rate of economic growth, the country will find itself more and more immersed in foreign borrowing to bridge its deficits. On the average, the proportion of earnings devoted to a particular service may actually expand more slowly than where fertility decreases more rapidly due to lower savings rates and to competing demands for funds for the other services.

The young have always been the focus of attention in terms of the provision of services until recently when more attention has been drawn to the welfare of the aged. This segment of the population defined as comprising of those aged 60 years and over numbered about 5 per cent in 1980 and is expected to reach 5.5 per cent by 1990. The proportions appear small but when translated into absolute figures, they number about 2.5 million in 1980 and are expected to reach 3.5 million in 1990 and about 5 million in 2000.

Close family ties in the local setting will insure that the aged will be taken care of; but with increasing difficulties, there may be a trend toward less and less support for them. There are compelling reasons for the current concern for the aged. Many of them are unemployed and impoverished and have lowly education (see e.g., Domingo and Feranil, 1987). Concern is also growing because increasing numbers are reaching the ages at which long term illness is common, thus presenting new problems for medical and public health personnel and logistics.

Food and Nutrition

Will we be able to feed our population in the future? Positive scenarios indicate that feeding even the projected number in the years to come may not be a problem. These scenarios, however, stipulate use of improved farm equipment, fertilizers and pesticides, conservation measures, and cultivation of a combination of the currently grown crops and the most calorie-productive crops (see Higgins, *et al.*, 1982) which may be difficult to carry out in the Philippines because of the great costs involved.

Florentino and others (1987) demonstrated the adequacy of food supply in the Philippines in recent years, except for some foodstuffs. However, the pattern of consumption varied across population subgroups. For example, the rural areas were disadvantaged irrespective of occupational status in terms of consumption of some food items such as meats, milk and milk products, and fruits. Household size is a strong determinant of levels of food consumption, and more often the pattern is higher consumption averages for small households compared with large households. Such disparities exist because of food distribution systems, the affordability of food items, and, to a certain extent, food tastes.

Large increases in populations are likely to exacerbate these disparities as fertility tends to be higher among the more disadvantaged groups. Nutritional levels will not be any brighter either. Unfortunately, infants and young children are often the ones most widely and seriously affected. Experts have stated that if malnutrition persists during the first few years of life, the child is doomed to foreshortened physical and mental development, increased susceptibility to infection and impaired response to his environment (Eichenwald and Fry, 1970; Cravioto, 1971; Popkin and Lim, 1976).

Unless current levels of protein and energy malnutrition improve, about 5 million children of preschool age (0–4 years) are estimated to suffer from first-degree malnutrition in 1990 and the number of second-degree malnourished may reach over 2 million children.

Even in Metro Manila, nearly a third of the preschool children have been reported to be suffering from second and third-degree malnutrition. The latest projections of food and estimated food requirements in Metro Manila indicate nutrition inadequacy of food demand in the metropolis particularly for cereals and cereal products, eggs, green leafy and yellow vegetables and Vitamin C rich foods (Florentino, *et al.*, 1987).

Labor Force

Based on the UPPI-FAO projections, the labor force is expected to expand to 24 million in 1990 and 32 million in the year 2000. Fertility declines as envisioned in the projections would not affect the number in the labor force until after the end of the present century.

Even under the high productivity assumption, the rate of employment will decline albeit gradually. In terms of occupational groupings, white-collar workers are expected to comprise 24 per cent of all employed in 1990, while agricultural workers will have a share of 46 per cent. Ten years later, the corresponding figures are 26 per cent and 43 per cent, respectively. The employment projections reveal higher growth rates of employment among the more highly educated members of the labor force than among their less fortunate counterparts.

More and more women are and will be entering the labor force. About two-fifths of the women aged 25–44 years were engaged in economic activity in 1973 and nearly one-half, in 1978. Urban participation rates surpassed those of rural by 19 per cent in the age group 25–34, and by 11 per cent in the next older group, 35–44 (Concepcion and Feranil, 1983).

If fertility declines as envisioned in the UPPI–FAO projections, women would be progressively relieved of protracted childbearing and childrearing. Some would have less children because of work; still others would look for work because of large numbers of children. This cause–effect relationship may not seem straightforward (see e.g. Herrin and Engracia, 1984; Standing, 1983). Unfortunately this increased freedom may not result in automatic upward shifts in labor–force participation rates of women. Work may be unattractive to many women for various reasons. Employment may be viewed as unrewarding due to low pay or less chance for advancement, and structural barriers may exist.

Women in the childbearing ages (15–44 years) numbered 11 million in 1980, and may reach 19 million in 2000 and 24 million in 2010 according to UPPI–FAO figures. This is a large reservoir of womanpower that can be fully harnessed for productive activities.

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FERTILITY AND MORTALITY IN THE PHILIPPINES: ESTIMATES FROM RECENT DATA

Eliseo A. de Guzman

I. INTRODUCTION

Several problems beset the production of demographic data and estimates in the local setting for the objective monitoring of population trends and development, which is a requisite for meaningful and effective planning and implementation of social and economic development policies and programs. The latest census was conducted in 1980 and the results of another one contemplated for 1990 would probably be out only after some time. This means that in an interregnum of more than a decade not much would be known about the *exact* characteristics of the entire population, particularly with respect to its age structure, spatial distribution, and growth rate. Improvements in the vital registration system have not been very satisfactory either, as data on births, deaths, and other important population events remain significantly deficient.

Fortunately, nationwide sample surveys have been increasingly undertaken to complement vital statistics and to provide information on intercensal and postcensal demographic trends. Since 1980, four such surveys have been conducted, namely the 1983 National Demographic Survey (NDS), the 1986 Contraceptive Prevalence Survey (CPS), the 1987 National Health Survey (NHS) and the 1988 National Demographic Survey (NDS). As of this writing, the results of the 1987 NHS and the 1988 NDS are still being processed.

Given the present state of the civil registration system, various demographic parameters, particularly fertility and mortality, can only be estimated through indirect approaches. The United Nations (1983) recently published a compilation of the most up-to-date analytical methods incorporating newly-developed procedures and refinements of existing methods. The availability of such indirect estimation procedures which basically rely on certain assumptions has led to varying demographic estimates so that if trend analysis is desired, there is a need to determine firm estimates for specific periods of time.

An earlier paper (De Guzman, 1987 included in this volume) assessed and validated estimates of the crude birth rate (CBR) for the nation as a whole in an attempt to pinpoint firm estimates of fertility from the beginning of the twentieth century as basis for the examination of trends. Such exercise, however, could be demanding in terms of time and manpower. Without the luxury of time and resources, an alternative is to choose the methodology whose underlying assumptions best fit the population in question and then use such methodology consistently to

produce estimates for various periods. But this approach may be limited by the availability of appropriate data for earlier periods, especially for mortality.

This paper presents estimates of fertility and mortality from the seventies to the mid-eighties, incorporating the most recent available data, the 1986 CPS. In order to allow for meaningful trends analysis of fertility or mortality, the same methodology was used to generate various measures spanning different time periods. An update is also made on differential fertility and mortality by selected socio-economic and demographic characteristics.

II. FERTILITY

1. Fertility Levels and Trends

The continuous conduct of nationwide surveys on a five-year basis by the University of the Philippines Population Institute in collaboration with different agencies, eliciting the complete pregnancy histories of all eligible respondent women in the reproductive ages of 15–49 years, has enhanced the estimation of various fertility parameters in the local setting. Such surveys make possible the generation of fertility rates, specific for age, for various periods through birth history analysis. The consistency of the approach in the collection of fertility data in the different surveys beginning with the 1968 National Demographic Survey (NDS) allows for a periodic update of fertility estimates for the nation as a whole as well as its subnational areas (see Flieger, 1975; de Guzman, 1978 and 1987; Cabigon, 1983 and 1985; Morada, Alegre and Salvail, 1984).

Several attempts have been made earlier to assess indirect estimates of fertility (e.g., Alcantara, Cabigon, and de Guzman, 1980; Cabigon, 1983), the latest of which was done by the author (de Guzman, 1987). In that latest work the different underlying assumptions of the methodologies utilized to produce existing fertility estimates were examined; whenever necessary, new estimates were presented and tested for robustness. One significant feature of that work is the use of the same methodology for the derivation of the crude birth rates (CBR), the simplest but very useful fertility parameter, from 1960 onwards.

The results of the 1986 Contraceptive Prevalence Survey (CPS), which at that time were still being processed are now available and can be used to further update existing fertility estimates. Like the previous surveys, the 1986 CPS collected the birth histories of all ever-married women aged 15–49 years at the time of the survey.

1.1 Age-Specific Fertility Rates and Total Fertility Rates

The age-specific fertility rates and total fertility rates for the country as a whole are shown in Table 1. The latest that can be shown from the 1986 CPS are the 1984 rates, owing to the instability of the 1985 age-specific fertility rates. In general, the age-specific fertility rates

exhibited a declining trend over time. The important exceptions were the increases experienced by the women aged 15–29 years in 1980 and those aged 15–19 years in 1984. Large reductions in age-specific rates occurred between 1970 and 1975. The total fertility rate or completed family size estimated at 6.5 children in 1960 manifested an acceleration in the rate of decline up to 1975, and a deceleration thereafter, reaching a level of about 5.0 children by 1980. The 1984 figure (4.5 children) seems to indicate that the decline in total fertility rate was picking up again mainly because of the decreases among women in the ages 20–39. However, this figure remains high even by East Asian (2.3 children) or Southeast Asian (4.1 children) standards for the same period.

Comparable data pertaining to neighboring countries for 1984 peg the total fertility rate for Malaysia at 3.8 children and for Thailand at 3.5 children. In contrast to Thailand, which experienced an annual average change in contraceptive prevalence of 3.5 per cent between 1973 and 1984 to reach a level of 65 per cent, the Philippines gained only 0.9 per cent per year between 1973 and 1983 to register a level of 33 per cent. This low level of contraceptive use among Filipino couples was accompanied by a large decline in the age at marriage among females after 1978, which recent data now show to have remained essentially static thereafter. The high rates of fertility among those aged 40–49 years also place Philippine women at a disadvantaged position in terms of the length of the childbearing period compared to women in developing countries, which have undergone large diminutions in completed family size in recent years.

Table 2 presents the age-specific fertility rates and total fertility rates for the different regions taken from the surveys. Except for increases in fertility rates in the early and late childbearing ages in some regions, the general pattern for the 1980–84 period was that of a decline in age-specific rates. Nevertheless, total fertility rate or completed family size was somewhat high in many regions in 1984 reaching as high as 5.9 and 6.1 children in Bicol and Eastern Visayas, respectively, while it was estimated to be 2.9 children in Metro Manila. Declines in the total fertility rate of more than 10 percent over the 1980–84 interval were observed in Ilocos (15.6 per cent), Western Visayas (13.8 per cent), and National Capital Region (17.5 per cent). In contrast, only minimal reductions were manifested by the high fertility regions (Cagayan Valley, 5 per cent; Eastern Visayas, 2 per cent; Southern Mindanao, 1 per cent).

1.2 Crude Birth Rate

The failure to conduct a census in 1985 prevents the update of CBR estimates using the same methodology as the one used in deriving the 1960–1980 figures (cf. Appendix Table 1). The birth rates were obtained by calculating the number of births that would occur to the population being considered if it were subject to the age-specific fertility rates for the relevant period, and then dividing the total number of births by the total population for the same period.

TABLE 1
Age-Specific Fertility Rates (ASFRs) Per Thousand Women and Total
Fertility Rates (TFRs) Per Women: Philippines, 1960-1984

Period	Births Per 1000 Women Aged							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1960	84	261	314	292	212	108	27	6.49
1965	75	255	215	284	218	101	20	6.34
1970	56	228	302	273	200	101	23	5.92
1975	47	209	249	240	179	89	26	5.20
1980	51	213	254	220	164	76	14	4.96
1984	55	200	234	199	142	63	13	4.53
<i>Per Cent Change</i>								
1960-1965	-11	-2	-3	-3	3	-6	-26	-2
1965-1970	-25	-11	-4	-4	-8	0	15	-7
1970-1975	-16	-8	-17	-12	-11	-12	13	-12
1975-1980	8	2	2	2	-8	-8	-15	-46
1980-1984	8	-6	-8	-10	-13	-17	-7	-9

Sources: For 1960-1970:1973 National Demographic Survey
1975:1978 Republic of the Philippines Fertility Survey
1980:1983 National Demographic Survey
1984:1986 Contraceptive Prevalence Survey

TABLE 2
Age-Specific Fertility Rates Per 1000 Women
by Region and by Age Group, Philippines: 1970-1984

REGION/ PERIOD	AGE GROUP							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Philippines								
1970	56	228	302	273	200	101	23	5.92
1973	51	217	270	253	187	94	25	5.49
1975	47	209	249	240	179	89	26	5.20
1978	49	211	252	228	170	81	19	5.05
1980	51	213	254	220	164	76	14	4.96
1983	54	203	239	204	147	66	13	4.64
1984	55	200	234	199	142	63	13	4.53
Ilocos (I)								
1970	42	214	275	228	237	85	15	5.48
1973*	34	194	272	243	181	89	14	5.13
1975	29	181	270	253	143	92	13	4.90
1978	45	225	274	236	172	90	9	5.26
1980	56	255	277	225	192	89	7	5.50
1983	52	224	256	199	155	73	11	4.85
1984	51	214	249	191	143	68	13	4.64
Cagayan Valley (II)								
1970	71	264	291	265	220	159	43	6.56
1973	73	260	254	252	206	110	19	5.87
1975	74	257	229	244	197	78	3	5.41
1978	68	243	276	227	177	64	11	5.33
1980	64	233	307	215	164	55	16	5.27
1983	74	238	258	200	150	69	29	5.09
1984	77	239	242	195	146	74	33	5.03
Central Luzon (III)								
1970	42	209	308	262	216	87	29	5.76
1973	40	192	274	231	176	88	17	5.09
1975	39	181	251	210	149	88	9	4.63
1978	39	186	249	182	124	83	16	4.40
1980	39	189	248	164	107	79	20	4.23
1983	46	191	227	170	106	74	12	4.13
1984	49	192	220	172	105	73	9	4.10

* Interpolated

TABLE 2 [Continuation]
Age-Specific Fertility Rates Per 1000 Women by Region and by Age Group,
Philippines: 1970-1984

REGION/ PERIOD	AGE GROUP							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Southern Tagalog (IV)								
1970*	70	237	301	240	167	109	24	5.74
1973*	63	227	270	223	174	96	22	5.38
1975*	58	221	249	212	179	87	21	5.13
1978*	46	220	243	219	153	71	10	4.81
1980*	38	219	239	224	135	60	2	4.58
1983*	60	151	239	209	131	62	3	4.28
1984	64	140	239	206	130	62	3	4.22
Bicol (V)								
1970	40	255	287	312	209	123	18	6.22
1973*	47	235	289	298	208	128	15	6.10
1975*	52	221	290	289	208	132	13	6.03
1978*	65	253	295	271	215	128	14	6.20
1980*	73	274	298	259	219	126	14	6.32
1983*	70	256	293	264	209	92	15	5.97
1984	69	253	292	265	206	80	15	5.85
Western Visayas (VI)								
1970*	57	204	281	303	216	90	8	5.79
1973*	54	220	278	272	206	95	10	5.68
1975*	52	230	276	252	200	99	12	5.60
1978*	51	212	267	277	199	90	11	5.54
1980*	51	200	261	293	198	84	11	5.49
1983*	38	186	252	228	193	73	13	4.92
1984	34	182	249	206	192	69	13	4.73
Central Visayas (VII)								
1970*	52	223	289	289	182	80	11	5.63
1973*	42	203	252	248	182	81	6	5.07
1975	35	190	228	221	182	81	3	4.70
1978	47	180	234	213	181	73	14	4.71
1980*	55	174	238	207	180	67	22	4.72
1983*	61	191	230	206	150	61	10	4.56
1984	63	197	228	206	140	59	6	4.50

* Interpolated

TABLE 2 [Continuation]
Age-Specific Fertility Rates Per 1000 Women by Region and by Age Group,
Philippines: 1970-1984

REGION/ PERIOD	AGE GROUP							TFR
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Eastern Visayas (VIII)								
1970*	61	303	367	403	284	91	27	7.68
1973*	56	282	333	306	231	92	12	6.56
1975*	53	268	310	241	195	92	2	5.81
1978*	63	279	294	252	203	99	23	6.06
1980*	69	286	259	284	208	103	37	6.23
1983*	82	277	280	274	207	88	20	6.14
1984	84	275	279	277	207	86	17	6.12
Western Mindanao (IX)								
1970*	125	310	327	265	168	104	36	6.67
1973*	105	256	269	231	165	88	19	5.66
1975*	91	220	231	208	163	77	8	4.99
1978*	75	220	229	212	149	82	4	4.86
1980*	64	220	227	214	140	86	2	4.76
1983*	78	223	224	207	119	74	13	4.69
1984	80	224	223	206	116	72	15	4.68
Northern Mindanao (X)								
1970*	82	306	382	300	236	114	60	7.40
1973*	68	280	336	278	217	112	32	6.62
1975*	59	263	306	263	205	110	13	6.09
1978*	55	246	279	240	203	100	19	5.71
1980*	53	234	261	224	201	94	23	5.45
1983*	61	230	255	216	158	76	17	5.07
1984	64	228	253	213	144	70	15	4.94
Southern Mindanao (XI)								
1970*	78	260	371	299	214	143	22	6.93
1973*	56	253	331	277	197	100	20	6.17
1975*	42	249	305	262	185	72	18	5.66
1978*	55	236	286	252	181	66	18	5.47
1980*	63	227	273	246	179	62	18	5.34
1983*	71	245	266	225	174	67	9	5.29
1984	74	251	263	218	173	69	6	5.27

* Interpolated

TABLE 2 [continuation]
Age-Specific Fertility Rates Per 1000 Women by Region and by Age Group,
Philippines: 1970-1984

REGION/ PERIOD	AGE GROUP							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Central Mindanao (XII)								
1975*	55	199	211	386	195	117	24	5.44
1978*	71	240	262	270	183	89	13	5.64
1980*	81	267	296	260	175	70	6	5.78
1983*	66	224	257	208	136	67	22	4.90
1984	64	217	251	199	129	66	25	4.76
National Capital Region								
1970*	19	143	233	197	125	70	8	3.98
1973*	27	142	203	163	102	53	7	3.48
1975*	33	142	183	140	86	42	6	3.16
1978*	31	149	196	148	100	43	11	3.39
1980*	29	154	204	153	110	43	14	3.54
1983*	28	139	173	133	82	27	18	3.00
1984	28	137	168	130	77	24	19	2.92

* Interpolated

Sources: 1973 National Demographic Survey; 1978 Republic of the Philippines Fertility Survey; 1983 National Demographic Survey; 1986 Contraceptive Prevalence Survey

To generate the new estimates of the crude birth rates contained in Table 3, basically the same approach was adopted but this time using population data taken entirely from the surveys (cf. United Nations, 1983, pp. 35-37, for an illustrative example of the same approach). The population data in the survey were not blown up to approximate the total population numbers for the same periods, instead survey data were weighted to preserve the representativeness of the samples.

An examination of the age distributions of the weighted sample survey populations (see Appendix Tables 2 and 3) discloses the absence of irregularities and a strikingly close correspondence with the results of the 1975 and 1980 censuses. The marked similarities are

the increases in the ages 0-4 and 20-34 years and the decreases in the ages 5-19 years (1978-1983 in the surveys and 1975-1980 in the censuses). Likewise the percentage distributions of regional populations by surveys (see Appendix Table 4) do not show any irregularities and are consistent with the censuses except for four instances (Central Mindanao in 1973, Western Visayas and Western Mindanao in 1978, and Western Visayas in 1986).

TABLE 3
Crude Birth Rates by Region: Philippines, 1973-1983

	1973	1978	1983
Philippines	35.3	33.8	32.8
I. Ilocos Region	31.7	31.3	31.9
II. Cagayan Valley	38.1	32.6	37.2
III. Central Luzon	33.2	29.5	32.4
IV. Southern Tagalog	35.8	33.0	32.2
V. Bicol Region	37.4	35.5	34.2
VI. Western Visayas	36.2	34.7	29.6
VII. Central Visayas	31.4	30.6	29.1
VIII. Eastern Visayas	37.5	34.5	33.1
IX. Western Mindanao	37.9	36.7	34.2
X. Northern Mindanao	37.9	37.6	33.1
XI. Southern Mindanao	42.8	41.2	39.4
XII. Central Mindanao	-	42.7	38.2
National Capital Region	29.2	31.1	28.2

Sources: 1973 National Demographic Survey
1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey

These findings are quite reassuring and warrant the use of the survey population data in the calculation of the crude birth rates (CBRs). The age-specific fertility rates for the years corresponding to the surveys (1973, 1978, and 1983) have been interpolated and are shown in Table 2 with asterisks. The results shown in Table 3 allow for a meaningful analysis and discussion not only of levels but also of trends in the CBR over time.

The estimates of the CBR for the nation as a whole derived entirely from survey data show that between 1973 and 1983, the birth rate declined very slowly. The national CBR fell from 35.3 births per 1000 population in 1973 to 33.8 births per 1000 (4 per cent) in 1978, and to 32.8 births in 1983 (3 per cent).

Above-average birth rates can be noted for the less developed regions of the country. By 1983, crude birth rates of over 33 per 1000 were exhibited by the Cagayan Valley, Bicol, Eastern Visayas, and the Mindanao areas. Crude birth rates were relatively low in the more developed regions of NCR (28.2 birth per 1000), Central Visayas (29.1), and Western Visayas (29.6).

In general, the regional crude birth rates exhibited a monotonic decline between 1973 and 1983, with the exception of four regions. While the reductions decelerated during the 1978–1983 period, the CBR dropped by more than 10 per cent in Central Mindanao, Northern Mindanao, and Western Visayas. The rise in the CBR in the National Capital Region (NCR) in 1978 was occasioned by the increases in the fertility rates among women in the ages 15–24, accompanied by an enlarged population of women in the ages 20–34 years. The same conditions pertained to Central Luzon in 1983 although slightly differing in terms of the enlarged population of females (15–34 years old), thus resulting in a somewhat elevated birth rate for that period. The birth rate in the Ilocos Region appears to have remained stagnant at around 32 births per 1000 population for the periods under consideration. The figure for Cagayan Valley for 1978 is biased by the instability of fertility rates for the period, having been derived from a more limited number of cases. (The same calculation problem affected the Western and Central Mindanao fertility rates but are not quite apparent in the CBRs.)

An important issue that needs to be addressed is the question of whether the Philippine crude birth rate really increased between 1975 and 1980 (see Cabigon, 1983; de Guzman, 1987). This question cannot be resolved from the data presented in Table 3. But the crude birth rates for 1975 and 1980 can be estimated by generating the required data from the 1978 Republic of the Philippines Fertility Survey (RPFS) and 1983 NDS through reverse projection of the age-sex data using the implied growth rates of the total population and female population in the ages 15–49 for the relevant periods. Application of the same methodology described above on the resultant survey population data (total and female) and the appropriate age-specific fertility rates in Table 2 yields a CBR of 33.4 for 1975 and 34.0 for 1980. Contrast this with the estimates of 34.8

for 1975 and 36.3 for 1980 based on census data. These new figures are presented again below along with the estimates in Table 3. The data indicate that the CBR rose from 1975 to 1980. This upturn in the CBR after 1975 has resulted in increased proportions of children aged 0–4 observed in 1980 (see Appendix Table 3) and in 1983 (see Appendix Table 2). The conditions of the years around 1980 were not favorable for a decreasing crude birth rate. The ASFRs among the women aged 15–29 years were on the rise during the period (cf. Appendix Table 1), accompanied by increases in the number of females in the childbearing ages relative to the total population, especially among the females 20–34 years old. Likewise, the mean age at marriage among women was on the decline owing to falling proportions never marrying among females in almost all age groups, and the contraceptive prevalence rate suffered reductions between 1978 and 1983 (de Guzman, 1987). These demographic developments were completely unexpected and caught many scholars and program managers and implementors by surprise.

Period	CBR
1973	35.3
1975	33.4
1978	33.8
1980	34.0
1983	32.8

The results from the 1986 Contraceptive Prevalence Survey (CPS) are encouraging with the new estimate of the CBR for 1983 assuming a level much lower than the pre-1980 levels. Post-1986 revolution developments in the population program however have not been favorable and dampen expectations with respect to continuing positive demographic changes. The 1988 NDS now being processed will answer some of the important questions.

1.3 Cohort Fertility

An attempt is made in this subsection to discuss patterns of fertility based on cohort analysis of data taken from the 1986 CPS. The fertility of seven groups of women born between 1935 and 1969 has been examined. As of 1986, only the cohort born during the period 1935–1939 had completed their childbearing (women aged 45–49 years).

While conventional indices of fertility such as the crude birth rate and the age-specific birth rates refer to the performance of cross sections of the population at particular points in time, the cohort analysis will indicate the fertility performance of individual cohorts through time and their contribution to population growth.

The age-specific fertility rates per thousand women for various cohorts are displayed in Table 4. With the exception of the two oldest birth cohorts (1953-1939 and 1940-1944) where fertility rates by age depicted a rising trend, the succeeding birth cohorts demonstrated declining fertility. Women born in 1945-1949 started experiencing fertility lower than their counterparts five years their senior at ages 25-29 years, while among the 1950-1954 birth cohort, this occurred at ages 20-24 years. The data suggest that the movement towards lower fertility by birth cohort was from the older ages to the younger ages, involving two phases in the control of fertility, family limitation first and then birth spacing. These two phases generally characterize the child-bearing pattern of Filipino couples *vis-a-vis* their fertility regulation behavior.

TABLE 4
Age-Specific Fertility Rates Per Thousand Women
of Various Birth Cohorts: Philippines, 1935-1969

Year of Birth of Woman	Age of Mother at Birth-Event						
	15-19	20-24	25-29	30-34	35-39	40-44	5-49
1935-1939	30	159	230	234	156	82	13
1940-1944	63	225	290	249	164	63	*
1945-1949	69	243	268	222	142	*	*
1950-1954	65	230	253	199	*	*	*
1955-1959	71	221	234	*	*	*	*
1960-1964	64	200	*	*	*	*	*
1965-1969	55	*	*	*	*	*	*

Source: 1986 CPS

* Truncation

By cumulating the age-specific fertility rates given in Table 4 up to any given age, it will be possible to: (1) compare the fertility of various cohorts of women up to a given age in the childbearing period; and (2) evaluate the extent to which differences between cohorts in birth rates at younger ages have been balanced by differences in the opposite direction to older ages. The cumulated rates are contained in Table 5.

In contrast to the cumulated fertility rates at age 19 which portray an erratic pattern, the cumulated rates at later ages by birth cohort reflect a distinct pattern: a rise to a certain birth cohort and thereafter a decline (Panel A). The younger women tended to report lower cumulative fertility than their older counterparts. For example, cumulated fertility at age 24 among women born in 1960–1964 (1.32 children) was 15 per cent lower than for women born 15 years earlier (1.56 children). At age 34, cumulated fertility stood at 3.73 children for women born in 1950–1954 as against 4.13 for the 1940–1944 cohort. Panel B indicates the successive differences in cumulated fertility through specific ages. The greatest differences were noted for the younger ages (19 and 24) among the most recent birth cohorts.

Beyond age 29, the terminal age of the peak of child-bearing (25–29 years), the evidence at hand (Panel A, Table 5) does not seem to indicate any vigorous effort among the oldest cohorts past age 35 years to reduce family size. By age 44, those born in 1935–1939 had doubled their cumulated fertility at age 29, while among those born in 1940–1944, cumulated fertility for the corresponding ages rose by only 82 per cent. Nonetheless, a comparison of cumulated fertility at age 39 to that at age 29 by successive younger cohorts with available data signify reductions in fertility, which if sustained by the other cohorts may presage the curtailment of family size by couples. However, the data remain inconclusive in this respect because of truncation.

Panel C, Table 5 suggests a slackening in the tempo of childbearing by successive cohorts as the women of later birth cohorts tended to depress fertility through birth spacing. Thus women born during the period 1960–1964 increased their cumulated fertility from age 19 to 24 years by 314 per cent while the 1950–1954 birth cohort registered an increment of 350 per cent for the same age intervals. Cumulated fertility among the 1955–1959 birth cohort increased from age 24 to 29 years by only 80 per cent. Among the 1940–1944 birth cohort, the corresponding rise was 21 percentage points more (101 per cent). Whether such birth spacing was deliberate (i.e., to ultimately achieve smaller family size) remains an important question, although there were signs that it was.

2. Fertility Differentials

The identification of differences in reproductive behavior among population subgroups is very relevant for development planning. It enables policy makers and program managers and implementors to allocate scarce resources where the need is crucial to achieve equitable distribution and accessibility of services to critical subgroups or to effect more desirable demographic changes.

TABLE 5
Cumulative Fertility Rates Per Woman for Various Birth Cohorts:
Philippines, 1935-1969

Year of Birth of Woman	A G E						
	19	24	29	34	39	44	49
A. Fertility Rates Cumulated Through Age							
1935-1939	0.150	0.946	2.095	3.264	4.043	4.452	4.519
1940-1944	0.314	1.440	2.890	4.134	4.953	5.270	*
1945-1949	0.347	1.560	2.946	4.055	4.766	*	*
1950-1954	0.326	1.478	2.740	3.732	*	*	*
1955-1959	0.354	1.458	2.628	*	*	*	*
1960-1964	0.318	1.316	*	*	*	*	*
1965-1969	0.274	*	*	*	*	*	*
B. Successive Differences (%) in Cumulated Rates (Inter-Cohort)							
1935-1939	-	-	-	-	-	-	-
1940-1944	109	52	38	27	22	18	*
1945-1949	11	8	2	-2	-4	*	*
1950-1954	-6	-5	-7	-8	*	*	*
1955-1959	9	-1	-4	*	*	*	*
1960-1964	-10	-10	*	*	*	*	*
1965-1969	-14	*	*	*	*	*	*
C. Successive Differences (%) in Cumulated Rates (Intra-Cohort)							
	19-24	24-29	29-34	34-39	39-44	44-49	
1935-1939	-	531	121	56	24	10	2
1940-1944	-	358	101	43	20	6	*
1945-1949	-	350	89	38	18	*	*
1950-1954	-	353	85	36	*	*	*
1955-1959	-	311	80	*	*	*	*
1960-1964	-	314	*	*	*	*	*
1965-1969	-	*	*	*	*	*	*

Source: Table 4

* Truncation

Differences in fertility are examined here using both current fertility (ASFRs and TFR) and cumulative fertility measures (children ever born). Since the intention of this paper is to make an update, no attempt is made to review existing literature on the subject matter. This has been done quite extensively by Alcantara, Cabigon and de Guzman (1980), Herrin (1981), and de Guzman (1987).

2.1 Residence

The age-specific fertility rates (ASFRs) among the rural women are higher than among the urban residents, irrespective of age group (Table 6). The urban-rural differences in ASFRs by age group in 1984 tended to be high in the early (15-24 years) and advanced ages (35-49) but are less substantial in the peak of childbearing ages (25-29 years) and immediately thereafter (30-34 years).

TABLE 6

Age-Specific Fertility Rates Per 1000 Women by Residence and by Age Group
Philippines: 1980 and 1984

Year/Residence	Births Per 1000 Women Aged							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
1980								
Urban	32	168	223	172	128	56	13	3.98
Rural	66	248	273	252	187	88	15	5.65
Total	51	213	254	220	164	76	14	4.96
& Difference (R/U - 1.0 x 100)	106	48	22	46	46	57	15	42
1984								
Urban	37	152	192	166	102	45	8	3.51
Rural	70	239	265	221	168	74	16	5.26
Total	55	200	234	199	142	63	13	4.53
% Difference (R/U - 1.0 x 100)	89	57	38	33	65	64	100	50

Sources: 1980: 1983 National Demographic Survey
1984: 1986 Contraceptive Prevalence Survey

The contribution of teenage women to overall fertility reached 5 per cent among the urban dwellers in 1984 as against 7 per cent among the rural women. While such contribution of teenagers seemed to be on an increase, the rural-urban differential was narrowing a bit.

Rural total fertility is quite high, exceeding replacement fertility by more than 3 children. Over time, the urban-rural differential in total fertility rate is widening contrary to expectation. In 1980, the rural TFR was 42 per cent higher than the urban TFR, and in 1984, 50 per cent higher. Another disturbing occurrence is the much smaller decline in rural fertility during the period 1980–1984: 7 per cent versus 12 per cent for the urban TFR.

The widening gap in urban and rural fertility levels is evident for most regions of the country (Table 7). While in most regions urban and rural fertility both dropped between 1980 and 1984, reductions in urban fertility outstripped the fall in rural fertility. In 1984 eight regions recorded an urban TFR of below 4 children; in contrast, rural TFR remained basically beyond 5 children reaching over 6 children in two developing regions (Eastern Visayas and Bicol). The largest urban-rural differentials were shown by Bicol (49 per cent), Western Mindanao (48 per cent), Eastern Visayas (46 per cent), and Southern Mindanao (46 per cent). The reversal of the pattern in Central Mindanao seemed to have arisen from the massive influx of high-fertility rural settlers to the relatively peaceful urban areas prior to the conduct of the 1986 CPS from which the 1984 rates were taken.

2.2 Education

Generally, the inverse relationship between fertility and education is noted for the different regions (Table 8), except in five regions where the number of children ever born (CEB) of the currently married woman with no schooling was lower or almost the same as the fertility of women who had only primary education, an indication that acquiring only a modicum of education may not guarantee reductions in fertility. Clearly, the differentials by educational categories have not changed drastically over time. Women with primary education or less averaged about 5 children; those with 5 or 6 years of schooling had about 4 children; the high school educated, about 3; and those who reached college, around 2 children. These differentials imply that much can be achieved by efforts to improve the education of women towards lowering the overall level of fertility.

2.3 Occupation

The regional data presented in Table 9 do not depict a distinct pattern of fertility differentials by occupational level. Although the data on the national level support the hypothesis of increasing cumulative fertility as one moves from the more highly placed or prestigious occupational levels to the lower occupational levels, the same is not observable from the regional figures. For many

TABLE 7

Total Fertility Rates by Region and by Residence, Philippines: 1980 and 1984

REGION	1980			1984		
	Urban	Rural	% Difference	Urban	Rural	% Difference
	(1)	(2)	(3)	(4)	(5)	(6)
Philippines	3.98	5.65	42.0	3.51	5.26	49.8
I. Ilocos	4.51	5.85	29.7	3.69	5.00	35.5
II Cagayan Valley	4.78	5.36	12.1	3.76	5.26	39.6
III. Central Luzon	3.72	4.63	24.5	3.77	4.34	15.1
IV Southern Tagalog	3.80	5.06	33.2	3.63	5.05	39.1
V Bicol	5.10	6.70	31.4	4.26	6.35	49.1
VI Western Visayas	3.90	6.14	57.4	3.64	5.22	43.4
VII Central Visayas	4.09	5.05	23.5	3.82	4.86	27.2
VIII Eastern Visayas	5.25	6.54	24.6	4.53	6.63	46.4
IX Western Mindanao	4.56	4.82	5.7	3.38	4.99	47.6
X Northern Mindanao	4.54	5.84	28.6	4.20	5.22	24.3
XI Southern Mindanao	4.59	5.77	25.7	4.03	5.90	46.4
XII Central Mindanao	4.38	6.13	40.0	4.94	4.72	-4.4
National Capital Region	3.52	-	-	2.91	-	-

Sources: 1982: 1983 National Demographic Survey

1984: 1986 Contraceptive Prevalence Survey

TABLE 8

Mean Number of Children Ever Born Per Currently Married Woman by Region and by Education of Woman, Philippines: 1983 and 1986

REGION	EDUCATION OF WOMAN											
	TOTAL		No Schooling		Primary		Intermediate		High School		College +	
	83	86	83	86	83	86	83	86	83	86	83	86
I	3.73	3.64	6.11	5.29	4.85	4.70	4.42	4.46	3.78	3.07	3.00	2.57
II	3.68	3.76	7.08	4.30	5.06	5.04	4.15	3.92	3.50	3.18	2.72	2.63
III	3.75	3.50	7.27	4.14	5.32	4.77	3.99	3.94	3.13	3.00	2.47	2.42
IV	3.76	3.79	4.41	6.53	5.77	5.24	4.27	4.46	2.73	3.01	2.47	2.45
V	4.51	4.45	4.41	4.80	5.86	6.09	4.71	4.88	3.88	3.48	3.00	3.00
VI	4.37	3.97	6.24	5.52	5.86	5.15	4.99	4.65	2.96	3.34	3.32	2.47
VII	4.41	3.76	.64	6.96	5.35	4.87	4.46	3.88	3.49	2.99	2.93	2.74
VII	4.53	4.46	5.50	5.77	5.41	5.32	4.62	4.78	4.00	3.45	3.06	3.09
IX	3.94	3.79	4.44	4.72	4.93	4.95	4.27	3.92	2.99	3.10	2.57	2.47
X	4.19	3.94	5.66	3.99	5.26	5.34	5.16	4.49	3.22	2.22	2.88	2.54
XI	3.79	3.95	4.01	6.17	5.28	5.30	4.03	4.54	3.06	3.11	2.54	2.35
XII	4.00	3.90	4.99	4.91	5.29	4.51	4.57	4.38	3.21	3.39	2.35	2.86
NCR	3.28	2.82	5.67	3.43	5.05	3.65	4.09	3.78	3.11	2.67	2.48	2.42
Phils.	3.99	3.74	5.06	5.10	5.38	5.07	4.42	4.33	3.22	3.07	2.61	2.54

Sources: 1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

TABLE 9

Mean Number of children ever Born per Currently Married Woman by Region and by Occupation of Woman, Philippines: 1983 and 1986

	OCCUPATION OF WOMAN									
	TOTAL		Not Worling		White Collar		Farming		Blue Collar	
	83	86	83	86	83	86	83	86	83	86
I	4.10	3.64	4.00	3.57	3.95	3.54	5.36	4.62	3.40	4.34
II	4.07	3.76	4.05	3.71	3.56	3.25	6.35	4.13	5.88	3.96
III	3.75	3.50	3.86	3.53	3.42	3.09	4.39	4.89	2.81	3.55
IV	3.76	3.79	3.75	3.68	3.67	3.71	5.37	4.51	3.68	4.42
V	4.52	4.45	4.41	4.42	4.75	4.29	6.49	6.36	4.93	4.27
VI	4.37	3.97	4.31	3.93	3.54	3.85	5.66	4.69	5.08	4.09
VII	4.41	3.76	4.37	3.66	4.19	3.85	5.68	4.60	3.75	3.31
VIII	4.53	4.46	4.38	4.39	4.56	4.25	5.86	4.97	4.23	5.03
IX	3.94	3.79	3.97	3.76	3.71	3.56	3.50	5.13	4.87	5.03
X	4.19	3.94	4.13	3.90	3.99	3.69	6.02	5.14	4.22	5.74
XI	3.79	3.95	3.84	3.88	3.24	3.73	4.60	4.68	3.49	5.23
XII	4.01	3.90	3.97	3.83	3.40	3.78	5.68	5.32	4.71	4.54
NCR	3.28	2.81	3.33	2.82	3.29	2.84	-	4.00	2.86	2.57
Phils.	3.89	3.74	3.98	3.72	3.66	3.53	5.47	4.69	3.81	3.99

Sources: 1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

regions, having a white collar job did not present an advantage over the holding of a blue collar job. Likewise, in some instances a woman who was engaged in a farming occupation averaged a lower CEB than those who occupied blue collar jobs. In such situations, the benefits of having a job classified as white collar did not differ much from those of a blue collar job, or a blue collar job versus a farming occupation. This is particularly true in areas which are highly rural in nature or where many of the women engage in economic activities in the home or in family enterprises. Another finding is that, in general, the women who did not participate in the labor force at all tended to demonstrate intermediate fertility. Judging from the figures for the country as a whole, a trend towards a narrowing of the occupational differentials seems evident.

2.4 Age at First Marriage

Age at marriage is one of the important determinants of fertility levels. The number of years spent in marriage starting with the onset of sexual union until the marriage is dissolved greatly determines the number of children a couple would have. The longer that duration, *ceteris paribus*, the larger the family size.

It can be seen from Table 10 that the average cumulative fertility per woman decreased systematically with increasing age at marriage in both surveys. From the 1986 CPS, among women who have reached the end of childbearing ages of 45-49 years, marrying at the mid-twenties rather than the late teens meant a reduction in fertility of about 3 children, on the average. Overall the data from the two successive surveys suggest a slight narrowing of the differentials by age at marriage between 1983 and 1986.

TABLE 10

Mean Number of Children Ever Born Per Currently Married Woman by Age Group and Age at First Marriage, Philippines: 1983 and 1986

Age of Woman	AGE AT FIRST MARRIAGE									
	Total		10-17		18-19		20-22		23 +	
	83	86	83	86	83	86	83	86	83	86
15-19	0.73	0.77	0.82	0.91	0.41	0.35	-	-	-	-
20-24	1.69	1.61	2.56	2.45	1.71	1.59	1.01	0.99	0.66	0.58
20-24	1.69	1.61	2.56	2.45	1.71	1.59	1.01	0.99	0.66	0.58
25-29	2.83	2.69	4.15	3.99	3.33	3.23	2.49	2.52	1.43	1.36
30-34	3.92	3.75	5.36	5.29	4.72	4.41	3.92	3.78	2.50	2.50
35-39	5.09	4.75	6.80	6.33	5.80	5.60	5.03	4.88	3.44	3.43
35-39	5.09	4.75	6.80	6.33	5.80	5.60	5.03	4.88	3.44	3.43
40-44	5.98	5.59	7.76	7.25	7.02	6.47	6.17	5.80	4.05	4.00
45-49	6.59	6.00	8.19	7.73	7.84	7.24	6.36	5.97	4.68	4.46
Total	3.98									

Sources: 1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

III. MORTALITY

1. Methodological Considerations

The study of mortality even in the local setting has not kept pace with the study of fertility for various reasons. Fertility has generated more interest because it is being perceived as the main factor in the rapid population growth rate. This bias has resulted in the collection of more data and the development of more techniques in the analysis of fertility. Consequently data for the assessment of levels and trends of mortality in developing countries are usually scarce and frequently unreliable (United Nations, 1984). Where various estimates of mortality exist, comparability is limited because of the use of various techniques of estimation embodying different assumptions. It follows that trend analysis is constrained by this situation.

In this paper an attempt is made to update estimates of mortality and to generate comparable figures by applying the same estimation procedures on available data from the 1973 NDS, 1978 RPFS, 1983 NDS, and the 1986 CPS.

The main task has been to produce life tables for the years 1975, 1980, and 1984. Since it is impossible to construct such life tables directly from available vital statistics because of gross underregistration, two things were done first. First, levels of infant (age 0) and child mortality (ages 1-4 and 5-9) were estimated independently from data on children ever born and children surviving from the censuses or the surveys. Second, the reported deaths for the population 10 years old and over were adjusted for underregistration before calculating the age-specific death rates.

Given that deaths among infants and children are more seriously underregistered than the remaining population and since the extent of such underregistration cannot be accurately determined, infant and child mortality have to be ascertained using an indirect procedure. Such indirect approach is based on the procedure developed by Brass (1964) for converting proportions dead of children ever born reported by women in the childbearing ages of 15-19, 20-24, 25-29, ..., 45-49 years into estimates of the probability of dying before attaining certain exact childhood ages. The method of estimation is based on the assumption that fertility and childhood mortality have remained relatively constant in the recent past.

The availability of several surveys of almost similar quality five years apart (1973 NDS, 1978 RPFS, 1983 NDS) makes possible the estimation of average inter-survey child mortality using data for a hypothetical inter-survey cohort. The use of hypothetical cohorts circumvents the necessity of assuming that fertility and mortality have remained constant in the recent past (United Nations 1983, p. 75). The detailed computational procedure is found in Manual X, *Indirect Techniques for Demographic Estimation* published by the United Nations (1983, pp. 86-90).

To produce estimates beyond 1980 and to maximize the utility of recent data, another set of child mortality estimates was derived using the original Brass technique as revised by Trussel (United Nations, 1983, pp. 76–81). This set of estimates is limited by the assumption that fertility and mortality have been relatively constant in the recent past.

The estimates of the probability of surviving from birth to age 2, l_2 , yielded by the two procedures are shown in Table 11. These l_2 values served as bases for determining the levels of infant and child mortality for the corresponding periods. It can be observed that the l_2 values for 1975 and 1980 derived through the inter-survey approach do not vary much from those based on the Brass approach (Trussell variant). This close correspondence in the two sets of estimates is reassuring and provides a certain degree of confidence in the 1984 estimates. The deviations from the Inter-survey estimates demonstrated by the Brass-Trussell estimates simply imply that the assumption of stability by the Brass-Trussell methodology does not apply perfectly. Nonetheless the deviations are slight, suggesting that the violation has not been serious at all. In fact, as can be seen from the indexes of dissimilarity shown in Appendix Tables 2a–2c and Appendix Table 3, the age structures of the Philippine population for different periods exhibited only minor shifts, attesting to the relative stability of the population.

The probability of the Filipino infant surviving to age 2 appears to have improved a bit between 1975 and 1980. But the l_2 values for 1984 indicate a slight worsening in the probabilities of survival in the very early ages for the nation as a whole and its major geographic subdivisions during the early eighties. A look at the subnational areas reveals that the Visayan children suffered the greatest reduction in survivorship. Between the sexes, the males appeared more disadvantaged.

The infant and child mortality levels implied by the l_2 values in Table 11 were ascertained from the West Family of the Princeton Model Life Tables (see Coale and Demeny, 1966). These are contained in Table 13.

The next step in the life-table generation was to adjust the reported deaths for the population 10 years old and over from the vital registration system. The adjustment factors were derived through the Coale-Preston technique described by the United Nations (1983, pp. 130–139). This method was chosen because of its robustness to violations of the assumptions of stability particularly to recent changes in fertility and to gradual changes in mortality.

Table 12 displays the degree of completeness for the Philippines and its major geographical subdivisions. Male deaths were much more registered than females. In 1984, 85 per cent of all male deaths were recorded. In Luzon, total deaths were deficient by 10 per cent. In the Visayan region, death statistics were underregistered by 19 percent while in Mindanao two out of five deaths were not reported (41 percent). These proportions of completeness were then applied on the number of deaths for the different years under consideration as reported by the National Statistics Office (NSO).

TABLE 11

Estimates of the Probability of Surviving from Birth to Age 1 (l_2) by Geographic Area,
Philippines: 1975, 1980, 1984

GEOGRAPHIC AREA	Y E A R		
	1975	1980	1984
A. Inter-Survey Methodology			
Philippines			
Male	.9253	.9256	
Female	.9252	.9481	
Both Sexes	.9252	.9365	
Luzon (Both Sexes)	.9326	.9407	
Visayas (Both Sexes)	.9255	.9394	
Mindanao (Both Sexes)			
B. Brass-Trussell Methodology			
Philippines			
Male	.9290	.9257	.9158
Female	.9304	.9425	.9378
Both Sexes	.9297	.9339	.9265
Luzon (Both Sexes)	.9346	.9429	.9275
Visayas (Both Sexes)	.9295	.9315	.9179
Mindanao (Both Sexes)	.9219	.9246	.9199

Sources: 1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

TABLE 12

**Completeness of Death Registration of Population Aged 10 Years and Over, Philippines:
1975, 1980, 1984**

GEOGRAPHIC AREA	YEAR		
	1975	1980	1984
Philippines			
Male	.72	.78	.85
Female	.71	.63	.69
Luzon	.79	.79	.90
Visayas	.70	.72	.81
Mindanao	.47	.53	.59

Death rates by age groups were then calculated with the adjusted deaths as numerators and the corresponding age distribution from the censuses as denominators. For 1984, the denominators were produced by bringing forward the 1980 population by age groups four years later using the average 1980-84 growth rates implied by past trends. It is expected that very little bias would be introduced by this procedure because, firstly, it was employed on aggregate data and, secondly, the period spanned only four years. The adjusted death rates are presented in Appendix Tables 5-10.

Next the adjusted death rates for the population 10 years old and over were converted into probabilities of dying (nqx) using the Greville Method (see Shyrock, Siegel, and Associates, 1973, Vol. II, pp. 444-445). These probabilities of dying (also shown in Appendix Table 5-10) and the infant and childhood mortality estimates in the Table 13 were combined to generate the two sets of life tables displayed in Appendix Tables 11a-15b and Appendix Tables 16a-21c.

TABLE 13

Infant and Childhood Mortality Estimates (nqx Per 1000) Implied by the I_2 Values, West Model, by Geographic Area, Philippines: 1975, 1980, 1984

GEOGRAPHIC AREA	AGE GROUP	INTER-SURVEY METHODOLOGY		BRASS-TRUSSELL METHODOLOGY		
		1975	1980	1975	1980	1984
PHILIPPINES						
Male	0	64.93	64.17	62.07	64.62	72.38
	1-4	22.22	22.09	20.55	22.04	26.62
	5-9	8.39	8.35	7.93	8.34	9.57
Female	0	62.32	44.85	58.35	48.80	52.71
	1-4	28.44	15.65	24.65	18.25	20.86
	5-9	9.31	5.88	8.51	6.64	7.40
Both Sexes (BS)	0	63.89	55.02	60.26	56.90	62.76
	1-4	24.63	19.08	22.55	20.19	23.92
	5-9	8.76	7.20	8.21	7.51	7.61
LUZON (BS)	0	58.07	51.73	56.53	50.01	61.99
	1-4	20.98	17.05	20.01	16.00	23.44
	5-9	7.74	6.63	6.50	5.98	7.47
VISAYAS (BS)	0	63.57	52.76	60.44	58.88	69.39
	1-4	24.42	17.16	22.46	21.48	28.12
	5-9	8.70	6.81	7.19	6.92	8.97
MINDANAO (BS)	0	71.63	60.01	66.34	64.26	67.86
	1-4	29.56	22.19	22.16	24.85	27.13
	5-9	10.14	8.08	8.25	7.88	8.57

2. Mortality Levels

2.1 Infant Mortality and Child Mortality

Focusing on the inter-survey estimates (Table 13), large improvements in infant mortality (age 0) and child mortality (ages 1–4 and 5–9) occurred between 1975 and 1980 for the entire nation and its major geographic subdivisions. The figures by sex show that infant and child mortality among the male population hardly changed.

In 1975, for every 1000 live births in Luzon, 58 died before celebrating their first birthday, while in 1980 there were about 52 infant deaths. The corresponding figures in Visayas were 64 infant deaths per 1000 live births in 1975 and 53 in 1980; in Mindanao, 72 infant deaths in 1975 and 60 in 1980. Clearly infants and children below age 10 years became increasingly disadvantaged the farther they were situated from Luzon.

In 1975, infant mortality for the Philippines as a whole was around 64 per 1000 live births; in 1980 it was estimated at 55 infant deaths per 1000 live births, a reduction by 14 per cent in five years. Male infant mortality remained nearly stagnant at 64 per 1000 live births between 1975 and 1980, whereas female infant mortality fell sharply from 62 to 45 per 1000 live births for the same period (28 per cent).

The estimates using the Brass-Trussell approach have been included to provide some estimates of infant mortality for 1984. Despite the slight departures from the assumptions of relative stability of fertility and mortality in the recent past, the national infant mortality might have been around 60 per 1000 live births by 1984. The estimates suggest that the Visayas and the Mindanao infants were virtually in the same predicament with respect to survival.

2.2 Life Expectancy at Birth

The estimates of the life expectancy at birth or the average number of years that a newborn baby could expect to live as gleaned from Appendix Tables 11a–21c are summarized in Table 14.

The inter-survey approach estimates which have been taken as approximating reality because of the methodology's more plausible assumptions reflect slow changes in life expectancy at birth during the second half of the seventies. For the entire country, the life expectancy at birth increased from 60.9 years in 1975 to 62.5 years in 1980, an addition of only 1.6 years in a quinquennium or 0.32 years annually. Apparently Visayas and Mindanao registered larger increments during the same period, about half a year per annum. Female babies seemed to have lived about 3 years more in 1980 than in 1975 while male newborns hardly improved their lot, resulting in a widening of the sex differential in mortality. In 1980, a female baby could expect to live an average of 65.2 years while her male counterpart could look forward to only 60 years.

TABLE 14

Life Expectancy at Birth Based on Independent Childhood Mortality Estimates and Adjusted Death Registration, Philippines: 1975, 1980, 1984

GEOGRAPHIC AREA	Y E A R		
	1975	1980	1984
A. Inter-Survey Methodology			
Philippines			
Male	59.23	59.98	
Female	62.53	65.21	
Both Sexes	60.86	62.47	
Luzon (Both Sexes)	62.31	63.52	
Visayas (Both Sexes)	60.29	62.72	
Mindanao (Both Sexes)	57.65	60.11	
B. Brass-Trussell Methodology			
Philippines			
Male	59.53	59.96	60.02
Female	63.07	64.73	65.69
Both Sexes	61.25	62.26	62.92
Luzon (Both Sexes)	62.54	63.73	64.16
Visayas (Both Sexes)	60.69	62.05	61.80
Mindanao (Both Sexes)	58.27	59.77	60.08

Sources: Appendix Tables 11a-20c

The similarity between the inter-survey estimates and the Brass-Trussell estimates warrant acceptance of the 1984 figures. Deplorably, the 1984 values suggest a slackening of the gains, if any, in the life expectancy at birth between 1980 and 1984. The crises of the early eighties seemed to have affected not only infant and childhood mortality but adult mortality as well.

2.3 Crude Death Rate

The crude death rates (CDR), the number of deaths per 1000 population implied by the young age mortality and adult mortality estimates presented above, are given below:

Year	CDR
1975	9.01
1980	8.71
1984	7.54

This crude measure of mortality denotes a more favorable trend in mortality than the more refined measures discussed above. This positive note cannot be taken at face value because the crude death rate is highly influenced by the age structure of the population. For instance, the increase in the proportion of the population in the young ages can act to depress the CDR. In the same manner an aging population structure operates to elevate the CDR while at the same time masking the real conditions of mortality across various age groups.

3. Mortality Differentials

Compared to the analysis of levels and trends of mortality, analysis of mortality differentials among subgroups of the population is more difficult. In addition to the usual problems of errors in the data, differential analysis is limited by the timing of the events. For example, the index of child mortality is tabulated by characteristics of parents at the time of the survey and relationships noted from the data are often accepted as reflecting the impact of those characteristics on children's survivorship. However, the characteristics of the parents might have been different during the life and at the time of the demise of the children (United Nations, 1985). Moreover, the husband referred to during the survey or enumeration is the current husband who may not be the father of children who have already died. It is assumed that in such cases the father's characteristics are approximated by the characteristics of the mother's current husband. The first problem is far more serious than the second given the relative stability of marriages in the Philippines (RPFS, 1979; de Guzman, 1983 and 1984).

In this section, differences in the levels of child mortality are examined by selected characteristics of ever-married women taken from the 1986 CPS. Child mortality is measured in terms of the mortality between birth and fourth birthday, 4qo, or the probability of dying between birth and age 4. This parameter is estimated indirectly, using the procedure developed by Preston and Palloni (1978), which, like the Brass methodology, converts the proportions dead of children ever born reported for women in the childbearing ages of 15–19, 20–24, 25–29,... 45–49 into probabilities of dying between birth and specific exact ages during childhood.

The probability of surviving from birth to age 4, 4qo, was chosen because the estimation formula uses data reported by women aged 25–29 which have been discovered to result in estimates that are more stable and more representative of the child mortality of the population in general (see Abejo, 1986; Brass and Coale, 1968; Esclamad, de Guzman, and Engracia, 1984). The estimates from this group of women also refers to mortality experience obtaining about 5 years ago as of the survey, the recency of which makes the differential analysis more meaningful. A brief explanation of the estimating equation is found in Annex A.

The estimates of 4qo presented in Table 15 clearly illustrate the advantage of children residing in the urban areas whose parents are better educated and have more highly placed occupations. Among children in urban areas, 49 per 1000 live births die before celebrating their fourth birthday, as against 75 in the rural areas, about 35 per cent higher mortality. Beyond primary education, parents obtaining higher levels of schooling definitely insure a better survival for their children. This strong association of child mortality with education suggests the significant effect that educational programmes can be expected to have on child mortality.

While among those economically active, occupation of parents tends to distinguish child survival, the occupation of the woman appears to have stronger effects than the occupation of her husband. The relatively low child mortality among parents not working implies the better care extended by these parents who may also need not work to support their families.

Certain ethnic groups tend to be more favored in terms of child survival. The children of Tagalas and Hilonggas experience less mortality than the children of Cebuanas or Bicolanas. Moslem kids have the highest level of child mortality. There is no immediate understanding of how ethnicity operates to lower mortality, pointing to the need for more research in this area.

IV. SUMMARY AND CONCLUSIONS

The reanalysis of existing data and the update occasioned by a new set of data show that fertility in the Philippines is declining, albeit slowly. The update indicates that the decline in total fertility rate or the completed family size has accelerated, partly as a result of decreases in the fertility of women in and around the peak of childbearing ages (20–39 years). But just the same the level of fertility remains high by international standards, even the Southeast Asian one. Many

ANNEX A

NOTE ON THE ESTIMATION EQUATION:

The estimating equation used in the study of mortality differentials is as follows:

$$4q_0 = D/B \times (0.9147 - 0.00469 \times Am + 0.462 \times C(2))$$

Where B = total children ever born to the response group, women aged 25–29 years

D = total children dead to EMW aged 25–29 years

Am = mean age as of last birthday of surviving children to ever-married women in the ages 25–29

C(2) = the proportion of surviving children to ever married women aged 25–29 years, whose age as of last birthday was 0, 1, or 2.

The methodology uses Am and C(2) as fertility indices. Am serves to identify the mean duration of exposure of children to mortality while C(2) serves to distinguish between children in their early years, when cumulative mortality risks rise rapidly and children who have passed through this stage.

TABLE 15

Estimates of Child Mortality (4q0) by Selected Characteristics of Ever-Married Women,
Philippines

Characteristics	4q0 (per 1000)
Residence	
Urban	48.7
Rural	75.1
Education	
College	34.2
High School	56.9
Intermediate	73.8
Primary	101.4
No Schooling	101.3
Occupation	
White Collar	53.4
Blue Collar	72.2
Farm	93.6
Not Working	66.1
Education of Husband	
College	39.8
High School	51.8
Intermediate	74.2
Primary	101.0
No Schooling	124.1
Occupation of Husband	
White Collar	49.4
Blue Collar	63.0
Farm	75.6
Not Working	24.9
Ethnicity	
Tagala	51.2
Cebuana	68.5
Ilocana	61.1
Hilongga	58.5
Bicolana	75.4
Moslem	103.3
Others	71.5

Source: 1986 Contraceptive Prevalence Survey

regions exhibit large completed family size, about 5 children or higher, even as Metro Manila continues to depict further declines, recording about 3 children in 1984. The developing regions such as Eastern Visayas, Bicol, Cagayan Valley and the Mindanao regions persist in their high fertility levels.

The new estimates of the crude birth rate (CBR) exhibit a similar trend of slow decline over the seventies and early eighties. Again, the Philippines in terms of the CBR does not compare favorably with its Southeast Asian neighbors like Thailand, Malaysia, and South Korea.

There is strong evidence that the CBR indeed rose in 1980. The upward trend seemed to have been initiated after 1975 peaking in 1980 and thereafter falling again in 1983. These increases in the CBR resulted in the slight rise in the proportion of the population aged 0-4 as revealed by the 1980 census and the 1983 NDS. As shown by earlier studies, the increases in the CBR were timed with the reductions in the age at marriage among females and in the contraceptive prevalence rate.

The expected large differentials in cumulative fertility by education, occupation, and age at marriage emerged. The update suggests that programs that are directed towards these factors of fertility need to be continued and strengthened.

The second half of the seventies saw some small improvements in the survival of children. The early eighties, however, demonstrated a deterioration in conditions, dampening hopes for continued progress towards the lowering of mortality.

Concomitantly, infant and child mortality exhibited the same trend. While the IMR might have reached a low level of 55 deaths per 1000 live births in 1980, the actual level in 1984 may have reverted to its original position in 1975, a little over 60 per 1000 live births. Over the 1975-1980 period, Visayas and Mindanao experienced large reductions in IMR. The worst happened in the Visayas four years later.

Increases in the life expectancy at birth between 1975 and 1980 were encouraging. During the interval, the life expectancy at birth in Visayas and Mindanao went up by about 0.5 years per annum. The national figure rose from 60.9 in 1975 to 62.5 in 1980. The worsening conditions of the early eighties were reflected in the minor upward changes in the life expectancy for the Philippines and its geographic sub-divisions.

The results of the differential mortality analysis support the existing view of lower child survival among rural residents and in families where the parents are relatively less educated and occupy less prestigious occupations. While there is lack of information on any widening of interclass differentials, the large differentials noted warrant a reinvigorated attention and effort in addressing these discrepancies.

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APPENDIX TABLE 1
Estimates of the Crude Birth Rate (CBR) Philippines: 1903-1980

Period	CBR	Per Cent Change Successive Periods
1903-1948	50.0-55.8	—
1950-1955	47.2-48.5	—
1955	46.8	-2.1*
1960	45.1	-3.6
1965	43.4	-3.8
1970	39.3	-9.4
1975	34.8	-11.5
1980	36.3	+4.3

* Assuming a 1952 CBR of 47.8, the average of 47.2 and 48.5.
 Thus the interval encompassed is 3 years

Source: de Guzman, 1987.

APPENDIX TABLE 2a
Percentage Distribution of the Population by Sex and Age Group
from Various Surveys, Philippines: 1978, 1983, 1986

Sex/Age Group	1978 (1)	1983 (2)	1986 (3)	% Point Difference (4) = (2)-(1)	% Point Difference (5) = (3)-(1)
Male					
0-4	15.03	15.76	14.42	+0.73	-0.61
5-9	15.22	14.15	14.30	-1.07	-0.92
10-14	14.15	13.65	12.76	-0.50	-1.39
15-19	11.86	11.43	11.39	-0.43	-0.47
20-24	8.47	8.98	9.21	+0.51	+0.74
25-29	6.52	7.00	7.57	+0.48	+1.05
30-34	5.17	6.19	6.34	+1.02	+1.17
35-39	5.04	4.58	5.32	-0.46	+0.28
40-44	4.44	4.15	4.08	-0.29	-0.36
45-49	3.40	3.81	3.68	+0.41	+0.28
50-54	3.13	3.21	3.14	+0.08	+0.01
55-59	2.50	2.36	2.41	-0.14	-0.09
60-64	1.85	1.74	1.83	-0.11	-0.02
65+	3.22	2.99	3.55	-0.23	+0.33
Total	100.00	100.00	100.00		
Index of Dissimilarity				3.23	3.86

Sources: 1978 Republic of the Philippines Fertility Survey
 1983 National Demographic Survey
 1986 Contraceptive Prevalence Survey

APPENDIX TABLE 2b

Percentage Distribution of the Population by Sex and Age Group from Various Surveys, Philippines: 1978, 1983, 1986

Sex/Age Group	1978 (1)	1983 (2)	1986 (3)	% Point Difference (4) = (2)-(1)	% Point Difference (5) = (3)-(1)
Female					
0-4	14.15	14.83	13.91	+0.68	-0.24
5-9	14.79	14.01	13.64	-0.78	-1.15
10-14	13.47	12.64	12.16	-0.83	-0.31
15-19	11.87	11.85	11.16	-0.02	-0.71
20-24	8.81	9.42	9.39	+0.61	+0.58
25-29	7.10	7.50	7.83	+0.40	+0.73
30-34	5.47	5.86	6.55	+0.39	+1.08
35-39	5.09	4.64	5.26	-0.45	+0.17
40-44	4.17	4.55	4.24	+0.38	+0.07
45-49	3.50	3.91	3.76	0.41	+0.28
50-54	3.71	3.30	3.52	-0.41	-0.19
55-59	2.53	2.38	2.54	-0.15	+0.01
60-64	2.02	1.97	1.99	-0.05	-0.03
65+	3.32	3.14	4.05	-0.18	+0.73
Total	100.00	100.00	100.00		
Index of Dissimilarity				2.87	3.63

Sources: 1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

APPENDIX TABLE 2c

Percentage Distribution of the Population by Sex and Age
Group from Various Surveys, Philippines: 1978, 1983, 1986

Sex/Age Group	1978 (1)	1983 (2)	1986 (3)	% Point Difference (4) = (2)-(1)	% Point Difference (5) = (3)-(1)
Both Sexes					
0-4	14.59	15.29	14.17	+0.70	-0.42
5-9	15.01	14.09	13.98	-0.92	-1.03
10-14	13.81	13.14	12.46	-0.67	-1.35
15-19	11.86	11.64	11.27	-0.22	-0.59
20-24	8.64	9.20	9.30	+0.56	+0.66
25-29	6.81	7.25	7.70	+0.44	+0.89
30-34	5.32	6.02	6.44	+0.70	+1.12
35-39	5.07	4.61	5.29	-0.46	+0.22
40-44	4.30	4.35	4.16	+0.05	-0.14
45-49	3.45	3.86	3.72	+0.41	+0.27
50-54	3.42	3.25	3.33	-0.17	-0.09
55-59	2.51	2.37	2.47	-0.14	-0.04
60-64	1.94	1.86	1.91	-0.04	-0.03
65+	3.27	3.07	3.80	-0.20	+0.53
Total	100.00	100.00	100.00		
Index of Dissimilarity				2.86	3.69

Sources: 1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

APPENDIX TABLE 3
Percentage Distribution of the Population by Age Group,
Census Years, Philippines: 1970-1980

Age Group	CENSUS YEAR				
	1970 (1)	1975 (2)	1980 (3)	(4) = (2)-(1)	(5) = (3)-(1)
<u>Percentage Distribution</u>					
0-4	15.9	15.4	15.9	-0.5	0.0
5-9	16.1	15.0	13.7	-1.1	-2.4
10-14	13.7	13.5	12.4	-0.4	-0.7
15-19	11.1	11.8	10.9	0.7	-0.2
20-24	8.6	9.1	9.5	0.5	0.9
25-29	6.7	7.1	8.0	0.4	1.3
30-34	5.7	5.5	6.2	-0.2	0.5
35-39	5.2	5.3	5.0	0.1	-0.2
40-44	4.0	4.1	4.3	0.1	0.3
45-49	3.5	3.5	3.5	0.0	0.0
50-54	2.8	2.7	2.9	-0.1	0.1
55-59	2.2	2.2	2.3	0.0	0.1
60-64	1.7	1.9	1.9	0.2	0.2
65+	2.8	2.9	3.4	0.1	0.6
Total	100.0	100.0	100.0		
Index of Dissimilarity				2.3	3.5

Source: National Census and Statistics Office, Census Reports for 1948 and 1980.

APPENDIX TABLE 4

Percentage Distribution of the Population by Region, Philippines:
Census and Survey Years, 1970–1976

REGION	1970 Census	1973 NDS	1975 Census	1978 RPFS	1980 Census	1983 NDS	1986 CPS
Philippines	100.00	100.00	100.00	100.00	100.00	100.00	100.00
NCR	10.77	11.25	11.81	11.93	12.32	12.33	12.45
I. Ilocos	8.15	8.32	7.77	7.81	7.36	7.36	7.23
II. Cagayan Valley	4.61	4.68	4.60	4.87	4.61	4.60	4.58
III. Central Luzon	9.72	10.34	10.01	10.30	9.98	9.98	9.92
IV. Southern Tagalog	12.33	12.35	12.39	12.39	12.72	12.72	12.99
V. Bicol	8.09	7.29	7.59	7.64	7.23	7.23	7.41
VI. Western Visayas	9.86	9.73	9.85	10.40	9.41	9.41	10.12
VII. Central Visayas	8.27	7.96	8.05	8.50	7.87	7.85	7.80
VIII. Eastern Visayas	6.49	6.12	6.18	5.55	5.82	5.82	5.84
IX. Western Mindanao	5.09	4.60	4.87	3.93	5.25	5.26	5.19
X. Northern Mindanao	6.03	6.85	5.50	5.76	5.74	5.74	5.46
XI. Southern Mindanao	5.29	6.85	6.45	6.32	6.95	6.96	6.61
XII. Central Mindanao	5.29	3.65	4.92	4.61	4.72	4.72	4.38

Sources: 1970, 1975, 1980 Censuses
1973 National Demographic Survey
1978 Republic of the Philippines Fertility Survey
1983 National Demographic Survey
1986 Contraceptive Prevalence Survey

APPENDIX TABLE 5a
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1975

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Male</u>			
10-14	2984	.001388	.006919
15-19	3878	.002194	.010917
20-24	4955	.003633	.018017
25-29	4543	.004231	.020954
30-34	4155	.004957	.024509
35-39	5171	.006456	.031807
40-44	5164	.008205	.040261
45-49	5741	.010610	.051775
50-54	5955	.014210	.068772
55-59	6349	.018774	.089921
60-64	8988	.030507	.142270
65-69	7049	.038659	.176994
70-74	7938	.056792	.249645
75 +	17692	.155273	

APPENDIX TABLE 5b

Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1975

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Female</u>			
10-14	2094	.001058	.005279
15-19	2601	.001467	.007313
20-24	2855	.002068	.010294
25-29	2790	.002634	.013094
30-34	2808	.003393	.016834
35-39	3447	.004419	.021876
40-44	3303	.005443	.026880
45-49	3513	.006808	.035512
50-54	3688	.009129	.044699
55-59	4073	.012898	.062612
60-64	6319	.023199	.109998
65-69	5310	.030937	.144134
70-74	6351	.050082	.223477
75 +	18962	.151577	

APPENDIX TABLE 5c
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1975

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Both Sexes</u>			
10-14	4988	.001226	.006112
15-19	6479	.001828	.009101
20-24	7810	.002841	.014112
25-29	7333	.003433	.017029
30-34	6933	.004175	.020675
35-39	8618	.005445	.026886
40-44	8467	.006840	.033666
45-49	9254	.008741	.042932
50-54	9643	.011698	.056940
55-59	10422	.015917	.076732
60-64	15307	.027002	.126927
65-69	12359	.034888	.161093
70-74	14289	.053577	.229378
75 +	36654	.153326	

APPENDIX TABLE 6a
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1980

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
Male			
10-14	3152	.001338	.006668
15-19	4457	.002238	.011130
20-24	6082	.003546	.017585
25-29	6189	.004158	.020590
30-34	5789	.004904	.024247
35-39	5760	.006045	.029806
40-44	6682	.008231	.040381
45-49	6913	.010798	.052667
50-54	7661	.014455	.069915
55-59	7625	.018593	.089085
60-64	9012	.026333	.123969
65-69	9824	.036246	.166852
70-74	9170	.054699	.241571
75 +	23821	.133615	

APPENDIX TABLE 6b
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1980

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Female</u>			
10-14	2108	.001148	.005726
15-19	2582	.001524	.007594
20-24	2956	.001973	.009821
25-29	3028	.002483	.012343
30-34	2920	.003137	.015572
35-39	3132	.004173	.020667
40-44	3393	.005222	.025799
45-49	3508	.006665	.032817
50-54	4136	.009329	.045655
55-59	4278	.011996	.058350
60-64	5554	.018981	.090864
65-69	6618	.028463	.133352
70-74	6998	.049530	.221286
75 +	23486	.150346	

APPENDIX TABLE 6c
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1980

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Both Sexes</u>			
10-14	5260	.001245	.006207
15-19	7039	.001872	.009322
20-24	9038	.002730	.013568
25-29	9217	.003316	.016455
30-34	8709	.004033	.019981
35-39	8892	.005123	.025316
40-44	10075	.006737	.033168
45-49	10421	.008718	.042727
50-54	11797	.011853	.057675
55-59	11903	.015180	.073307
60-64	14566	.022561	.107129
65-69	16442	.032247	.149792
70-74	16168	.052066	.231300
75 +	47307	.142300	

APPENDIX TABLE 7a
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1984

Sex/Age Group	Registered Death	Adjusted Death Rate	Proportion Dying (n q x)
<u>Male</u>			
10-14	3218	.001127	.005515
15-19	4650	.001943	.009672
20-24	6988	.003383	.016786
25-29	7208	.004018	.019906
30-34	7047	.004959	.024514
35-39	6501	.005673	.027998
40-44	7188	.007364	.036204
45-49	8030	.010442	.050974
50-54	8589	.013502	.065453
55-59	8848	.018005	.086390
60-64	10012	.024431	.115516
65-69	9465	.029198	.136568
70-74	11737	.058602	.256565
75 +	26291	.123735	

APPENDIX TABLE 7b
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1984

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Female</u>			
10-14	2489	.001099	.005482
15-19	2549	.001217	.006069
20-24	2994	.001614	.008040
25-29	3004	.001989	.009901
30-34	3154	.002741	.013617
35-39	3219	.003475	.017237
40-44	3524	.004398	.021766
45-49	3741	.005767	.028457
50-54	4450	.008153	.040008
55-59	4711	.010747	.052424
60-64	5971	.016618	.079984
65-69	6449	.022605	.107324
70-74	9013	.052060	.231277
75 +	26172	.136962	

APPENDIX TABLE 7c
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Philippines: 1984

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>Both Sexes</u>			
10-14	5617	.001113	.005550
15-19	7199	.001566	.007801
20-24	9982	.002454	.012200
25-29	10212	.002987	.014832
30-34	10201	.003851	.019085
35-39	9720	.004576	.022640
40-44	10712	.005872	.028966
45-49	11771	.008060	.039560
50-54	13039	.009659	.047235
55-59	13559	.014205	.068747
60-64	15983	.020375	.097230
65-69	15914	.025767	.121462
70-74	20750	.055228	.243618
75 +	52463	.130685	

APPENDIX TABLE 8a
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Luzon: 1975, 1980, 1984

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1975</u>			
10-14	2698	.001135	.005661
15-19	3711	.001674	.008337
20-24	4150	.002408	.011975
25-29	4039	.003013	.014960
30-34	3796	.003802	.018843
35-39	4592	.004910	.024275
40-44	4788	.006485	.031947
45-49	5224	.008295	.040690
50-54	5527	.011008	.053666
55-59	6143	.015295	.073840
60-64	8841	.025763	.121446
65-69	7367	.032810	.152210
70-74	8247	.049234	.220109
75 +	22715	.147686	

APPENDIX TABLE 8b

**Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Luzon: 1975, 1980, 1984**

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1980</u>			
10-14	2986	.001190	.005934
15-19	4090	.001794	.008933
20-24	5219	.002526	.012558
25-29	5185	.003001	.014902
30-34	5092	.003765	.018662
35-39	4960	.004854	.023999
40-44	5705	.006442	.031738
45-49	6022	.008570	.042013
50-54	7063	.011942	.058095
55-59	7139	.015263	.073689
60-64	8525	.022067	.104901
65-69	9635	.031199	.145268
70-74	9480	.048562	.217433
75 +	28330	.129438	

APPENDIX TABLE 8c

Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Luzon: 1975, 1980, 1984

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1984</u>			
10-14	3091	.000978	.004876
15-19	4108	.001428	.007116
20-24	5860	.002243	.011155
25-29	5758	.002637	.013105
30-34	5720	.003319	.016467
35-39	5592	.004307	.021324
40-44	5921	.005256	.025966
45-49	6752	.007533	.037020
50-54	7665	.010154	.049597
55-59	8159	.013644	.066116
60-64	9413	.019104	.091429
65-69	9541	.024249	.114703
70-74	12056	.048313	.216438
75 +	32156	.115830	

APPENDIX TABLE 9a

**Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Visayas: 1975, 1980, 1984**

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1975</u>			
10-14	2211	.002259	.011238
15-19	1470	.001826	.009091
20-24	1697	.002891	.014357
25-29	1706	.003797	.018818
30-34	1770	.004562	.022571
35-39	2141	.005726	.028254
40-44	2227	.007467	.036697
45-49	2361	.009022	.044186
50-54	2594	.012460	.060543
55-59	2653	.015571	.075125
60-64	3571	.022539	.107029
65-69	3782	.039238	.179409
70-74	3877	.051649	.229663
75+	11435	.160395	

APPENDIX TABLE 9b
Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Visayas: 1975, 1980, 1984

Sex/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1980</u>			
10-14	1322	.001312	.006539
15-19	1656	.001939	.009651
20-24	1872	.002688	.013357
25-29	2014	.003503	.017372
30-34	1983	.004364	.021600
35-39	2356	.005823	.028729
40-44	2592	.007284	.035815
45-49	2673	.009104	.044578
50-54	2986	.011771	.057284
55-59	3088	.014622	.070700
60-64	3980	.021780	.103603
65-69	4617	.030437	.141962
70-74	4720	.051391	.228647
75 +	13810	.136073	

APPENDIX TABLE 9c

**Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Visayas: 1975, 1980, 1984**

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1984</u>			
10-14	1405	.001124	.005606
15-19	1656	.001563	.007784
20-24	2146	.002481	.012336
25-29	2202	.003084	.015310
30-34	2318	.004109	.020353
35-39	2214	.004410	.021827
40-44	2644	.005987	.029525
45-49	2892	.007934	.038953
50-54	3182	.010101	.049348
55-59	3330	.012696	.061650
60-64	4215	.018566	.088965
65-69	4225	.022419	.106489
70-74	5896	.051218	.227964
75 +	20461	.163407	

APPENDIX TABLE 10a

Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Mindanao: 1975, 1980, 1984

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1975</u>			
10-14	932.0	.01554	.007743
15-19	1217	.002376	.011812
20-24	1879	.004888	.024166
25-29	1576	.005210	.025740
30-34	1327	.005522	.027263
35-39	1680	.007254	.035668
40-44	1481	.008538	.041860
45-49	1549	.010728	.052334
50-54	1456	.014207	.068759
55-59	1519	.019872	.094939
60-64	2073	.033619	.155679
65-69	1545	.044989	.203059
60-74	1762	.070116	.299215
75 +	3855	.216375	

APPENDIX TABLE 10b

**Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Mindanao: 1975, 1980, 1984**

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1980</u>			
10-14	952	.001295	.006457
15-19	1214	.001910	.009508
20-24	1946	.003597	.017838
25-29	2018	.004314	.021359
30-34	1633	.004742	.023453
35-39	1575	.005293	.026146
40-44	1777	.007310	.035939
45-49	1725	.009103	.044570
50-54	2442	.016464	.079272
55-59	1675	.015569	.075116
60-64	2059	.024517	.115900
65-69	2188	.036320	.167162
70-74	1966	.060369	.263259
75 +	5191	.172174	

APPENDIX TABLE 10c

Registered Deaths, Adjusted Death Rates, and Proportions
Dying in the Interval, Both Sexes, Mindanao: 1975, 1980, 1984

Year/Age Group	Registered Deaths	Adjusted Death Rate	Proportion Dying (n q x)
<u>1984</u>			
10-14	1121	.001195	.005958
15-19	1435	.001767	.008797
20-24	1976	.002856	.014184
25-29	2252	.003770	.018688
30-34	2163	.004921	.024329
35-39	1914	.005043	.024926
40-44	2147	.006919	.034047
45-49	2127	.008799	.043115
50-54	2192	.011571	.056340
55-59	2070	.015060	.072743
60-64	2355	.021948	.104362
65-69	2148	.027873	.130762
70-74	2798	.067202	.288640
75 +	5741	.143962	

APPENDIX TABLE 11a

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Philippines: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Male						
0	0.064930	100000	6493	95299	5923008	59.23
1-4	0.022220	93507	2078	369873	5827709	62.32
5-9	0.008390	91429	767	455229	5457836	59.69
10-14	0.006919	90662	627	451743	5002607	55.18
15-19	0.010917	90035	983	447717	4550865	50.55
20-24	0.018017	89052	1604	441249	4103148	46.08
25-29	0.020954	87448	1832	432657	3661899	41.88
30-34	0.024509	85615	2098	422830	3229242	37.72
35-39	0.031807	83517	2656	410943	2806412	33.60
40-44	0.040261	80860	3256	396163	2395469	29.62
45-49	0.051775	77605	4018	377979	1999306	25.76
50-54	0.068772	73587	5061	355283	1621327	22.03
55-59	0.089921	68526	6162	327226	1266044	18.48
60-64	0.142270	62364	8873	289640	938818	15.05
65-69	0.176994	53492	9468	243789	649178	12.14
70-74	0.249645	44024	10990	192644	405389	9.21
75-79	0.155273	1	33034	33034	212745	6.44

APPENDIX TABLE 11b

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Philippines: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Female</u>						
0	0.062320	100000	6232	95488	6252581	62.53
1-4	0.028440	93768	2667	369738	6157093	65.66
5-9	0.009310	91101	848	453386	5787354	63.53
10-14	0.005279	90253	476	450074	5333968	59.10
15-19	0.007313	89777	657	447242	4883894	54.40
20-24	0.010294	89120	917	443307	4436652	49.78
25-29	0.013094	88203	1155	438126	3993345	45.27
30-34	0.016834	87048	1465	431575	3555219	40.84
35-39	0.021876	85582	1872	423232	3123644	36.50
40-44	0.026880	83710	2250	412926	2700412	32.26
45-49	0.033512	81460	2730	400476	2287486	28.08
50-54	0.044699	78730	3519	384853	1887011	23.97
55-59	0.062612	75211	4709	364282	1502157	19.97
60-64	0.109998	70502	7755	333122	1137875	16.14
65-69	0.144134	62747	9044	291124	804753	12.83
70-74	0.223477	53703	12001	238511	513629	9.56
75-79	1	41702	41702	275118	275118	6.60

APPENDIX TABLE 11c

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Philippines: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.06389	100000	6389	95374	6085770	60.86
1-4	0.02463	93611	2306	369833	5990396	63.99
5-9	0.00876	91305	800	454527	5620563	61.56
10-14	0.006112	90506	553	451145	5166036	57.08
15-19	0.009101	89952	819	447715	4714892	52.42
20-24	0.014112	89134	1258	442523	4267177	47.87
25-29	0.017029	87876	1497	435637	3824654	43.52
30-34	0.020675	86379	1786	427431	3389017	39.23
35-39	0.026886	84593	2274	417280	2961586	35.01
40-44	0.033666	82319	2771	404666	2544306	30.91
45-49	0.042932	79547	3415	389199	2139640	26.90
50-54	0.056940	76132	4335	369824	1750441	22.99
55-59	0.076732	71797	5509	345213	1380617	19.23
60-64	0.126927	66288	8414	310406	1035403	15.62
65-69	0.161093	57874	9323	266064	724997	12.53
70-74	0.229378	48551	11137	214914	458934	9.45
75-79	0.153326	1	37415	244020	244020	6.52

APPENDIX TABLE 12a

Abridged Life Table for Values Of nqx Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Philippines: 1980

Age Group	nqx	lx	ndx	nLx	Tx	ex
<u>Male</u>						
0	0.064170	100000	6417	95354	5998166	59.98
1-4	0.022090	93583	2067	370198	5902812	63.08
5-9	0.008350	91516	764	455668	5532615	60.46
10-14	0.006668	90752	605	452245	5076946	55.94
15-19	0.011130	90146	1003	448224	4624701	51.30
20-24	0.017585	89143	1568	441797	4176477	46.85
25-29	0.020590	87576	1803	433370	3734681	42.65
30-34	0.024247	85772	2080	423663	3301311	38.49
35-39	0.029806	83693	2495	412227	2877648	34.38
40-44	0.040381	81198	3279	397793	2465421	30.36
45-49	0.052667	77919	4104	379337	2067628	26.54
50-54	0.069915	73815	5161	356175	1688291	22.87
55-59	0.089085	68655	6116	327983	1332116	19.40
60-64	0.123969	62539	7753	293311	1004133	16.06
65-69	0.166852	54786	9141	251076	710822	12.97
70-74	0.241571	45645	11026	200657	459746	10.07
75-79	0.133615	1	34618	34618	259089	7.48

APPENDIX TABLE 12b

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Philippines: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Female						
0	0.044850	100000	4485	96753	6520736	65.21
1-4	0.015650	95515	1495	379070	6423983	67.26
5-9	0.005880	94020	553	468719	6044913	64.29
10-14	0.005726	93467	535	465999	5576194	59.66
15-19	0.007594	92932	706	462896	5110195	54.99
20-24	0.009821	92226	906	458868	4647299	50.39
25-29	0.012343	91321	1127	453785	4188431	45.87
30-34	0.015572	90194	1404	447456	3734646	41.41
35-39	0.020667	88789	1835	439358	3287189	37.02
40-44	0.025799	86954	2243	429162	2847832	32.75
45-49	0.032817	84711	2780	416604	2418670	28.55
50-54	0.045655	81931	3741	400302	2002067	24.44
55-59	0.058350	78190	4562	379545	1601764	20.49
60-64	0.090864	73628	6690	351414	1222219	16.60
65-69	0.133352	66938	8926	312373	870806	13.01
70-74	0.221286	58011	12837	257964	558433	9.63
75-79	0.150346	1	45174	45174	300469	6.65

APPENDIX TABLE 12c

Abridged Life Table for Values of nq_x Derived From Intersurvey
Child Mortality Estimation And Adjusted Death Registration,
Philippines: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.055020	100000	5502	96017	6247288	62.47
1-4	0.019080	94498	1803	374386	6151271	65.09
5-9	0.007200	92695	667	461806	5776885	62.32
10-14	0.006207	92028	571	458710	5315079	57.76
15-19	0.009323	91456	853	455150	4856369	53.10
20-24	0.013569	90604	1229	449945	4401219	48.58
25-29	0.016456	89374	1471	443195	3951274	44.21
30-34	0.019982	87904	1756	435127	3508080	39.91
35-39	0.025316	86147	2181	425283	3072953	35.67
40-44	0.033168	83966	2785	412868	2647670	31.53
45-49	0.042728	81181	3469	397234	2234802	27.53
50-54	0.057676	77712	4482	377357	1837567	23.65
55-59	0.073308	73230	5368	352731	1460210	19.94
60-64	0.107129	67862	7270	321135	1107480	16.32
65-69	0.149793	60592	9076	280269	786345	12.98
70-74	0.231301	51516	11916	227790	506076	9.82
75-79	0.142300	1	39600	278286	278286	7.03

APPENDIX TABLE 13a
Abridged Life Table for Values Of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Luzon: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Both Sexes						
0	0.05807	100000	5807	95796	6231287	62.31
1-4	0.02098	94193	1976	372820	6135491	65.14
5-9	0.00774	92217	714	459300	5762672	62.49
10-14	0.005661	91503	518	456220	5303372	57.96
15-19	0.008337	90985	759	453028	4847152	53.27
20-24	0.011975	90226	1081	448431	4394123	48.70
25-29	0.014960	89146	1334	442395	3945693	44.26
30-34	0.018843	87812	1655	434924	3503297	39.90
35-39	0.024275	86158	2091	425559	3068373	35.61
40-44	0.031947	84066	2686	413616	2642814	31.44
45-49	0.040690	81380	3311	398623	2229198	27.39
50-54	0.053666	78069	4190	379871	1830574	23.45
55-59	0.073840	73879	5455	355758	1450704	19.64
60-64	0.121446	68424	8310	321345	1094946	16.00
65-69	0.152210	60114	9150	277696	773600	12.87
70-74	0.220109	50964	11218	226776	495905	9.73
75-79	0.147686	1	39746	39746	269128	6.77

APPENDIX TABLE 13b
Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Luzon: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.051730	100000	5173	96255	6351811	63.52
1-4	0.017050	94827	1617	376074	6255556	65.97
5-9	0.006630	93210	618	464506	5879481	63.08
10-14	0.005934	92592	549	461587	5414975	58.48
15-19	0.008933	92043	822	458158	4953388	53.82
20-24	0.012558	91221	1146	453239	4495230	49.28
25-29	0.014902	90075	1342	447019	4041991	44.87
30-34	0.018662	88733	1656	439524	3594971	50.51
35-39	0.023999	87077	2090	430160	3155448	36.24
40-44	0.031738	84987	2697	418192	2725288	32.07
45-49	0.042013	82290	3457	402805	2307096	28.04
50-54	0.058095	78832	4580	382713	1904291	24.16
55-59	0.073689	74253	5472	357584	1521578	20.49
60-64	0.104901	68781	7215	325867	1163994	16.92
65-69	0.145268	61566	8944	285471	838126	13.61
70-74	0.217433	52622	11442	234507	552656	10.50
75-79	0.129438	1	41181	41181	318148	7.73

APPENDIX TABLE 14a

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Visayas: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	e_x
Both Sexes						
0	0.063570	100000	6357	95398	6028959	60.29
1-4	0.024420	93643	2287	369998	5933562	63.36
5-9	0.008700	91356	795	454794	5563563	60.90
10-14	0.011239	90561	1018	450263	5108769	56.41
15-19	0.009091	89544	814	445683	4658507	52.02
20-24	0.014358	88730	1274	440463	4212824	47.48
25-29	0.018819	87456	1646	433164	3772360	43.13
30-34	0.022571	85810	1937	424207	3339197	38.91
35-39	0.028254	83873	2370	413441	2914990	34.75
40-44	0.036698	81503	2991	400039	2501549	30.69
45-49	0.044186	78512	3469	383888	2101510	26.77
50-54	0.060544	75043	4543	363857	1717622	22.89
55-59	0.075125	70500	5296	339258	1353765	19.20
60-64	0.107030	65203	6979	308670	1014508	15.56
65-69	0.179409	58225	10446	265008	705938	12.12
70-74	0.229663	47779	10973	211461	440929	9.23
75-79	0.160395	1	36806	229469	229469	6.23

APPENDIX TABLE 14b

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Visayas: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.052760	100000	5276	96180	6272192	62.72
1-4	0.017160	94724	1625	375645	6176012	65.20
5-9	0.006810	93099	634	463908	5800367	62.30
10-14	0.006539	92465	605	460811	5336459	57.71
15-19	0.009651	91860	887	457083	4875648	53.08
20-24	0.013357	90973	1215	451829	4418565	48.57
25-29	0.017372	89758	1559	444893	3966736	44.19
30-34	0.021600	88199	1905	436232	3521843	39.93
35-39	0.028729	86294	2479	425271	3085610	35.76
40-44	0.035815	83815	3002	411569	2660339	31.74
45-49	0.044578	80813	3602	395058	2248770	27.83
50-54	0.057284	77210	4423	374995	1853712	24.01
55-59	0.070700	72788	5146	351072	1478717	20.32
60-64	0.103603	67641	7008	320687	1127645	16.67
65-69	0.141962	60634	8608	281649	806957	13.31
70-74	0.228647	52026	11896	230391	525308	10.10
75-79	0.136073	1	40130	294918	294918	7.35

APPENDIX TABLE 15a

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Mindanao: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Both Sexes						
0	0.071630	100000	7163	94814	5765235	57.65
1-4	0.029560	92837	2744	365859	5670421	61.08
5-9	0.010140	90093	914	448180	5304562	58.88
10-14	0.007743	89179	691	444170	4856382	54.46
15-19	0.011812	88489	1045	439830	4412212	49.86
20-24	0.024166	87443	2113	431934	3972382	45.43
25-29	0.025740	85330	2196	421160	3540448	41.49
30-34	0.027263	83134	2266	410003	3119287	37.52
35-39	0.035688	80867	2886	397122	2709284	33.50
40-44	0.041860	77981	3264	381746	2312162	29.65
45-49	0.052334	74717	3910	363810	1930415	25.84
50-54	0.068759	70807	4869	341863	1566605	22.13
55-59	0.094939	65938	6260	314041	1224743	18.57
60-64	0.015568	59678	929	296068	910702	15.26
65-69	0.203059	58749	11930	263922	614634	10.46
70-74	0.299215	46820	14009	199075	350712	7.49
75-79	0.216375	1	32810	151637	151637	4.62

APPENDIX TABLE 15b

Abridged Life Table for Values of nq_x Derived from Intersurvey
Child Mortality Estimation and Adjusted Death Registration,
Mindanao: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Both Sexes						
0	0.06001	100000	6001	95655	6011123	60.11
1-4	0.02219	93999	2086	371824	5915467	62.93
5-9	0.00808	91913	743	457709	5543643	60.31
10-14	0.006457	91171	589	454381	5085934	55.78
15-19	0.009508	90582	861	450756	4631553	51.13
20-24	0.017838	89720	1600	444601	4180798	46.60
25-29	0.021359	88120	1882	4358895	3736196	42.40
30-34	0.023453	86238	2023	426133	3300302	38.27
35-39	0.026146	84215	2202	415572	2874168	34.13
40-44	0.035939	82013	2948	402698	2458597	29.98
45-49	0.044570	79066	3524	386519	2055899	26.00
50-54	0.079272	75542	5988	362738	1669380	22.10
55-59	0.075116	69553	5225	334705	1306642	18.79
60-64	0.115902	64329	7456	303004	971937	15.11
65-69	0.167163	56873	9507	260597	668932	11.76
70-74	0.263259	47366	12470	205656	408335	8.62
75-79	0.172174	1	34896	34896	202680	5.81

APPENDIX TABLE 16a
Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) And Adjusted Death
Registration, Philippines: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Male						
0	0.062071	100000	6207	95506	5953124	59.53
1-4	0.020548	93793	1927	371317	5857618	62.45
5-9	0.007934	91866	729	457506	5486301	59.72
10-14	0.006919	91137	631	454107	5028795	55.18
15-19	0.010917	90506	988	450061	4574688	50.55
20-24	0.018017	89518	1613	443559	4124627	46.08
25-29	0.020954	87905	1842	434922	3681068	41.88
30-34	0.024509	86063	2109	425043	3246147	37.72
35-39	0.031807	83954	2670	413094	2821103	33.60
40-44	0.040261	81284	3273	398237	2408009	29.62
45-49	0.051775	78011	4039	379958	2009772	25.76
50-54	0.068772	73972	5087	357142	1629814	22.03
55-59	0.089921	68885	6194	328939	1272671	18.48
60-64	0.14227	62691	8919	291156	943733	15.05
65-69	0.176994	53772	9517	245065	652577	12.14
70-74	0.249645	44254	11048	193652	407511	9.21
75+	1	33207	33207	213859	213859	6.44

APPENDIX TABLE 16b

Abridged Life Table for Values of nqx Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1975

Age Group	nqx	lx	ndx	nLx	Tx	ex
<u>Female</u>						
0	0.058353	100000	5835	95775	6306796	63.07
1-4	0.024656	94165	2322	372015	6211021	65.96
5-9	0.008509	91843	781	457261	5839006	63.58
10-14	0.005279	91061	481	454106	5381745	59.10
15-19	0.007313	90581	662	451248	4927639	54.40
20-24	0.010294	89918	926	447278	4476391	49.78
25-29	0.013094	88993	1165	442050	4029114	45.27
30-34	0.016834	87827	1478	435441	3587063	40.84
35-39	0.021876	86349	1889	427022	3151622	36.50
40-44	0.02688	84460	2270	416624	2724600	32.26
45-49	0.033512	82190	2754	404063	2307975	28.08
50-54	0.044699	79435	3551	388300	1903913	23.97
55-59	0.062612	75885	4751	367545	1515612	19.97
60-64	0.109998	71133	7825	336106	1148067	16.14
65-69	0.144134	63309	9125	293732	811961	12.83
70-74	0.223477	54184	12109	240647	518229	9.56
75 +	1	42075	42075	277582	277582	6.60

APPENDIX TABLE 16b

Abridged Life Table for Values of nq_x Derived from Child Mortality Estimation (Brass-Trussell) and Adjusted Death Registration, Philippines: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	e_x
Female						
0	0.058353	100000	5835	95775	6306796	63.07
1-4	0.024656	94165	2322	372015	6211021	65.96
5-9	0.008509	91843	781	457261	5839006	63.58
10-14	0.005279	91061	481	454106	5381745	59.10
15-19	0.007313	90581	662	451248	4927639	54.40
20-24	0.010294	89918	926	447278	4476391	49.78
25-29	0.013094	88993	1165	442050	4029114	45.27
30-34	0.016834	87827	1478	435441	3587063	40.84
35-39	0.021876	86349	1889	427022	3151622	36.50
40-44	0.02688	84460	2270	416624	2724600	32.26
45-49	0.033512	82190	2754	404063	2307975	28.08
50-54	0.044699	79435	3551	388300	1903913	23.97
55-59	0.062612	75885	4751	367545	1515612	19.97
60-64	0.109998	71133	7825	336106	1148067	16.14
65-69	0.144134	63309	9125	293732	811961	12.83
70-74	0.223477	54184	12109	240647	518229	9.56
75+	1	42075	42075	277582	277582	6.60

APPENDIX TABLE 16c

Abridged Life Table for Values of nqx Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1975

Age Group	nqx	lx	ndx	nLx	Tx	ex
<u>Both Sexes</u>						
0	0.060257	100000	6026	95637	6124682	61.25
1-4	0.022552	93974	2119	371659	6029044	64.16
5-9	0.008214	91855	754	457389	5657386	61.59
10-14	0.006112	91100	557	454110	5199997	57.08
15-19	0.009101	90544	824	450658	4745887	52.42
20-24	0.014112	89720	1266	445432	4295229	47.87
25-29	0.017029	88453	1506	438501	3849796	43.52
30-34	0.020675	86947	1798	430241	3411296	39.23
35-39	0.026886	85149	2289	420023	2981055	35.01
40-44	0.033666	82860	2790	407326	2561031	30.91
45-49	0.042932	80070	3438	391758	2153706	26.90
50-54	0.056940	76633	4363	372255	1761948	22.99
55-59	0.076732	72269	5545	347483	1389693	19.23
60-64	0.126927	66724	8469	312446	1042210	15.62
65-69	0.161093	58255	9384	267813	729763	12.53
70-74	0.229378	48870	11210	216327	461951	9.45
75+	1	37661	37661	245624	245624	6.52

APPENDIX TABLE 17a

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Male						
0	0.064621	100000	6462	95321	5995622	59.96
1-4	0.022043	93538	2062	370028	5900301	63.08
5-9	0.008339	91476	763	455473	5530273	60.46
10-14	0.006668	90713	605	452054	5074800	55.94
15-19	0.01113	90108	1003	448034	4622746	51.30
20-24	0.017585	89105	1567	441610	4174711	46.85
25-29	0.02059	87539	1802	433187	3733101	42.65
30-34	0.024247	85736	2079	423483	3299915	38.49
35-39	0.029806	83657	2493	412053	2876431	34.38
40-44	0.040381	81164	3277	397625	2464379	30.36
45-49	0.052667	77886	4102	379176	2066754	26.54
50-54	0.069915	73784	5159	356025	1687577	22.87
55-59	0.089085	68626	6114	327844	1331553	19.40
60-64	0.123969	62512	7750	293187	1003708	16.06
65-69	0.166852	54763	9137	250970	710521	12.97
70-74	0.241571	45625	11022	200572	459552	10.07
75+	1	34604	34604	258980	258980	7.48

APPENDIX TABLE 17b

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussel) and Adjusted Death
Registration, Philippines: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Female</u>						
0	0.048795	100000	4880	96467	6473142	64.73
1-4	0.018246	95121	1736	377011	6376675	67.04
5-9	0.006639	93385	620	465375	5999664	64.25
10-14	0.005726	92765	531	462497	5534289	59.66
15-19	0.007594	92234	700	459418	5071792	54.99
20-24	0.009821	91533	899	455419	4612375	50.39
25-29	0.012343	90634	1119	450375	4156955	45.87
30-34	0.015572	89516	1394	444094	3706580	41.41
35-39	0.020667	88122	1821	436056	3262486	37.02
40-44	0.025799	86301	2226	425937	2826431	32.75
45-49	0.032817	84074	2759	413473	2400494	28.55
50-54	0.045655	81315	3712	397294	1987021	24.44
55-59	0.05835	77603	4528	376693	1589727	20.49
60-64	0.090864	73074	6640	348773	1213034	16.60
65-69	0.133352	66435	8859	310025	864262	13.01
70-74	0.221286	57575	12741	256026	554236	9.63
75 +	1	44835	44835	298211	298211	6.65

APPENDIX TABLE 17c

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1980

Age Group	nq_x	lx	ndx	nLx	T_x	ex
Both Sexes						
0	0.056901	100000	5690	95880	6226442	62.26
1-4	0.020191	94310	1904	373431	6130561	65.00
5-9	0.00751	92406	694	460294	5757130	62.30
10-14	0.006207	91712	569	457135	5296837	57.76
15-19	0.009322	91142	850	453588	4839701	53.10
20-24	0.013568	90293	1225	448401	4386114	48.58
25-29	0.016455	89068	1466	441674	3937713	44.21
30-34	0.019981	87602	1750	433633	3496039	39.91
35-39	0.025316	85851	2173	423824	3062406	35.67
40-44	0.033168	83678	2775	411451	2638583	31.53
45-49	0.042727	80903	3457	395871	2227131	27.53
50-54	0.057675	77446	4467	376062	1831261	23.65
55-59	0.073307	72979	5350	351520	1455199	19.94
60-64	0.107129	67629	7245	320033	1103679	16.32
65-69	0.149792	60384	9045	279307	783646	12.98
70-74	0.231300	51339	11875	227008	504339	9.82
75 +	1	39464	39464	277331	277331	7.03

APPENDIX TABLE 18a

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1984

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Male</u>						
0	0.072376	100000	7238	94760	6002016	60.02
1-4	0.026616	92762	2469	366112	5907256	63.68
5-9	0.009574	90293	864	449306	5541144	61.37
10-14	0.005515	89429	493	445912	5091838	56.94
15-19	0.009672	88936	860	442528	4645926	52.24
20-24	0.016786	88076	1478	436682	4203398	47.72
25-29	0.019906	86597	1724	428676	3766716	43.50
30-34	0.024514	84873	2081	419165	3338040	39.33
35-39	0.027998	92793	2318	408169	2918875	35.26
40-44	0.036204	80475	2914	395090	2510706	31.20
45-49	0.050974	77561	3954	377922	2115616	27.28
50-54	0.065453	73608	4818	355993	1737694	23.61
55-59	0.08639	68790	5943	329092	1381701	20.09
60-64	0.115516	62847	7260	296086	1052609	16.75
65-69	0.136568	55587	7591	258957	756523	13.61
70-74	0.256565	47996	12314	209194	497566	10.37
75 +	1	35682	35682	288372	288372	8.08

APPENDIX TABLE 18b

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1984

Age Group	nq_x	l_x	ndx	nL_x	T_x	e_x
<u>Female</u>						
0	0.052711	100000	5271	96184	6569472	65.69
1-4	0.020863	94729	1976	374963	6473288	68.33
5-9	0.007403	92753	687	462046	6098325	65.75
10-14	0.005482	92066	505	459068	5636279	61.22
15-19	0.006069	91561	556	456417	5177211	56.54
20-24	0.008040	91006	732	453198	4720794	51.87
25-29	0.009901	90274	894	449134	4267596	47.27
30-34	0.013617	89380	1217	443857	3818462	42.72
35-39	0.017237	88163	1520	437015	3374605	38.28
40-44	0.021766	86643	1886	428501	2937590	33.90
45-49	0.028457	84757	2412	417756	2509089	29.60
50-54	0.040008	82345	3295	403490	2091332	25.40
55-59	0.052424	79051	4144	384893	1687842	21.35
60-64	0.079984	74907	5991	359554	1302949	17.39
65-69	0.107324	68915	7396	326085	943395	13.69
70-74	0.231277	61519	14228	272025	617310	10.03
75 +	1	47291	47291	345285	345285	7.30

APPENDIX TABLE 18c

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Philippines: 1984

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.062765	100000	6277	95456	6291540	62.92
1-4	0.023921	93724	2242	370410 6	196084	66.11
5-9	0.007611	91482	696	455667	5825674	63.68
10-14	0.005550	90785	504	452667	5370007	59.15
15-19	0.007801	90281	704	449646	4917340	54.47
20-24	0.012200	89577	1093	445153	4467694	49.88
25-29	0.014832	88484	1312	439139	4022542	45.46
30-34	0.019085	87172	1664	431699	3583402	41.11
35-39	0.022640	85508	1936	422700	3151704	36.86
40-44	0.028966	83572	2421	411808	2729004	32.65
45-49	0.039560	81151	3210	397730	2317196	28.85
50-54	0.047235	77941	3682	380500	1919466	24.63
55-59	0.068747	74259	5105	358533	1538966	20.72
60-64	0.097230	69154	6724	328961	1180433	17.07
65-69	0.121462	62430	7583	293194	851472	13.64
70-74	0.243618	54847	13362	240832	558278	10.18
75 +	1	41485	41485	317446	317446	7.65

APPENDIX TABLE 19a
Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Luzon: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	e_x
<u>Both Sexes</u>						
0	0.056529	100000	5653	95907	6254275	62.54
1-4	0.020011	94347	1888	373612	6158368	65.27
5-9	0.006498	92459	601	460794	5784755	62.57
10-14	0.005661	91858	520	457991	5323961	57.96
15-19	0.008337	91338	762	454787	4865970	53.27
20-24	0.011975	90577	1085	450172	4411183	48.70
25-29	0.014960	89492	1339	444113	3961011	44.26
30-34	0.018843	88153	1661	436613	3516898	39.90
35-39	0.024275	86492	2100	427211	3080285	35.61
40-44	0.031947	84392	2696	415222	2653074	31.44
45-49	0.040690	81696	3324	400171	2237852	27.39
50-54	0.053666	78372	4206	381345	1837681	23.45
55-59	0.073840	74166	5476	357139	1456336	19.64
60-64	0.121446	68690	8342	322593	1099197	16.00
65-69	0.152210	60348	9186	278774	776604	12.87
70-74	0.220109	51162	11261	227657	497830	9.73
75 +	1	39901	39901	270173	270173	6.77

APPENDIX TABLE 19b

**Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Luzon: 1980**

Age Group	nq_x	lx	ndx	nLx	T_x	ex
0	0.050011	100000	5001	96379	6373467	63.73
1-4	0.015997	94999	1520	376956	6277088	66.08
5-9	0.005984	93479	559	465998	5900132	63.12
10-14	0.005934	92920	551	463221	5434135	58.48
15-19	0.008933	92368	825	459779	4970914	53.82
20-24	0.012558	91543	1150	454843	4511134	49.28
25-29	0.014902	90394	1347	448601	4056292	44.87
30-34	0.018662	89047	1662	441079	3607691	40.51
35-39	0.023999	87385	2097	431681	3166612	36.24
40-44	0.031738	85288	2707	419671	2734931	32.07
45-49	0.042013	82581	3469	404231	2315259	28.04
50-54	0.058095	79111	4596	384067	1911029	24.16
55-59	0.073689	74515	5491	358850	1526962	20.49
60-64	0.104901	69024	7241	327020	1168112	16.92
65-69	0.145268	61784	8975	286481	841092	13.61
70-74	0.217433	52809	11482	235337	554611	10.50
75 +	1	41326	41326	319274	319274	7.73

APPENDIX TABLE 19c

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Luzon: 1984

Age Group	nq_x	lx	ndx	nLx	T_x	ex
<u>Both Sexes</u>						
0	0.061992	100000	6199	95512	6415575	64.16
1-4	0.023436	93801	2198	370807	6320063	67.38
5-9	0.007473	91602	685	456301	5949257	64.95
10-14	0.004876	90918	443	453481	5492956	60.42
15-19	0.007116	90475	644	450763	5039474	55.70
20-24	0.011155	89831	1002	446648	4588711	51.08
25-29	0.013105	88829	1164	441233	4142063	46.63
30-34	0.016467	87664	1444	434713	3700830	42.22
35-39	0.021324	86221	1839	426508	3266117	37.88
40-44	0.025966	84382	2191	416434	2839609	33.65
45-49	0.037020	82191	3043	403349	2423175	29.48
50-54	0.049597	79146	3926	385928	2019826	25.52
55-59	0.066116	75223	4973	363681	1633898	21.72
60-64	0.091429	70249	6423	335190	1270217	18.08
65-69	0.114703	63827	7321	300830	935028	14.65
70-74	0.216438	56505	12230	251952	634198	11.22
75 +	1	44275	44275	382245	382245	8.63

APPENDIX TABLE 20a

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Visayas: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	e_x
<u>Both Sexes</u>						
0	0.060439	100000	6044	95624	6068739	60.69
1-4	0.022463	93956	2111	371603	5973115	63.57
5-9	0.007194	91846	661	457576	5601512	60.99
10-14	0.011238	91185	1025	453362	5143936	56.41
15-19	0.009091	90160	820	448751	4690574	52.02
20-24	0.014357	89340	1283	443495	4241823	47.48
25-29	0.018818	88058	1657	436145	3798328	43.13
30-34	0.022571	86401	1950	427127	3362182	38.91
35-39	0.028254	84450	2386	416287	2935055	34.75
40-44	0.036697	82064	3012	402792	2518769	30.69
45-49	0.044186	79053	3493	386531	2115976	26.77
50-54	0.060543	75560	4575	366362	1729446	22.89
55-59	0.075125	70985	5333	341593	1363084	19.20
60-64	0.107029	65652	7027	310694	1021491	15.56
65-69	0.179409	58625	10518	266832	710797	12.12
70-74	0.229663	48108	11049	212916	443964	9.23
75 +	1	37059	37059	231048	231048	6.23

APPENDIX TABLE 20b

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Visayas: 1980

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
Both Sexes						
0	0.058877	100000	5888	95737	6205123	62.05
1-4	0.021483	94112	2022	372406	6109386	64.92
5-9	0.006914	92090	637	458860	5736980	62.30
10-14	0.006539	91454	598	455773	5278120	57.71
15-19	0.009651	90856	877	452086	4822346	53.08
20-24	0.013357	89979	1202	446890	4370260	48.57
25-29	0.017372	88777	1542	440029	3923371	44.19
30-34	0.0216	87235	1884	431463	3483341	39.93
35-39	0.028729	85350	2452	420622	3051878	35.76
40-44	0.035815	82898	2969	407070	2631256	31.74
45-49	0.044578	79929	3563	390739	2224186	27.83
50-54	0.057284	76366	4375	370895	1833447	24.01
55-59	0.0707	71992	5090	347234	1462551	20.32
60-64	0.103603	66902	6931	317182	1115317	16.67
65-69	0.141962	59971	8514	278570	798135	13.31
70-74	0.228647	51457	11766	227872	519566	10.10
75+	1	39692	39692	291694	291694	7.35

APPENDIX TABLE 20c
Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Visayas: 1984

Age Group	nq_x	lx	ndx	nLx	T_x	ex
Both Sexes						
0	0.069391	100000	6939	94976	6179639	61.80
1-4	0.028119	93061	2617	367010	6084663	65.38
5-9	0.008968	90444	811	450193	5717653	63.22
10-14	0.005606	89633	503	446909	5267460	58.77
15-19	0.007784	89130	694	443918	4820551	54.08
20-24	0.012336	88437	1091	439456	4376633	49.49
25-29	0.015310	87346	1337	433385	3937178	45.08
30-34	0.020353	86008	1751	425665	3503793	40.74
35-39	0.021827	84258	1839	416691	3078128	36.53
40-44	0.029525	82419	2433	406009	2661437	32.29
45-49	0.038953	79985	3116	392137	2255428	28.20
50-54	0.049348	76869	3793	374864	1863291	24.24
55-59	0.061658	73076	4506	354116	1488427	20.37
60-64	0.088965	68570	6100	327600	1134311	16.54
65-69	0.106489	62470	6652	295718	8067112	12.91
70-74	0.227964	55818	12724	247277	5109927	9.15
75 +	1	43093	43093	263716	2637162	6.12

APPENDIX TABLE 21a

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Mindanao: 1975

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.066343	100000	6634	95197	5826985	58.27
1-4	0.026165	93366	2443	368577	5731788	61.39
5-9	0.008252	90923	750	452738	5363211	58.99
10-14	0.007743	90172	698	449117	4910473	54.46
15-19	0.011812	89474	1057	444729	4461356	49.86
20-24	0.024166	88417	2137	436745	4016627	45.43
25-29	0.02574	86281	2221	425851	3579882	41.49
30-34	0.027263	84060	2292	414570	3154030	37.52
35-39	0.035688	81768	2918	401545	2739460	33.50
40-44	0.04186	78850	3301	385998	2337915	29.65
45-49	0.052334	75549	3954	367862	1951917	25.84
50-54	0.068759	71596	4923	345671	1584055	22.13
55-59	0.094939	66673	6330	317539	1238384	18.57
60-64	0.015567	60343	939	299366	920845	15.26
65-69	0.203059	59403	12062	266861	621479	10.46
70-74	0.299215	47341	14165	201292	354618	7.49
75 +	1	33176	33176	153326	153326	4.62

APPENDIX TABLE 21b

Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Mindanao: 1980

Age Group	nq_x	lx	ndx	nLx	T_x	ex
<u>Both Sexes</u>						
0	0.064257	100000	6426	95348	5969617	59.70
1-4	0.024856	93574	2326	369645	5874269	62.78
5-9	0.007878	91248	719	454445	5504624	60.33
10-14	0.006457	90530	585	451186	5050179	55.78
15-19	0.009508	89945	855	447587	4598993	51.13
20-24	0.017838	89090	1589	441476	4151406	46.60
25-29	0.021359	87501	1869	432830	3709930	42.40
30-34	0.023453	85632	2008	423137	3277100	38.27
35-39	0.026146	83623	2186	412650	2853963	34.13
40-44	0.035939	81437	2927	399867	2441312	29.98
45-49	0.044570	78510	3499	383802	2041446	26.00
50-54	0.079272	75011	5946	360188	1657644	22.10
55-59	0.075116	69064	5188	332352	1297456	18.79
60-64	0.115902	63877	7403	300874	965104	15.11
65-69	0.167163	56473	9440	258765	664229	11.76
70-74	0.263259	47033	12382	204210	405464	8.62
75 +	1	34651	34651	201255	201255	5.81

APPENDIX TABLE 21c

**Abridged Life Table for Values of nq_x Derived from Child
Mortality Estimation (Brass-Trussell) and Adjusted Death
Registration, Mindanao: 1984**

Age Group	nq_x	l_x	ndx	nL_x	T_x	ex
<u>Both Sexes</u>						
0	0.06786	100000	6786	95087	6007677	60.08
1-4	0.027127	93214	2692	367472	5912590	63.43
5-9	0.008566	90522	803	450601	5545119	61.26
10-14	0.005958	89719	563	447186	5094517	56.78
15-19	0.008797	89156	826	443713	4647331	52.13
20-24	0.014184	88329	1320	438348	4203619	47.59
25-29	0.018688	87010	1712	430768	3765270	43.27
30-34	0.024329	85297	2185	421025	3334502	39.09
35-39	0.024926	83112	2181	410108	2913478	35.05
40-44	0.034047	80931	2901	397403	2503369	30.93
45-49	0.043115	78030	3541	381300	2105966	26.99
50-54	0.05634	74490	4415	361410	1724666	23.15
55-59	0.072743	70074	5361	336970	1363256	19.45
60-64	0.104362	64714	7096	305827	1026286	15.86
65-69	0.130762	57617	7911	268308	720459	12.50
70-74	0.28864	49706	14996	211042	452151	9.10
75+	1	34711	4997	241109	241109	6.95

THE UNMET NEED FOR CONTRACEPTIVE SERVICES OF FILIPINO COUPLES IN 1986

Zelda C. Zablan

I. INTRODUCTION

Essential to the effective operation of a family planning program is the extent and composition of POTENTIAL DEMAND for its services. The term "UNMET NEED" for contraceptive services is often used to denote the latent or potential demand for contraceptive services that the family planning program needs to satisfy. Alternatively, the assessment of the difference between the prevailing demand for contraceptive services and supplies, and the extent to which the current demand is satisfied through the public and private sectors is now being referred to as unmet need for contraception, which in the past was widely known as "KAP-GAP."

The measurement of the potential demand for contraception is of considerable practical importance because it guides family planning program managers in the allocation of program resources and in the operation of the program. Policy-makers and family planning program managers often respond to the apparent discrepancy between contraceptive behavior and fertility desires by revamping information and education campaigns, redesigning service delivery systems, and showing greater sensitivity to the preference of couples by providing a wide array of contraceptive methods at service outlets.

In the Philippine context, the measurement of unmet need for contraception is doubly important. Not only is it useful in guiding program managers in the allocation of program resources and in evaluating program performance, it also enables policy-makers to evaluate whether or not the current fertility reduction policy of non-coercion is sufficient to bring down fertility to a level conducive to the achievement of society's over-all social goals. (For details, see Population Policy Statement, April 1987.)

There has been some concern over a possible weakening of current fertility reduction efforts on account of POPCOM's adoption of a conscious policy choice of NO ACTION beyond protecting couples from unwanted births, and promoting maternal and child health (Herrin, this volume). The current policy of non-coercion adopted by the National Family Planning Program has been justified purely on health and individual family welfare objectives whose

impacts cannot be easily determined. The impact of fertility reduction efforts under this policy environment will obviously depend on the spontaneous demand for contraceptive services of individual couples and on the capacity of the National Family Planning Program to meet such spontaneous demand.

1. Objectives

The objectives of this paper are as follows:

1. To measure the levels and trends of unmet need for contraceptive services;
2. To analyze the differentials of unmet need in the different sub-groups of the population;
3. To assess the extent of fertility reduction that would result from satisfying the current levels of unmet need; and
4. To specify the program requirements for reducing fertility to the level conducive to the achievement of the country's social goals.

2. The Concept of Unmet Need

The concept of unmet need used here is highly simplified and covers the need to use contraceptives for controlling the timing of births (birthspacing) and for the termination of childbearing after the final wanted birth (birth limitation). It is confined to couples who are currently married or living together. There are two ways of estimating unmet need. One is the Static Model, which estimates the unmet contraceptive need that is based on the prevailing contraceptive demand at one point in time and includes the demand expressed by currently pregnant and amenorrheic women, even though they are only temporarily out of the market for family planning services. Another is the Dynamic Model, which is a complex model that not only incorporates the spacing-limiting dimension but also measures potential demand over a year's time to allow pregnant and amenorrheic women to re-enter the contraceptive market. This Dynamic Model is, however, not followed in this paper. Although the measurement of unmet need used here is the current-status Static Model, other studies have shown that the complexity of measurement using the preferred Dynamic Model is not justified by the marginal increase in precision which the latter model has over the former (Westoff, 1988). It is conceded, however, that the Static Model yields a higher estimate of unmet need due to the inclusion of pregnant and amenorrheic women who are not currently exposed to the risk of pregnancy.

As Westoff and Pebley (1981) conclude, "there is no 'best' estimate of unmet need." The measurement of unmet need in a country may be broad or restricted. The broad definition of

unmet need would include couples who are not using contraception and who want to stop childbearing, as well as those who want to space births as evinced by their intention to use family planning in the future. A rather restricted definition of unmet need, one that was used by Westoff and Pebley (1981) for 18 developing countries, would include only couples who want to end their childbearing but are not currently using a method. A very minimal definition of unmet need would be one that is limited to those who want to stop childbearing and who expressed the intention to use family planning in the future.

Westoff and Pebley (*Ibid.*) suggest that the measurement of unmet need should be guided by the nature of the program, its stage of maturity, and its level of funding as standards on which to base the appropriate measure. They maintain that by including all married women – fecund, pregnant and amenorrheic – rather than just arbitrary groups of fecund women in the calculation, a major source of variation among estimates of unmet need is removed.

3. Data and Methods

The data on reproductive goals, contraceptive use status and future family planning intentions come from the 1986 Contraceptive Prevalence Survey (CPS) and the 1978 Republic of the Philippines Fertility Survey (RPFS). In these surveys, nationally representative samples of 18,439 in the CPS and 8,335 in the RPFS currently married women 15 to 44 years of age (MCRA) were interviewed about their fertility and contraceptive experience, as well as about their background and related factors.

The unmet need variable was constructed by classifying wives (MCRA) according to their responses to three types of questions, namely:

1. Current family planning status – wives were asked about their family planning knowledge, and past and current use of contraceptives;
2. Desire for more children – wives were asked whether or not they think that they and their husbands are able to have a child, and whether or not they and their husbands desire a pregnancy and to have children in the future; and
3. Future family planning intentions – determined from wives' answers to direct questions on intention to use a method to avoid pregnancy if she could learn more about the method, as well as whether the use of the method would be to space or to limit births or for some other purpose.

By combining responses to the above three questions, wives were classified in any one of 11 categories. These categories and their distribution are presented in Table 1.

4. Measures of Unmet Need

All unmet need measures are confined to women “in need” of contraceptive services and exclude those who perceive themselves to be infecund, those currently using a method, and

TABLE 1

Percent Distribution of Married Women 15-44 (MCRAs) by Unmet Need Category Philippines, CPS 1986

Categories	%
1. Current user, wants more children	14.7
2. Current user, does not want more children	30.7
3. Non-user, wants more children, intends to use FP	5.9
4. Non-user, does not want more children, intends to use FP	7.5
5. Non-user, wants more children, does not intend to use FP	2.4
6. Non-user, does not want more children, does not intend to use FP	2.5
7. Never user, wants more children, intends to use FP	11.0
8. Never user, does not want more children, intends to use FP	4.6
9. Never user, wants more children, does not intend to use FP	10.1
10. Never user, does not want more children, does not intend to use FP	5.6
11. Never/Non-user who does not need protection either because she thinks she is too old to bear a child, or has undergone a sterilizing operation (e.g. hysterectomy)	5.1
Total: %	100.0
N	18,439

those who want more children and do not intend to use family planning in the future. For those "in need," different combinations of the contraceptive use status (current user, non-user or never-user), attitudes toward further childbearing (wanting more or not wanting more children), and intentions for future use (intends or does not intend to use contraception in the future) yield different measures of unmet need. For Philippine couples, we first classify women who are not currently using a contraceptive according to whether or not they say they want to stop childbearing or they want to space their births. Within each sub-category, we further distinguish those who say they intend to use contraception in the future from those who say they do not. Furthermore, we classify these sub-categories into whether they are non-users or never-users of contraception to ascertain the type of family planning services they need. We come up with MAXIMUM, LIBERAL and MINIMUM measures of unmet need.

Type of Unmet Need	Measure		
	Maximum	Liberal	Minimum
IN NEED			
<i>Wants no more children</i>			
1) intends to use FP	X	X	X
a) past user			
b) never user			
2) does not intend to use FP	X	X	
a) past user			
b) never user			
<i>Wants more children</i>			
1) intends to use FP	X		
a) past user			
b) never user			
UNMOTIVATED			
<i>Wants more children</i>			
2) does not intend to use FP			
a) past user			
b) never user			
NO NEED			
<i>Sub-fecund ("too old," hysterectomized)</i>			
CURRENT USERS			
1) Spacers (want more children)			
2) Limiters (do not want more children)			

The three proposed measures represent progressive restrictions in the definition of unmet need. Their values for the Philippines as a whole are presented in Table 2.

TABLE 2

**Unmet Need for Contraceptive Services
among Currently Married Women Aged 15-44
Philippines, CPS 1986**

Measure	%
1. Percent not using a contraceptive method which includes: All not wanting more children, and those wanting more children with future intention to use FP (MAXIMUM MEASURE)	37.1
2. Percent not using a contraceptive method which includes: All not wanting more children whether or not they intend to use FP in the future (LIBERAL MEASURE)	20.2
3. Percent not using a contraceptive method which includes: All not wanting more children and intend to use FP (MINIMUM MEASURE)	12.1

Using the MAXIMUM MEASURE, 37.1 percent of Philippine couples in 1986 have unmet need for contraceptive services. If unmet need is restricted to those not wanting more children (LIBERAL MEASURE), this figure is reduced to 20.2 percent. By restricting the definition further to those not wanting more children and who intend to use contraception in the future (MINIMUM MEASURE), unmet need is placed at 12.1 percent.

5. Implications of the Measures

If the MAXIMUM measure is used as the basis for planning to satisfy the unmet need for contraceptive services, the family planning program needs to be prepared to provide the widest array of services, since this group consists of couples who want to stop childbearing as well as

those who want to space their births. Couples who want to stop childbearing may require quite different types of contraceptives from those who want to space births. Even among couples who want to stop childbearing, those who intend to use contraception in the future may be more receptive to family planning messages and motivational efforts than those who do not intend to use a contraceptive in the future, even if they state that they do not want to bear more children. Similarly, motivational approaches would necessarily be varied among past users and among never-users of contraception. Regardless of spacing or stopping motives, a past user may need quite different motivational approaches and contraceptive methods from a never-user. Couples who never used a method would obviously need more information on contraceptive methods than those who used a method in the past. Moreover, a past user might need more effective motivational efforts to be convinced to use a method again.

Adoption of the LIBERAL measure as basis for planning contraceptive services requirements would restrict the family planning program's concern to the elimination of only the unwanted pregnancies. The 1986 CPS data in Table 1 show that 14.7 percent of couples who were currently using contraception did so in order to space their births (category 1). The same table shows that 16.9 percent of couples in 1986 want to have more children and intends to use family planning in the future (categories 3 and 7). It would appear unrealistic, therefore, for the program to ignore this additional 16.9 percent of couples who intends to use a method for spacing purposes. Use of the LIBERAL measure is inadequate when the family planning program guidelines are based on a policy of non-coercion that is justified purely on health and individual family welfare objectives.

Use of the MINIMUM measure as basis for planning contraceptive services requirements further restricts the family planning program's concern to the recruitment only of couples who intend to use a contraceptive method among those who desire no more children. Here, the program is expected to provide contraceptive supplies and services only to those who want to limit family size and are ready to accept them. Use of this measure implies that the program does not need to generate demand for contraceptive services but simply to respond to the existing demand of couples for the purpose of stopping childbearing.

There is the sub-group of UNMOTIVATED couples consisting of those who want more children and who do not intend to use a method in the future (categories 5 and 7). Around 12 percent of couples in 1986 belongs to this sub-group: 10.1 percent was never-users and 2.4 percent was non-users. As will be seen in Table 7 below, 30.7 percent of these couples has five children or more indicating the need to alter their family size goals.

Finally, the sub-group of CURRENT USERS should not be regarded as a permanent achievement since, as data in Table 1 indicate, one third of them is spacers who would, at one time or another, abandon the use of contraception in order to bear a child. Depletion of

current users by those who drop-out would imply the need to increase acceptance in order to maintain the current level of demand being satisfied by the program.

The Static Model used here aims first to describe the levels and trends in unmet need over the 1978–1986 period, and to analyze the patterns and differentials of unmet need among Philippine couples in 1986. Second, it will attempt to evaluate the National Family Planning Program targets for 1989–1993 by examining the existing level of latent demand, or unmet need for contraception. And finally, it will discuss the implications of the observed unmet need levels for current program policies and thrusts.

II. LEVELS AND TRENDS IN UNMET NEED, 1978–1986

Levels and trends in unmet need, and contraceptive prevalence in 1978 and in 1986 for six (6) selected characteristics are shown in Table 3. For the Philippines as a whole, the MAXIMUM measure of unmet need between 1978 and 1986 increased by 56 percent, the LIBERAL measure by a mere 15 percent and the MINIMUM measure by 64 per cent. These results indicate that the increase in unmet need in 1986 was due to more wives wanting space than stopping childbearing (MAXIMUM vs. LIBERAL). Of those who want to stop childbearing, more wives in 1986 intend to use contraception in the future than wives in 1978 (LIBERAL vs. MINIMUM). Contraceptive prevalence rose by 19 percent in 1986. If we suppose that the MAXIMUM unmet need in 1978 was satisfied fully by the family planning program in 1986, we would expect contraceptive prevalence to have risen to 62 percent ($23.8 + 38.2$). Apparently, over the 9-year period, contraceptive prevalence has reached only 45 percent, which is equivalent to satisfying only the MINIMUM level of unmet need.

1. **Age of Wife:** The trends by age show a tremendous increase in unmet need for spacing rather than for stopping purposes, particularly among women below 25 years. A quick look at the trends in age-specific contraceptive prevalence would suggest that only the MINIMUM unmet need in 1978 for wives in the 40–44 age group was satisfied in 1986, as supported by the 1986 prevalence level of that sub-group.

2. **Living Children:** The MINIMUM unmet need of wives with 3 to 8 living children and the LIBERAL unmet need for those with 0–2 in 1978 appear to have been satisfied by the Family Planning Program in 1986. What is surprising is the decline in contraceptive prevalence in 1986 of wives with 9 or more children, a decline in stopping intentions and a near doubling in spacing intentions.

3. **Wife's education:** The stability of contraceptive prevalence over the 1978–1986 period among wives with at most an intermediate education suggests that the unmet need expressed by them in 1978 has not been satisfied by the Family Planning Program nine years later. However, the unmet need expressed in 1978 by wives with at least a high school education was satisfied in

TABLE 3
Levels and Trends in Unmet Need for the Three Measures and By Selected Characteristics
Philippines., 1978 and 1986 (expressed as percent of MCRA)
Unmet Need Measure

Characteristic	Maximum		Liberal		Minimum		Contraceptive Prevalence	
	1978	1986	1978	1986	1978	1986	1978	1986
PHILIPPINES	23.8	37.1	17.5	20.2	7.4	12.1	38.2	45.4
1. Age of Wife								
15-19	16.8	59.8	5.9	9.0	2.0	6.8	17.2	16.0
20-24	25.5	52.6	11.1	17.2	6.0	13.1	32.1	32.5
25-29	26.7	41.6	16.8	20.6	7.9	14.8	42.9	44.2
30-34	27.7	33.8	20.7	22.5	9.5	14.3	46.7	52.2
35-39	27.4	31.1	24.5	24.6	10.0	11.7	48.0	53.5
40-44	23.0	19.4	20.4	17.0	7.0	5.1	37.6	48.8
2. Living Children								
0-2	18.0	41.0	7.8	14.5	3.0	9.8	30.0	40.5
3-4	25.2	31.6	18.5	22.9	8.2	14.1	47.1	56.2
5-6	26.8	32.4	23.0	27.2	10.0	15.6	42.5	53.6
7-8	28.5	35.4	26.6	31.6	1.0	13.7	36.8	45.0
9 +	27.5	50.2	25.7	12.1	10.7	5.6	30.4	11.4
3. Education of Wife								
Primary or less	21.4	37.9	12.8	25.7	5.4	13.3	38.0	35.3

TABLE 3 (Continuation)
Levels and Trends in Unmet Need for the Three Measures and By Selected Characteristics
Philippines, 1978 and 1986 (expressed as percent of MCRA)
Unmet Need Measure

Intermediate	26.8	39.5	13.0	23.9	10.0	13.6	42.5	42.6
High School	28.5	29.8	26.6	18.2	11.0	12.1	36.8	48.0
College +	27.5	31.1	25.7	13.0	10.7	8.7	30.4	55.9
4. Urban-Rural Residence								
Urban	17.5	32.1	12.5	17.0	5.8	10.7	49.9	51.8
Rural	27.0	40.1	19.9	22.1	8.2	12.8	32.7	41.4
5. Religion								
R. Catholic	24.4	37.9	17.9	20.6	7.7	12.5	39.0	46.3
Protestant	23.5	33.7	15.4	15.2	4.4	8.9	47.1	53.5
INK	25.1	37.4	23.9	19.6	15.5	12.6	47.6	52.3
Aglipay	22.2	37.0	15.9	20.6	6.4	12.8	34.8	46.1
Islam	11.1	29.7	7.5	17.0	1.3	4.2	8.0	17.0
Others	20.1	35.3	15.2	21.0	3.6	12.3	32.0	48.8
6. Region								
NCR	16.1	28.1	10.8	13.5	5.1	9.9	52.3	57.7
I. Ilocos	18.4	41.0	12.5	21.1	2.6	11.8	33.5	42.0
II. Cagayan Valley	32.7	41.5	24.4	18.4	9.1	10.8	25.5	36.8
III. Central Luzon	17.9	32.5	14.1	14.5	5.0	8.1	46.7	52.1
IV. Southern Tagalog	30.4	39.8	23.0	22.2	12.1	13.7	36.8	46.8
V. Bicol	25.6	44.1	16.0	27.8	7.9	16.0	32.6	35.2
VI. Western Visayas	29.2	41.1	20.3	25.4	9.8	13.5	35.6	39.1
VII. Eastern Visayas	28.5	33.6	21.6	15.8	8.4	9.4	35.2	47.9
VIII. Central Visayas	31.4	48.5	27.3	30.5	7.4	18.4	19.6	33.9
IX. Western Visayas	21.2	37.6	14.0	19.8	6.9	11.5	34.8	45.4
X. Northern Mindanao	28.4	33.4	21.2	20.4	12.5	12.7	47	55.6
XI. Southern Mindanao	17.2	39.4	14.2	14.3	5.8	15.1	50.1	42.7
XII Central Mindanao	13.2	29.2	9.4	13.5	1.8	7.1 2	5.8	34.1

1986, partly for those who reached high school and fully among those who reached college and who wanted to stop childbearing.

4. Urban-rural residence: Only the MINIMUM unmet need expressed in 1978 by rural wives was satisfied by 1986. The rather stable contraceptive prevalence of urban wives over the 1978-1986 period suggests that their unmet need was not satisfied. Meanwhile there is an 83 percent increase in the MAXIMUM unmet need among urban wives and a 48 percent increase among the rural wives in the same measure.

5. Religion: The MINIMUM unmet need expressed in 1978 by Catholic, Protestant and Aglipayan wives appeared to have been satisfied by 1986, as well as the LIBERAL unmet need of Muslims. The high level of unmet need among Iglesia ni Kristo followers was not satisfied by the family planning program in 1986. Meanwhile, there is a 49 percent increase in MAXIMUM unmet need expressed by Iglesia ni Kristo followers over the 1978-1986 period.

6. Region: The LIBERAL unmet need expressed in 1978 by wives in Regions I, VIII, and XII appeared to have been satisfied by 1986. Moreover, the MINIMUM unmet need expressed in 1978 by wives in NCR, Region II, and Region III were met by 1986. The unmet need of the seven other regions in 1978 were not met by 1986. Satisfaction of the unmet needs of Regions V, VI, and XI are particularly urgent since these regions have 1986 prevalence levels that are below the national average.

III. DIFFERENTIALS IN UNMET NEED IN 1986

1. Age of Wife

The different measures of unmet need show different patterns by age (Table 4). Although wives in the 15-19 age group have exhibited the highest level of unmet need, this need is more for spacing than for stopping purposes. The same can be said of women 20-24 years of age. Women 25-39 years are singled-out for their need to stop childbearing and this need is supported by a substantial proportion among them who intend to use contraception in the future. Women 40-44 years who are "in need" are the least motivated in that only 30 percent of those who want to stop childbearing intends to use contraception in the future.

To evaluate the pattern of unmet need shown in Table 4, a full distribution of MCRA's by unmet need category is presented in Table 5. It can be readily appreciated that the low level of unmet need among women 40-44 years old is due mainly to the high levels of current use and of self-reported subfecundity (NO NEED) among them. Although more than half of the women 30-39 years currently practice contraception, about 12 percent of them still wants to have more children and do not intend to use contraception. The lowest current use level and the highest levels of wanting more children are found among women 15-19 years of age. This age group is, however, more ready to accept a method for spacing, as shown by a large

TABLE 4
Percent of MCRA's With Unmet Need for
the Three Measures by Age of Wife
Philippines, CPS 1986

Unmet Need Measure	Current Age (Years)					
	15-19	20-24	25-29	30-34	35-39	40-44 All Ages
Maximum	59.8	52.6	41.6	33.8	31.1	37.1
Wants no more children	9.0	17.2	20.6	22.5	24.6	20.2
Wants more children and intends to use FP	50.8	34.7	21.0	11.3	6.5	16.9
Liberal	9.0	17.2	20.6	22.5	24.6	20.2
Minimum	6.8	13.1	14.8	14.3	11.7	12.1
(N)	(779)	(3054)	(4268)	(4180)	(3419)	(18439)

TABLE 5
Percent Distribution of MCRAs by Unmet Need Category
and by Age of Wife, Philippines, CPS 1986

Category of Unmet Need	AGES					
	15-19	20-24	25-29	30-34	35-39	40-44
IN NEED						
Wants no more children						
1) Intends to use FP						
a) past user	6.8	13.1	14.8	14.3	11.7	5.1
b) never user	1.7	6.0	9.6	9.9	7.7	3.5
2) does not intend to use FP						
a) past user	5.1	7.1	5.2	4.4	4.0	1.6
b) never user	2.2	4.1	5.8	8.2	12.9	11.9
Wants more children and						
intends to use FP						
a) past user	0.2	0.9	1.8	2.3	4.2	4.3
b) never user	2.0	3.2	4.0	5.9	8.7	7.6
UNMOTIVATED						
Wants more children and						
does not intend to use FP						
a) past user	50.8	34.7	21.0	11.3	6.5	2.4
b) never user	4.4	8.8	8.5	6.3	3.4	1.2
NO NEED						
Not exposed/subfecund						
CURRENT USER						
a) past user	21.8	14.0	12.3	11.8	11.7	10.7
b) never user	0.4	1.8	2.3	2.8	3.0	2.7
NO NEED						
Not exposed/subfecund						
CURRENT USER						
a) past user	21.4	12.2	10.0	9.0	8.7	8.0
b) never user	2.4	1.6	1.9	2.2	3.7	21.1
NO NEED						
Not exposed/subfecund						
CURRENT USER						
a) past user	16.0	32.5	44.2	52.2	53.5	48.8
b) never user	12.6	22.7	19.2	14.7	7.7	7.8
NO NEED						
Not exposed/subfecund						
CURRENT USER						
a) past user	3.4	9.8	25.0	37.5	45.8	41.0
b) never user						
NO NEED						
Not exposed/subfecund						
CURRENT USER						
a) past user						
b) never user						
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a) past user						
b) never user						
NO NEED						
Not exposed/subfecund						
CURRENT USER						
a) past user</						

proportion (50.8 percent) among them who want more children and intend to use a method in the future.

2. Number of Living Children

Table 6 depicts a lack of linear relationship between unmet need and the number of living children. For the MAXIMUM measure, the highest level of unmet need (50.2 percent) was shown by women with 9 children or more, most of whom surprisingly wanted to space rather than to limit births. Expectedly, the next highest was shown by women with 0–2 children, majority of whom wanted to space births. Women with 3–8 living children mainly wanted to terminate childbearing. Unmet need that is limited to those who want no more children (LIBERAL measure) shows a pattern that mainly reflects the low preference of women with 0–2 and 9+ children to stop childbearing. More wives with 3 to 8 children wanted to stop childbearing and about half of them intend to use contraception in the future, as reflected in the MINIMUM measure of unmet need.

TABLE 6
Percent of MCRA's with Unmet Need for the Three Measures
by Number of Living Children, Philippines, CPS 1986

Unmet Need Measure	Number of Living Children					
	0–2	3–4	5–6	7–8	9+	Total
Maximum	41.0	31.6	32.4	35.4	50.2	37.1
Wants no more children	14.5	22.9	27.2	31.6	12.1	20.2
Wants more children and intends to use FP	26.5	8.7	5.2	3.8	38.1	16.9
Liberal	14.5	22.9	27.2	31.6	12.1	20.2
Minimum	9.8	14.1	15.6	13.7	5.6	12.1
(N)	(6632)	(6071)	(2892)	(1129)	(1714)	(18439)

Table 7 clarifies the above patterns. A high level of unmet need among women with 9 or more living children is accompanied by a low level of contraceptive use, although this need is surprisingly for birthspacing rather than for birth limitation purposes. On the other hand, a high level of unmet need among women with 0–2 living children is accompanied by a moderate

level of contraception use mainly for spacing purposes. Women with 3 to 8 living children have high levels of contraceptive use, do not want more children, and intend to use family planning in the future. These women are, therefore, more ready to contracept than other women.

TABLE 7
Percent Distribution of MCRA's by Unmet Need Category and
by Number of Living Children, Philippines, CPS 1986

Category of Unmet Need	Number of Living Children					
	0-2	3-4	5-6	7-8	9+	Total
IN NEED						
Wants no more children						
1) Intends to use FP	9.8	14.1	15.6	13.7	5.6	12.1
a) past user	5.4	9.3	10.3	10.0	2.2	7.5
b) never user	4.4	4.8	5.3	3.7	3.6	4.6
2) does not intend to use FP	4.7	8.8	11.6	17.9	6.5	8.1
a) past user	1.0	3.1	4.1	5.8	1.4	2.5
b) never user	3.7	5.7	7.5	12.1	5.1	5.6
Wants more children and						
intends to use FP	26.5	8.7	5.2	3.8	38.1	16.9
a) past user	9.0	5.5	3.0	1.8	3.1	5.9
b) never user	17.5	3.2	2.2	2.0	35.0	11.0
UNMOTIVATED						
Wants more children and						
does not intend to use FP	16.1	8.8	7.4	8.6	22.8	12.4
a) past user	3.1	2.1	2.1	2.7	1.2	2.4
b) never user	13.0	6.7	5.3	5.9	21.6	10.0
NO NEED						
Not exposed/subfecund	2.4	3.4	6.6	11.0	15.4	5.1
CURRENT USERS	40.5	56.2	53.6	45.0	11.4	45.4
a) spacers	24.7	12.0	6.8	5.7	4.4	14.7
b) limiters	15.8	44.2	46.8	39.3	7.0	30.7
TOTAL: %	100.0	100.0	100.0	100.0	100.0	100.0
N	6632	6071	2892	1129	1714	18439

3. Education of Wife

From Table 8, the expected negative relationship between level of schooling and unmet need was reflected by the LIBERAL and MINIMUM measures, both of which consist of women who want to limit births. The proportion of women who intend to use contraception in the future among those who do not want more children is positively associated with level of education. The absence of a linear relationship with education of the MAXIMUM measure

can be traced to the spacers who intend to use family planning, many of whom belong to the college educated and those with an intermediate level of education.

TABLE 8
Percent of MCRA's with Unmet Need for the Three Measures
by Education of Wife, Philippines, CPS 1986

Unmet Need Measures	Schooling Level				Total
	Primary	Intermediate	High School	College +	
Maximum	37.9	39.5	29.8	31.1	37.1
a) wants no more	25.7	23.9	18.2	13.0	20.2
b) wants more, intends to use	12.2	15.6	11.6	18.1	16.9
Liberal	25.7	23.9	18.2	13.0	20.2
Minimum	13.3	13.6	12.1	8.7	12.1
(N)	(2791)	(6306)	(5673)	(3514)	(18284)*

* 155 cases did not report highest level of schooling achieved

Table 9 shows that education is positively associated with current use and negatively associated with the LIBERAL and MINIMUM measures of unmet need. This indicates that unmet need for birth limitation purposes is high among the less educated and few among them are currently using contraception. It is worth noting that the category "no need" is negatively associated with education, arising undoubtedly from the high proportion of older women among the less educated. This represents a countervailing factor in the relationship between education and unmet need.

4. Work Status

Table 10 shows that non-working women have higher unmet need than working wives in all three measures. More non-working wives want to stop childbearing and intend to use contraception in the future than working mothers.

TABLE 9
Percent Distribution of MCRAs by Unmet Need Category
and by Education of Wife, Philippines, CPS 1986

Category of Unmet Need	Schooling Level				
	Primary	Intermediate	High School	College+	Total
IN NEED					
Wants no more children					
1) Intends to use FP	13.3	13.6	12.1	8.7	12.1
a) past user	6.7	8.2	7.9	6.4	7.5
b) never user	6.6	5.4	4.1	2.3	4.6
2) does not intend to use FP	12.4	10.3	6.2	4.3	8.1
a) past user	2.6	3.1	2.3	1.9	2.5
b) never user	9.8	7.2	3.9	2.4	5.6
Wants more children and intends to use FP	12.2	15.6	11.5	18.1	16.9
a) past user	3.6	5.4	7.0	7.0	5.9
b) never user	8.6	10.2	13.5	11.1	11.0
UNMOTIVATED					
Wants more children and does not intend to use FP	18.6	12.7	10.9	10.6	12.4
a) past user	1.9	2.4	2.4	3.0	2.4
b) never user	16.7	10.3	8.5	7.6	10.0
NO NEED					
Not exposed/subfecund	8.2	5.2	2.4	2.4	5.1
CURRENT USER	35.3	42.6	48.0	55.9	45.4
a) spacers	9.3	11.2	17.1	21.9	14.7
b) limiters	26.0	31.4	30.9	34.0	30.7
TOTAL : %	100.0	100.0	100.0	100.0	100.0
N	2791	6306	5673	3514	18284

TABLE 10
Percent of MCRA's With Unmet Need for the Three Measures by Work Status of Wife,
Philippines, CPS 1986

Unmet Need Measure	Work Status of CMW		
	Not Working	Working	Total
Maximum	40.9	28.4	37.1
a) wants no more	22.0	15.9	20.2
b) wants more, intends to use	18.9	12.5	16.9
Liberal	22.0	15.9	20.2
Minimum	13.6	8.5	2.1
(N)	(12790)	(5649)	(18439)

Table 11 shows that more working than non-working wives practice contraception and believe they are not exposed to the risk of childbearing. They are therefore considered to be not "in need" of contraception. However, more non-working than working wives want more children and do not intend to contracept and, therefore, are considered to be more unmotivated to practice contraception.

5. Religion of Wife

Adherents of Islam and Protestants show the lowest levels of unmet need but these results arise from two divergent reasons: for the Protestants, low unmet need is traced to high levels of contraceptive use but for Muslims, this is due mainly to the large proportion among them who want more children and do not intend to use contraception. Catholics, Aglipayans and Iglesia ni Kristo adherents are similar in characteristics of unmet need: they have high levels of unmet need that is more for limiting than for birth spacing purposes. About 60 percent of those who want to limit childbearing expressed their intention to use family planning in the future. However, of the three, Iglesia ni Kristo followers have the highest current use rates and the lowest proportion who are unmotivated to use contraception (Tables 12 and 13).

TABLE 11
Percent Distribution of MCRAs by Unmet Need Category and
by Work Status of Wife, Philippines, CPS 1986

Category of Unmet Need	Not Working	Working	Total
IN NEED			
Wants no more children			
1) Intends to use FP	13.6	8.5	12.1
a) past user	8.3	5.7	7.5
b) never user	5.3	2.8	4.6
2) does not intend to use FP	8.4	7.4	8.1
a) past user	2.6	2.3	2.5
b) never user	5.8	5.1	5.6
Wants more children and			
intends to use FP	18.9	12.5	16.9
a) past user	6.1	5.3	5.9
b) never user	12.8	7.2	11.0
UNMOTIVATED			
Wants more children and			
does not intend to use FP	13.0	11.5	12.5
a) past user	2.3	2.7	2.4
b) never user	10.7	8.8	10.1
NO NEED			
Not exposed/subfecund	4.0	7.5	5.0
CURRENT USER	42.1	52.6	45.4
a) spacers	13.8	16.7	14.7
b) limiters	28.3	35.9	30.7
TOTAL : %	100.0	100.0	100.0
N	12790	5649	18439

TABLE 12
Percent of MCRA's with Unmet Need for the Three Measures
by Religious Affiliation Philippines, CPS 1986

Unmet Need Measure	Religion						
	Catholic	Protest	INK	Aglipay	Islam	Others	None
Maximum	37.9	33.7	37.4	37.0	29.7	35.3	48.2
a) wants no more	20.6	15.2	19.6	20.6	17.0	21.0	26.6
b) wants more, intends to use	17.3	18.5	17.8	16.4	12.7	14.3	21.6
Liberal	20.6	15.2	19.6	20.6	17.0	21.0	26.6
Minimum	12.5	8.9	12.6	12.8	4.2	12.3	14.2
(N)	(15669)	(550)	(388)	(467)	(618)	(581)	(15)
							(18288)*

*151 cases did not report religious affiliation

TABLE 13
Percent Distribution of MCRAs by Unmet Need Category
and by Religious Affiliation, Philippines, CPS 1986

Category of Unmet Need	Religion							
	Catholic	Protest	INK	Aglipay	Islam	Others	None	Total
IN NEED								
Wants no more children								
1) Intends to use FP	12.5	8.9	12.6	12.8	4.2	12.3	14.2	12.1
a) past user	7.8	6.2	7.1	8.5	1.5	8.4	0.0	7.5
b) never user	4.7	2.7	5.5	4.3	2.7	3.9	14.2	4.6
2) does not intend to use FP	8.1	6.3	7.0	7.8	12.8	8.7	12.4	8.2
a) past user	2.6	1.6	2.4	2.3	1.6	2.9	3.6	2.5
b) never user	5.5	4.7	4.6	5.5	11.2	5.8	8.8	5.7
Wants more children and intends to use FP	17.3	18.5	17.8	16.4	12.7	14.3	21.6	1.0
a) past user	6.0	8.5	3.7	7.4	2.6	5.0	17.3	5.9
b) never user	11.3	10.0	14.1	9.0	10.1	9.3	4.3	11.1
UNMOTIVATED								
Wants more children and does not intend to use FP	11.6	10.1	8.0	12.1	45.0	11.5	20.9	12.6
a) past user	2.4	2.9	2.8	3.0	1.7	2.6	0.0	2.4
b) never user	9.2	7.2	5.2	9.1	43.3	8.9	20.9	10.2
NO NEED								
not exposed/subfecund	4.2	2.7	2.3	4.8	8.3	4.4	15.4	4.4
CURRENT USER	46.3	53.5	52.3	46.1	17.0	48.8	15.5	45.7
a) spacers	15.1	15.0	15.0	10.8	7.2	16.9	15.5	14.8
b) limiters	31.2	38.5	37.3	35.3	9.8	31.9	0.0	30.9
TOTAL : %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	(15669)	(550)	(388)	(467)	(618)	(581)	(15)	(18288)

• 151 cases did not report religious affiliation

6. Urban-Rural Residence

Table 14 shows that women who live in rural areas have higher unmet need than those who live in urban areas. The MAXIMUM measure shows that although this unmet need was for birth limitation rather than for birth spacing purposes, proportionally more urban women (80.4 percent) expressed their intention to use family planning than rural women (76.8 percent). The LIBERAL and MINIMUM measures also show that although more rural than urban women want to stop childbearing, more urban women expressed their intention to use contraception in the future (62.9 percent) than rural women (57.9 percent).

TABLE 14
Percent of MCRA's with Unmet Need for the Three
Measures by Urban-Rural Residence
Philippines, CPS 1986

Unmet Need Measure	Stratum		
	Urban	Rural	Total
Maximum	32.1	40.1	37.1
a) wants no more	17.0	22.1	20.2
b) wants more, intends to use	15.1	18.0	16.9
Liberal	17.0	22.1	20.2
Minimum	10.7	12.8	12.1
(N)	(6926)	(11513)	(18439)

Table 15 also shows less rural than urban women who are currently using contraception and more rural than urban women who are unmotivated to use contraception in the future. Access to contraceptive services is probably a major factor contributing to non-use; this assertion is borne out by the higher proportion of urban dwellers who are currently using contraception. Urban lifestyles may also be a factor in non-use, as reflected in the lower proportion of unmotivated among the urban compared to rural women.

7. Region

The regions with high levels of unmet need (40-48 percent of the MAXIMUM measures) shown in Table 16 are: Regions VIII, V, II, VI and I. Those with moderate levels of unmet need

TABLE 15

**Percent Distribution of MCRAs by Unmet Need Category and by
Urban-Rural Residence, Philippines, CPS 1986**

Category of Unmet Need	Stratum		
	Urban	Rural	Total
IN NEED			
Wants no more children			
1) Intends to use FP	10.7	12.8	12.1
a) past user	7.5	7.4	7.5
b) never user	3.2	5.4	4.6
2) does not intend to use FP	6.3	9.3	8.1
a) past user	2.4	2.6	2.5
b) never user	3.9	6.7	5.6
Wants more children and intends to use FP	15.1	18.0	16.9
a) past user	5.8	5.9	5.9
b) never user	9.3	12.1	11.0
UNMOTIVATED			
Wants more children and does not intend to use FP	10.6	13.6	12.5
a) past user	2.5	2.3	2.4
b) never user	8.1	11.3	10.1
NO NEED			
Not exposed/subfecund	5.5	4.9	5.0
CURRENT USER	51.8	41.4	45.4
a) spacers	16.8	13.4	14.7
b) limiters	35.0	28.0	30.7
TOTAL : %	100.0	100.0	100.0
N	6926	11513	18439

(37–39 percent of the MAXIMUM measure) are: Regions IV, XI and IX, and those with low levels of unmet need (28–36 percent of the MAXIMUM measure) are: Regions VII, X, III, XII and NCR. Unmet need for contraceptive services does not seem to be associated with the level of regional development. However, regions with high levels of unmet need have low levels of current contraceptive use except for Region XII (Central Mindanao) where the level of unmet need is second to the lowest coupled with a second to the lowest prevalence rate. This region is predominantly Muslim and as earlier observed, adherents of this religion want more children and do not intend to use contraception in the future.

Regions with high need to eliminate unwanted pregnancies (LIBERAL measure) are: Regions VIII, V and VI. Those with moderate levels of need are: Regions XI, IV, I and X. Those with low levels of unwanted pregnancies are: Regions IX, II, VII, III, XII and NCR. One would expect that regions with high levels of unwanted pregnancies would also exhibit high levels of intention to use family planning in the future (MINIMUM measure). The data in Table 16 do not seem to bear out this expectation in any meaningful way.

In Table 17, it can be seen that NCR and Region XII have the lowest levels of unmet need, but NCR has the highest prevalence and Region XII the second lowest prevalence rate. The inconsistent pattern for Region XII is traced to the high proportion of UNMOTIVATED women who want more children and do not intend to use contraception in the future. Region XII (Central Mindanao) is a region dominated by Muslims and as earlier observed, adherents of this religion want more children and do not intend to use contraception in the future. By contrast, NCR's low level of unmet need is coupled with very high contraceptive prevalence and a very low level of UNMOTIVATED women. Region VIII has the highest level of unmet need (48.5 percent) and the lowest level of prevalence (33.9 percent). Most of those in Region VIII who have unmet need for contraception are found among those wanting more children and intend to use contraception in the future as well as those who are never users.

Unmet need for contraceptive services (MAXIMUM measure) does not seem to be associated with the level of development of a region. This situation arises when the level of unmet need is confounded with current use levels. Neither would one be able to evaluate the intention to use contraception, especially among those not wanting to bear more children (MINIMUM), without putting this measure in context with the level of fertility of the region.

Table 18 shows the total fertility rate (TFR), the overall prevalence rate (PREV) and their components, and the measures of unmet need by region. From the data it is seen that NCR, Region III and Region VII show all aspects of contraceptive use development in that they exhibited the highest prevalence (PREV) that is based on use of the more effective methods (MEM). These regions show the lowest total fertility rates (TFR) and measures of unmet need. Although Regions X and IV may also be considered to have reached contraceptive use development (high overall prevalence and MEM), this development has not manifested itself in lower than average total fertility rates. Particularly for Region X, the low level of prevalence is traced to the high use of less effective methods such as rhythm and withdrawal.

Regions VIII, XII, V and II have low levels of contraceptive prevalence and except for Region II, this is characterized by the use of less effective (LEM) and non-program methods such as withdrawal. Quite expectedly, these regions have high total fertility rates (TFR). Except for Region XII, these regions have high levels of unmet need (MAXIMUM measure), and for Region VIII and V, this unmet need is more for birth limitation than for birth spacing

TABLE 16
Percent of MCRAs with Unmet Need for the Three
Measures by Region Philippines, CPS 1986

Unmet Need Measure	I	II	III	IV	R	E	V	VI	G	VII	VIII	I	IX	O	X	XI	XII	NCR Total
Maximum	41.0	41.5	32.5	39.8	44.1	44.1	41.1	41.1	33.6	48.5	37.6	33.4	39.4	29.2	28.1	37.1		
a) wants no more	21.1	18.4	14.5	22.2	27.8	27.8	25.4	15.8	30.5	19.8	20.4	24.0	14.3	13.5	20.2			
b) wants more, intends to use	19.9	23.1	18.0	17.6	16.3	15.7	17.8	18.0	17.8	13.0	15.4	14.9	14.6	16.9				
Liberal	21.1	18.4	14.5	22.2	27.8	25.4	15.8	30.5	19.8	20.4	24.0	14.3	13.5	20.2				
Minimum	11.8	10.8	8.1	13.7	16.0	13.5	9.4	18.4	11.5	12.7	15.1	7.1	9.9	12.1				
(N)	(1259)	(883)	(1886)	(2424)	(1270)	(1585)	(1363)	(1020)	(1034)	(1067)	(1339)	(874)	(2435)	(18439)				

TABLE 17
Percent Distribution of MCRAs by Unmet Need Category
and by Region, Philippines, CPS 1986

Category of Unmet Need	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	NCR	Total
IN NEED														
Wants no more children														
1) Intends to use FP	11.8	10.8	8.1	13.7	16.0	13.5	9.4	18.4	11.5	12.7	15.1	7.1	9.9	12.1
a) past user	6.8	4.6	5.7	7.6	9.7	8.7	7.1	9.2	7.2	8.9	9.6	4.1	7.2	7.5
b) never user	5.0	6.2	2.4	6.1	6.3	4.8	2.3	9.2	4.3	3.8	5.5	3.0	2.7	4.6
2) does not intend to use FP	9.3	7.6	6.4	8.5	11.8	11.9	6.4	12.1	8.3	7.7	8.9	7.2	3.6	8.1
a) past user	3.1	2.2	2.2	2.3	3.5	3.4	2.2	3.0	2.8	2.4	3.1	1.7	1.5	2.5
b) never user	6.2	5.4	4.2	6.2	8.3	8.5	4.2	9.1	5.5	5.3	5.8	5.5	2.1	5.6
Wants more children and intends to use FP	19.9	23.1	18.0	17.6	16.3	15.7	17.8	18.0	17.8	13.0	15.4	14.9	14.6	16.9
a) past user	5.5	6.2	6.6	6.0	5.5	5.7	8.1	4.7	6.0	5.0	5.8	4.7	5.5	5.9
b) never user	14.4	16.9	11.4	11.6	10.8	10.0	9.7	13.3	11.8	8.0	9.6	10.2	9.1	11.0

TABLE 17 (Continuation)
Percent Distribution of MCRAs by Unmet Need Category
and by Region, Philippines, CPS 1986

UNMOTIVATED														
Wants more children and does														
not intend to use FP	12.5	18.5	10.9	8.4	13.5	14.7	12.3	13.3	12.5	7.0	1	4.2	29.7	8.8
a) past user	2.4	4.5	1.8	2.3	2.8	2.5	1.8	1.9	2.0	1.4	3.0	2.1	3.0	2.4
b) never user	10.1	14.0	9.1	6.1	10.7	12.2	10.5	11.4	10.5	5.6	11.2	27.6	5.8	10.1
NO NEED														
Not exposed/subfecund	4.5	3.2	4.5	5.8	7.2	5.1	6.2	4.3	4.5	4.0	3.7	7.0	5.4	5.0
CURRENT USER	42.0	36.8	52.1	46.0	35.2	39.1	47.9	33.9	45.4	55.6	42.7	34.1	57.7	45.4
a) spacers	11.5	15.4	16.4	12.5	10.9	14.1	18.6	10.6	10.4	15.4	15.4	13.3	20.2	14.7
b) limiters	30.5	21.4	35.7	33.5	24.3	25.0	29.3	23.3	35.0	40.2	27.3	20.8	37.5	30.7
TOTAL : %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	1259	884	1886	2424	1270	1586	1361	1021	1034	1069	1339	874	2435	18440

TABLE 18
Total Fertility Rate, Prevalence Rate and
Unmet Need Measures by Region

REGION	1984 TFR	1986 PREVALENCE RATES					UNMET NEED			PREV +	
		MEM	LEM	NON PROG	TOTAL	MAX	LIB	MIN	MAX	MAX	
Philippines	4.6	20.4	12.4	12.1	45.4	37.1	20.2	12.1	82.5		
NCR	2.9	31.6	13.5	12.6	57.7	28.1	13.5	9.9	85.8		
I. Ilocos	4.7	20.4	10.4	11.2	42.0	41.0	21.1	11.8	83.0		
II. Cagayan Valley	5.1	23.0	5.9	7.9	36.8	41.5	18.4	10.8	78.3		
III. Central Luzon	4.2	27.7	6.9	17.5	52.1	32.5	14.5	8.1	84.7		
IV. Southern Tagalog	4.5	20.1	9.6	16.3	46.0	39.8	22.2	13.7	85.8		
V. Bicol	5.9	11.9	11.0	12.3	35.2	44.1	27.8	16.0	79.3		
VI. Western Visayas	4.8	13.1	18.4	7.6	39.1	41.1	25.4	13.5	80.2		
VII. Central Visayas	4.4	17.8	19.7	10.2	47.9	33.6	15.8	9.4	81.5		
VIII. Eastern Visayas	6.2	10.5	10.4	13.0	33.9	48.5	30.5	18.4	82.4		
IX. Western Mindanao	4.6	20.7	15.2	9.5	45.4	37.6	19.8	11.5	83.0		
X. Northern Mindanao	4.9	26.5	18.7	10.4	55.6	33.4	20.4	12.7	89.0		
XI. Southern Mindanao	5.4	14.4	17.5	10.8	42.7	39.4	24.0	15.1	82.1		
XII. Central Mindanao	4.9	15.3	11.6	7.2	34.1	29.2	14.3	7.1	63.3		

Notes:

TFR = Number of children per woman 15-44

MEM = More effective methods — pills, IUD, injectables, sterilization

LEM = Less effective methods — condom, rhythm

Other Non-Program Methods — withdrawal, abstinence, others

MAX = Maximum measure of unmet need

LIB = Liberal measure of unmet need

MIN = Minimum measure of unmet need

PREV + MAX = Total demand for contraceptive services.

purposes. While Region II manifested a high level of unmet need (MAXIMUM measure), this need is more for birth spacing than for birth limitation purposes. Although Region XII has a high total fertility rate that may have been a consequence of its low prevalence rate, the unmet need of this region is second lowest. Furthermore, this unmet need is more for birth spacing than for birth limitation purposes.

Regions I, VI, IX and XI are borderline regions in matters of contraceptive use development and fertility, and they all show moderate levels of unmet need for contraceptive services. However, of these regions, Region VI shows the highest unmet need for birth limitation purposes. It is also worth noting that current users of this region use the less effective methods, which obviously does very little to reduce its total fertility rate.

The total demand for contraceptive services is the sum of the current use and potential demand levels which are shown on the last column of Table 18. Here it can be observed that total demand is positively related with the level of development of the region. More developed regions have higher total demand for contraceptive services. Regions XII, II and V have the lowest total demand while Regions X, NCR, III and IV have the highest total demand for contraceptive services.

8. Summary

The analysis of differentials of unmet need may be summarized as follows:

1. Age of Wife

- Wives 15–24 years have the highest level of overall unmet need but this is mainly for spacing purposes (MAXIMUM measure).
- Wives 25–39 years have the highest level of unmet need for birth limitation purposes (LIBERAL measure) but more among those in the age group 25–29 than in any other age groups intending to use contraception in the future.
- Wives 40–44 years have the lowest level of unmet need and the lowest intention to use contraception in the future.

2. Living Children

- Wives with 0 to 2 and 9+ children have the highest level of unmet need but this is mainly for birth spacing purposes.
- Wives with 3 to 8 children have low levels of unmet need and this is mainly for birth limitation purposes. These low levels of unmet need are traced to a high level of current use among them. However, more of them intend to use contraception in the future.

3. Education

- Less educated wives have higher levels of unmet need than more educated ones. Particularly among those who wanted to stop childbearing, the negative relationship between unmet need and education was straight-forward. The intention to use family planning in the future was likewise negatively related with education among those who wanted no more children.
- Level of education was positively associated with current contraceptive use, explaining in part its negative association with unmet need. However, a large proportion of less educated than more educated wives were unmotivated to contracept and more of them felt they are not in need of contraception.

4. Work Status of Wife

- Non-working wives have higher unmet need of contraceptive services than working wives. More non-working wives wanted to stop childbearing and intended to use contraception than those who are working.
- Current contraceptive use among non-working wives was lower than among working wives, thus partly explaining the higher levels of unmet need among them. However, more non-working than working wives were unmotivated to contracept, even as more among those working felt they were not in need of contraceptive services.

5. Religion

- Muslims had low levels of unmet need accompanied by low levels of current contraceptive use. A high level of unmotivated wives were likewise observed among Muslims.
- Protestants had low levels of unmet need but this was due to their high level of contraceptive use. They had exhibited the lowest level of unmotivated wives.
- Catholics, Aglipayans and Iglesia ni Kristo adherents had high levels of unmet need that was more for limiting than for birth spacing purposes. More followers of these religions who wanted to limit childbearing expressed their intention to use family planning in the future than followers of other religions.

6. Urban-Rural Residence

- Rural women had higher unmet need than urban women. Although both groups had higher unmet need for birth limitation than for birth spacing purposes, proportionally more urban than rural women expressed their intention to use contraception in the future.

- Less rural than urban women are currently using contraception, and more are unmotivated to use contraception in the future than urban women.

7. Region of Residence

- NCR, Regions III, IV, VII, and X are considered to have reached contraceptive use development (high prevalence rates and low to moderate fertility rates). Expectedly their levels of unmet need are lowest.
- Regions II, V, VIII, and XII are considered to be underdeveloped contraceptively. Not only do these regions show low levels of contraceptive use, the methods selected are also the less effective ones. The poor quality of contraceptives coupled with low use levels are reflected in their high total fertility rates. Except for Region XII, all these regions have high levels of unmet need. For Regions VIII and V, this unmet need is more for birth limitation purposes. In Regions II and XII, the low level of unmet need for spacing purposes is coupled with a low level of prevalence and a high level of fertility rate.

Regions I, VI, IX and XI are considered to be moderately developed in matters of contraceptive use and fertility. All these regions showed moderate levels of unmet need except Region VI, which was second highest and where this unmet need was for stopping purposes.

- The total demand for contraceptive services (current use + unmet need) is positively related to level of socio-economic development and negatively related to fertility. However, some cultural and religious factors intervene in these relationships.

IV. UNMET NEED AND THE FAMILY PLANNING PROGRAM ACCEPTOR AND FERTILITY TARGETS

The Philippines Medium Term Development Plan: 1988–1992 (MTDP) stipulates the fertility reduction goal that would be required in order to speed up the achievement of the country's socio-economic development goals. This fertility reduction goal was translated, through a projection exercise (PROGTARG), into the number of acceptors and current users that the National Family Planning Program would need to provide with services and supplies. (For full details on the projection of family planning targets, see: Zablan, 1988.) In the projection, assumptions were made on the rate of decline of base fertility, the future planned changes in the methods that acceptors would select, annual rates of contraceptive discontinuation, and use effectiveness or the percent by which fertility is reduced by the methods accepted. These assumptions were:

Series 1. CONSTANT stipulates that past declines in TFR would continue unchanged, the method mix observed in 1986 will remain unchanged, and the 1980 contraceptive use–effectiveness and discontinuation rates will remain unchanged between 1989 and 1993.

Series 2. REALISTIC shares the same assumptions as Series 1 on TFR decline and on annual discontinuation. For the method mix, it assumes a gradual improvement over observed values in 1986 through a reduction in acceptance of the less effective methods (withdrawal, abstinence, folk) and a gradual improvement in acceptance of the more effective methods (sterilization, pills/injectables, IUD, NFP). Contraceptive effectiveness of rhythm will improve as a result of the upgrading of half of rhythm acceptors into NFP acceptors.

Series 3. BEST assumes that the fertility level observed in 1984 will decline faster to the level set by the MTDP for 1988–1995. Method mix will improve greatly such that by 1995 there shall be zero acceptance of the less effective methods and all rhythm acceptors shall be modern NFP acceptors. Only the contraceptive use–effectiveness of rhythm will change and will be replaced by the use–effectiveness of NFP. Discontinuation rates will be the same as in Series 1.

In November 1988, POPCOM adopted PROGTARG Series 2 as their plan for the National Family Planning Program. However, the leadership of the National Family Planning Program was transferred in 1989 to the Department of Health. The Integrated Population and Development Plan, 1989–1993 (IDPP) expressed its misgivings in achieving the MTDP 1988–1993 fertility targets, at least over the 1989–1990 period, in as much as the National Family Planning Program would still be building institutional capacities in 1989 and 1990 for it to be able to effectively deliver family planning services. The IPDP: 1989–1993 contained fertility targets that were the same as PROGTARG Series 2 for 1989 and 1990 and fertility rates for 1991 to 1993 that straddled PROGTARG Series 2 and Series 3. In view of the absence of more detailed differentials in the IPDP targets, PROGTARG will be used as the basis for the analysis.

In order to evaluate the likelihood of achieving the IPDP:1989–1993 fertility reduction targets of the National Family Planning Program, the number of potential acceptors based on the expressed unmet need of couples in 1986 will be calculated and compared with the number of acceptors required for fertility reduction as specified in PROGTARG Series 2 and Series 3.

To do this, the potential or unmet demand is converted into number of potential acceptors by multiplying the unmet need proportions (shown in Table 19) by the number of MCRAs for each year between 1989 and 1993 (shown in Table 20). Also shown in Table 19 columns 4–6 are unmet need proportions of those who want to space and to stop childbearing

TABLE 19
Unmet Need, Contraceptive Prevalence Levels and Total
Contraceptive Demand, by Region of Residence, Philippines, 1986.
(expressed as percent of MCRA)

REGION	Unmet Need Measure					Intend to use FP*	Contraception Prevalence	Prevalence + Maximum
	Maximum	Liberal	Minimum					
PHILIPPINES	37.1	20.2	12.1			29.0	45.4	82.5
NCR Metro Manila	28.1	13.5	9.9			24.5	57.7	85.8
I. Ilocos	41.0	21.1	11.8			31.7	42.0	83.0
II. Cagayan Valley	41.5	18.4	10.8			33.9	36.8	78.3
III. Central Luzon	32.5	14.5	8.1			21.6	52.1	84.6
IV. Southern Tagalog	39.8	22.2	13.7			31.3	46.0	85.8
V. Bicol	44.1	27.8	16.0			32.2	35.2	79.3
VI. Western Visayas	41.1	25.4	13.5			29.2	39.1	80.2
VII. Central Visayas	33.6	15.8	9.4			27.2	47.9	81.5
VIII. Eastern Visayas	48.5	30.5	18.4			36.4	33.9	82.4
IX. Western Mindanao	37.6	19.8	11.5			29.3	45.4	83.0
X. Northern Mindanao	33.4	20.4	12.7			25.7	55.6	89.0
XI. Southern Mindanao	39.4	24.0	15.1			30.5	42.7	82.1
XII. Central Mindanao	29.2	14.3	7.1			22.0	34.1	63.3

* MCRA's who want to space and to stop childbearing and who intend to use family planning in the future.

TABLE 20
Number of MCRAs and Potential Acceptors (000's) If Unmet Need is Satisfied by the Family Planning Program by Unmet Need Measure and by Region of Residence, and Acceptor (000's) and Total Fertility Targets of the National Family Planning Program, Philippines, 1989-1993

Region/Period	M CRA	Maximum	Liberal	Minimum	Intend** to use FP	Series 2 Acceptors	Series 2 TFR	Series 3 Acceptors	Series 3 TFR
Philippines									
1989	8591.4	3187.4	1735.5	1039.6	2491.5	1764.2	4.28	1866.1	4.13
1990	8853.3	3284.6	1788.4	1071.2	2567.4	1816.9	4.21	1928.2	4.03
1991	9119.4	3383.3	1842.1	1103.4	2644.6	1865.8	4.15	1984.0	3.90
1992	9385.5	3482.0	1895.9	1135.6	2721.8	1907.4	4.08	2031.3	3.79
1993	9651.6	3580.7	1949.6	1167.8	2799.0	2004.7	4.01	2079.7	3.67
NCR: Metro Manila									
1989	1308.1	367.6	176.6	129.5	320.5	274.7	2.74	275.9	2.66
1990	1355.1	380.8	182.9	134.2	332.0	280.5	2.70	281.2	2.61
1991	1387.4	389.9	187.3	137.4	339.9	285.5	2.70	284.8	2.55
1992	1419.8	399.0	191.7	140.6	347.9	288.9	2.64	287.5	2.49
1993	1452.2	408.1	196.1	143.8	355.8	293.5	2.61	290.8	2.43
Region 1: Ilocos									
1989	544.9	223.4	115.0	64.3	172.7	99.8	4.59	117.2	4.26
1990	560.2	229.7	118.2	66.1	177.6	101.7	4.57	121.9	4.12
1991	575.9	236.1	121.5	68.0	182.6	123.7	4.55	126.0	3.98
1992	591.6	242.5	124.8	69.8	187.5	145.2	4.53	129.6	3.85
1993	607.3	249.0	128.1	71.7	192.5	67.1	4.50	133.2	3.71
Region 2: Cagayan Valley									
1989	413.3	171.5	76.0	44.6	140.1	62.2	4.94	74.4	4.63
1990	426.9	177.2	78.6	46.1	144.7	64.1	4.91	78.4	4.49
1991	441.6	183.3	81.3	47.7	149.7	65.8	4.87	81.7	4.35
1992	456.3	189.3	84.0	49.3	154.7	66.5	4.84	84.5	4.21
1993	470.9	195.4	86.7	50.9	159.6	68.1	4.81	87.7	4.08

TABLE 20 (Continuation)

Region 3: Central Luzon

TABLE 20 (Continuation)
Number of MCRAs and Potential Acceptors (000's) If Unmet Need is Satisfied by the
Family Planning Program by Unmet Need Measure and by Region of Residence,
and Acceptor (000's) and Total Fertility Targets of the National Family
Planning Program, Philippines, 1989-1993

1989	879.8	285.9	127.6	71.3	190.0	168.0	3.99	175.1	3.80
1992	476.3	231.0	145.3	87.3	173.4	90.9	5.85	112.3	4.83
1993	490.3	237.8	149.5	90.2	178.5	93.6	5.81	115.6	4.62
Region 9: Western Mindanao									
1989	444.9	167.3	88.1	51.2	130.4	98.0	4.39	96.3	4.38
1990	456.9	171.8	90.5	52.5	133.9	101.4	4.34	99.2	4.33
1991	470.9	177.1	93.2	54.2	138.0	104.8	4.30	102.1	4.28
1992	484.9	182.3	96.0	55.8	142.1	107.9	4.25	104.8	4.23
1993	498.9	187.6	98.8	57.4	146.2	111.4	4.21	107.6	4.19
Region 10: Northern Mindanao									
1989	496.8	165.9	101.3	63.1	127.7	141.5	4.39	124.0	4.42
1990	511.5	170.8	104.3	65.0	131.5	148.9	4.26	127.2	4.34
1991	528.7	76.6	07.9	67.1	135.9	156.5	4.13	130.3	4.26
1992	545.8	182.3	111.4	69.3	140.3	163.9	3.99	133.1	4.18
1993	563.0	188.1	114.9	71.5	144.7	171.5	3.86	135.8	4.10
Region 11: Southern Mindanao									
1989	617.8	243.4	148.3	93.3	188.4	126.7	5.27	45.7	4.87
1990	635.7	250.5	152.6	96.0	193.9	130.7	5.24	152.7	4.17
1991	656.5	258.7	157.6	99.1	200.2	134.1	5.21	59.5	4.56
1992	677.2	266.8	162.5	102.3	206.5	137.6	5.17	165.6	4.41
1993	697.9	275.0	167.5	105.4	212.9	141.2	5.14	171.7	4.25
Region 12: Central Mindanao									
1989	427.7	124.9	61.2	30.4	94.1	70.0	4.69	70.6	4.59
1990	442.2	129.1	63.2	31.4	97.3	72.8	4.63	73.2	4.52
1991	456.8	133.4	65.3	32.4	100.5	75.3	4.58	75.7	4.46
1992	471.4	137.6	67.4	33.5	103.7	77.4	4.52	77.9	4.39
1993	485.9	141.9	69.5	34.5	106.9	79.9	4.47	80.2	4.32

* Proportion married in 5-year age groups in the 1980 Census multiplied by the projected women 15-44 from the NEDA Projections: 1980-2030 (medium series).

** MCRAs who want to space and to stop childbearing and who intend to use family planning in the future.

NOTE:

Series 2 — PROGTARG Series 2 required number of acceptors to achieve corresponding total fertility rate (TFR) targets.

Series 3 — PROGTARG Series 3 required number of acceptors to achieve total fertility rate (TFR) targets.

and who intend to use family planning in the future, as well as the contraceptive prevalence rate in 1986 for each of the country's 13 regions and the total demand for contraceptive services in 1986.

The potential number of acceptors according to the MAXIMUM, LIBERAL and MINIMUM measures of unmet need are shown in columns 2 to 4 of Table 20. Contained in column 5 of the same Table are the potential number of acceptors who intend to use family planning for birth spacing and for birth limitation purposes. Columns 6 and 7 show the numbers of acceptors required and the corresponding total fertility rates to be achieved if all assumptions in Series 2 of PROGTARG would hold. Columns 8 and 9 are the corresponding number of acceptors and total fertility rates in Series 3 of PROGTARG. The data show that the number of acceptors required in Series 2 or Series 3 fertility targets for the nation as a whole can be met simply by satisfying the unmet demand to stop childbearing (LIBERAL measure). It further shows that provision of family planning services to those who "Intend to use" would be more than sufficient to meet the acceptor requirements even of a fast decline in fertility (Series 3).

Acceptor targets required in order to reduce fertility to desirable levels for each of the country's 13 regions may be achieved by satisfying the unmet need of those who want to stop childbearing or those who say they intend to use family planning in the future. The results and their targets are summarized below.

REGION	NEED MEASURE	IMPLICATION
NCR	Intend to use FP	Provide FP to those who intend to use.
Region I	LIBERAL	Provide FP to those who want to stop childbearing.
Region II	LIBERAL	Provide FP to those who want to stop childbearing.
Region III	Intend to use FP	Provide FP to those who intend to use.
Region IV	LIBERAL	Provide FP to those who want to stop childbearing.
Region V	LIBERAL	Provide FP to those who want to stop childbearing.
Region VI	LIBERAL	Provide FP to those who want to stop childbearing.
Region VII	Intend to use FP	Provide FP to those who intend to use.
Region VIII	LIBERAL	Provide FP to those who want to stop childbearing.
Region IX	Intend to use FP	Provide FP to those who intend to use.
Region X	MAXIMUM	Intend to use FP Provide FP to those who intend to use.
Region XI	LIBERAL	Provide FP to those who want to stop childbearing.
Region XII	Intend to use FP	Intend to use FP Provide FP to those who intend to use.

In brief, for the National Family Planning Program to achieve its acceptor targets, all that is required is to satisfy, at least, the need of all those couples who want to stop childbearing and, at most, those who intend to use family planning to space or to stop childbearing. To achieve its fertility reduction targets, however, the Program would require adherence to the principle of "free choice" of contraceptive methods in order for couples to be able to select methods suitable to them. In addition, the Program needs to promote and maintain an efficient service delivery system.

Tables 21 to 24 essentially show the total demand for contraceptive services classified by age of wife and by urban-rural residence. It is interesting to note that satisfaction of the unmet need for contraceptives could potentially increase contraceptive prevalence to 85 or 86 percent among wives 25-39 years of age, in contrast to 76 percent among wives 15-19 and to 68 percent among wives 40-44 years (Table 21). The urban-rural classification shows that urban wives have a total demand of 84 percent and those living in rural areas, 82 percent.

V. SUMMARY AND CONCLUSIONS

The analysis of unmet need highlighted the following results:

1. The unmet need of couples expressed in 1986 ranged from 12.1 to 37.1 percent and if this were fully satisfied by the National Family Planning Program, it would lead to a contraceptive prevalence rate ranging from 57.5 percent to 82.5 percent. A decline in TFR from 4.36 in 1987 to 3.67 by 1993 (according to the MTDP:1988-1993) would be achieved provided the PROGTARG Series 3 (BEST) assumptions hold and the contraceptive prevalence of 45.4 in 1986 increases to 56 percent by 1993. Alternatively, the same TFR decline would be achieved by 1998 provided the PROGTARG Series 1 or 2 (CONSTANT OR REALISTIC) assumptions are realized and contraceptive prevalence is increased to 70 percent.
2. The analysis of trends over the 1978-1986 period showed that the unmet need expressed by Filipino couples in 1978 was not met by the National Family Planning Program in 1986. It further showed that unmet need have increased over the 1978-1986 period substantially for wives below 25 years and modestly for wives below 25-39 years. However, these appreciable increases were due more to birth spacing reasons rather than to stopping childbearing. Prevalence rates of wives below 25 years remained stable and only the demographically pressured women 30 years and over showed appreciable increases in current use rates.
3. The analysis of differentials in unmet need in 1986 showed that the MAXIMUM unmet need measure was negatively related with age of wife. Younger (below 25) wives showed greater unmet need for spacing purposes, while older (25+) wives

TABLE 21
Unmet Need, Contraceptive Prevalence Levels and Total Contraceptive Demand by Age, Philippines, 1986
 (expressed as percent of MCRA)

Age of Wife	Maximum	Liberal	Minimum	Intend* to use FP	Contraception Prevalence	Prevalence Maximum
15-19	59.8	9.0	6.8	57.6	16.0	75.8
20-24	52.6	17.2	13.1	47.8	32.5	85.1
25-29	41.6	20.6	14.8	35.8	44.2	85.8
30-34	33.8	22.5	14.3	25.6	52.2	86.0
35-39	31.1	24.6	11.7	18.2	53.5	84.6
40-44	19.4	17.0	5.1	7.5	48.8	68.2
All	37.1	20.2	12.1	29.0	45.4	82.5

* MCRA who want to space and stop childbearing and who intend to use FP

TABLE 22
Number of MCRA and Potential Acceptors (000's) If Unmet Need is Satisfied by The Family Planning Program
by Unmet Need Measure and by Age
Philippines, 1989-1993.

Age of Wife	MCRA*	Maximum	Liberal	Minimum	Intend** to use FP
1989					
15-19	433.3	259.1	39.0	29.5	249.6
20-24	1514.5	796.6	260.5	198.4	723.9
25-29	1990.2	827.9	410.0	294.5	712.5
30-34	1905.7	644.1	428.8	272.5	487.9
35-39	1569.2	488.0	386.0	183.6	285.6
40-44	1178.6	228.7	200.4	60.1	88.4
All	8591.4	3244.4	1724.6	1038.6	2547.8
1990					
15-19	440.9	263.7	39.7	30.0	254.0
20-24	1536.5	808.2	264.3	201.3	734.4
25-29	2034.0	846.1	419.0	301.0	728.2
30-34	1975.4	667.7	444.5	82.5	505.7
35-39	1643.6	511.2	404.3	192.3	299.1
40-44	1222.8	237.2	207.9	62.4	91.7
All	8853.3	3334.1	1779.6	1069.4	2613.1
1991					
15-19	453.5	271.2	40.8	30.8	261.2
20-24	1566.0	823.7	269.4	205.1	748.6
25-29	2066.0	859.5	425.6	305.8	739.6
30-34	2023.9	684.1	455.4	289.4	518.1

TABLE 22 (Continuation)
 Number of MCRA and Potential Acceptors (000's) If Unmet Need is Satisfied by The
 Family Planning Program by Unmet Need Measure and by Age
 Philippines, 1989-1993.

35-39	1714.8	533.3	421.8	200.6	312.1
40-44	1295.1	251.2	220.2	66.1	97.1
All	9119.4	3423.0	1833.2	1097.9	2676.8
1992					
15-19	466.1	278.7	42.0	31.7	268.5
20-24	1595.5	839.3	274.4	209.0	762.7
25-29	2098.0	872.8	432.2	310.5	751.1
30-34	2072.3	700.4	466.3	296.3	530.5
35-39	1786.0	555.5	439.4	209.0	325.1
40-44	1367.4	265.3	232.5	69.7	102.6
All	9385.5	3512.0	1886.7	1126.3	2740.4
1993					
15-19	478.7	286.3	43.1	32.6	275.7
20-24	1625.1	854.8	279.5	212.9	776.8
25-29	2130.1	886.1	438.8	315.3	762.6
30-34	2120.7	716.8	477.2	303.3	542.9
35-39	1857.3	577.6	456.9	217.3	338.0
40-44	1439.6	279.3	244.7	73.4	108.0
All	9651.6	3600.9	1940.2	1154.7	2804.0

* Proportion married in 5-year age groups in the 1980 Census multiplied by the projected women 15-44 from the NEDA Projections (medium series).

** MCRA who want to space and stop childbearing and who intend to use FP

TABLE 23
Unmet Need, Contraceptive Prevalence Levels and Total Contraceptive Demand
and by Urban-Rural Residence Philippines, 1986
(expressed as percent of MCRA)

Age of Wife	Unmet Need Measure		Intend [*] to use FP	Contraception Prevalence	Prevalence Maximum
	Maximum	Liberal Minimum			
Urban	32.1	17.0	25.8	51.8	83.9
Rural	40.1	22.1	30.8	41.4	81.5

* MCRA's who want to space and to stop childbearing and who intend to use FP

TABLE 24
Number of MCRA and Potential Acceptors (000's) If Unmet Need is Satisfied
by The Family Planning Program by Unmet Need Measure and by Place
of Residence, Philippines, 1989-1993

Place of Residence	MCRA*	Maximum	Liberal	Minimum	Intend to Use FP
<i>1989</i>					
Urban	3178.8	1020.4	540.4	820.1	820.1
Rural	5412.6	2160.4	1196.2	692.8	1667.1
<i>1990</i>					
Urban	3275.7	1051.5	556.9	350.5	845.1
Rural	5577.5	2236.5	1232.6	713.9	1717.9
<i>1991</i>					
Urban	3374.2	1083.1	573.6	361.0	870.5
Rural	5745.2	2303.8	1269.7	735.4	1769.5
<i>1992</i>					
Urban	3472.6	1114.7	590.3	371.6	895.9
Rural	5912.9	2371.1	1306.8	756.8	821.2
<i>1993</i>					
Urban	3571.1	1146.3	607.1	382.7	921.3
Rural	6080.5	2438.3	1343.8	778.3	1872.8

* Assuming 0.37 urban and 0.63 rural proportions in 1980 to remain unchanged over the 1989-1993 period, in thousands.

showed greater unmet need for birth limitation purposes. Of those who wanted to stop childbearing, wives 20–34 years showed higher proportions who intend to use family planning in the future. Wives with 0–2 and 9+ children showed the highest levels of unmet need which was more for spacing purposes. Wives with 3–8 children showed the lowest levels of unmet need for birth limitation purposes. Majority of these women, however, intend to use family planning in the future. Education of wife was negatively related with the unmet need for stopping childbearing (LIBERAL measure) and the intention to use family planning in the future among stoppers (MINIMUM measure). The absence of a linear relationship in the MAXIMUM measure is due to the fact that more intermediate and college educated wives wanted to space childbirths. Wives who were not working showed higher levels of unmet need than working wives; however more non-working wives did not intend to use contraception in the future.

Catholics, Aglipayans and Iglesia ni Kristo adherents showed high levels of unmet need mostly for birth limitation purposes. About 60 percent of those who wanted to stop childbearing expressed their intention to use family planning in the future. By contrast Muslims and Protestants had low levels of unmet need, but this was because Protestants had high current use rates. However, Muslims had low levels of unmet need because a large proportion of them wanted more children. More rural wives had higher unmet need than urban wives. However more urban than rural wives expressed their intention to use family planning in the future.

When viewed in the context of total fertility and prevalence rates, unmet need for the 13 regions of the country appeared to be negatively related to level of contraceptive use development and positively related to fertility of the region.

NCR, Regions III, VII, X and IV are considered to have attained contraceptive use development and expectedly showed the lowest levels of unmet need.

Regions VIII, XII, V and II are considered to be underdeveloped contraceptively in that they not only had low prevalence rates, but the methods used were also the less effective ones. Unmet need was high in Regions VIII and V, that is, for birth limitation purposes, while in Regions II and XII, this was so for spacing purposes. All these regions had higher than average total fertility rates. These results indicate that other socio-economic and cultural factors play a role in determining the nature of unmet need than contraceptive use development alone.

Regions I, VI, IX and XI are considered to be moderately developed in matters of contraceptive use and fertility. Expectedly, these regions showed moderate levels of unmet need except for Region VI, which showed second to highest level of unmet need that was for birth limitation purposes.

From the foregoing analyses of unmet needs we conclude that Filipino couples hold fertility goals that are consistent with those of the Philippine society. The total demand for contraceptive services in 1986 (served plus unmet = 82 percent) is 27 percent higher than the prevalence level that would be needed to achieve replacement fertility levels (i.e., 65 percent). However, from the analysis of trends, it was observed that the National Family Planning Program between 1978 and 1986 was unable to satisfy the unmet need expressed by Filipino couples in 1978.

One of the 1987 Population Policy's operating principles is the "respect for the rights of couples with regard to determining the size of their families and the choice of methods." The programmatic implications of this principle for the family planning program are: full information on all medically and legally approved methods is required (i.e., the insistence on a cafeteria approach and the avoidance of coercion); the availability and accessibility of all approved methods must be assured; abortion as a family planning method must be rejected; and family planning services must be expanded and their effectiveness and quality upgraded.

Based on these guiding principles, the results of this study could provide a basis for identifying specific sub-groups for IEC activities for the provision of full information and quality service, especially where the family planning program's past efforts were not well focused. The trends in prevalence rates have shown a stability in current use rates of wives below 25 years. Apparently, the program was able to increase current use rates between 1978 and 1986 only among the demographically pressured women 30 years of age and over. More efforts need to be exerted to improve contraceptive use among the younger women since they have shown high levels of unmet need for spacing. The high unmet need expressed by these wives should be met with a wider array of spacing methods from which they can choose. The high levels of unmet need of wives with 0-2 and 9+ children for spacing purposes should likewise be satisfied.

The analysis also showed some cultural and regional differences which should be considered in educational campaigns and in delivering family planning services. The general socio-economic development of a region should likewise be considered in evaluating the strategies to meet the potential demand expressed by wives. Without the necessary developmental preconditions, more efforts need to be exerted by the program in order to meet their potential demand.

The current IPDP:1989-1993 lacks specification of its implementing strategies. In the Plan, Regions III, VII, X and XI were considered "advanced implementation regions" since they are "in advanced states of program infrastructure, political will and administrative readiness." The regional analysis of unmet need does not seem to support this contention totally. For example, Region XI (Southern Mindanao) was earlier classified (in Section 7) to be in a moderate stage of contraceptive use development and fertility that is characterized by

slightly below national average contraceptive use and preference for the less rather than the more effective methods. To achieve its fertility target in 1993, it would have to provide family planning services to those who want to stop childbearing. Since its current users in 1986 are more of those who want to stop but who use less effective methods, there is need for the family planning program of Region XI to improve its method mix.

For program managers to determine whether or not the fertility reduction targets they set are realizable, they must take account of current contraceptive use patterns and the nature of the potential demand or unmet need for contraceptive services in their respective areas. Indeed there is enough spontaneous demand expressed by Philippine couples and this demand may be adequately met by adherence to the current policy of non-coercion and by providing adequate and quality contraceptive services.

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PERSISTING AND CHANGING PATTERNS OF POPULATION REDISTRIBUTION IN THE PHILIPPINES

Imelda Zosa-Feranil

I. INTRODUCTION

The debate about the Philippine population problem has oftentimes centered on the entire country's population growth and rapidly increasing numbers, as well as the still high birth rates. The population of any country, however, has spatial dimensions. In the case of the Philippines the population is distributed across regions, provinces, municipalities, cities, and barangays. Moreover, segments of the country's population migrate within and across these various geographic areas, thereby resulting in redistribution. In this paper, "internal migration" refers to permanent or semi-permanent changes of residence that entail crossing municipal, provincial, or regional boundaries. This is distinguished from "local movement" which refers to changes in residence within cities, municipalities, or barangays.

One of the major regional development thrusts of the Medium-Term Philippine Development Plan, 1987–1992 is the promotion of a more desirable population distribution. The specific thrust is actually a response to perceptions of policy makers and planners that past population distributions have been rather uneven, and that future spatial mobility has to proceed along more well-planned lines.

Evidence of the unevenness of the country's population distribution can be gleaned from Table 1. Metro-Manila's share to the total Philippine population increasingly grew from 8 per cent in 1948 to 12 per cent by 1980. Metropolitan Manila (or the National Capital Region) became an official regional administrative unit only in 1975 and as defined occupies 636 square kilometers of the country's total land area of 300,000 square kilometers. Central Luzon, Ilocos, Bicol and the Visayas usually accounted for smaller segments of the entire country's land area, but registered much larger shares of the total population. This pattern prevailed for Bicol, Western and Central Visayas throughout the 1948–80 period. Eastern Visayas followed this given pattern up to 1960, but from 1970 onward reversals occurred, with the region's percentage share to that of the entire country's population declining to levels lower than its share to total land area.

In contrast, Southern Tagalog occupies 15.6 per cent of the entire country's geographic expanse, while its percentage share to the total Philippine population was always lower, ranging at levels between 10.7 to 12.7 per cent. The Cagayan Valley accounts for 12 per cent of the

country's land area, but its share to the total population across the years never exceeded 5 per cent. Similarly, the Mindanao regions account for about one-third of the entire country's total land area but its four regions gave abode to only around 15 to 20 per cent of the country's total population across the years. In a way, Cagayan Valley, Southern Tagalog and Mindanao can still "receive" more people even as the Metro-Manila area, Bicol and the Visayas are the "highly settled" regions of the country.

TABLE 1
Percentage Distribution of Land Area and Population by Region, 1948-80

REGION	POPULATION					
	1948	1960	1970	1975	1980	Land Area
PHILIPPINES	100.00	100.00	100.00	100.00	100.00	100.00
NCR Metropolitan Manila	8.2	9.1	10.8	11.8	12.3	2
I. Ilocos	10.1	9.0	8.2	7.8	7.4	7.2
II. Cagayan Valley	4.0	4.4	4.6	4.6	4.6	12.1
III. Central Luzon	9.6	9.2	9.7	10.0	10.0	6.1
IV. Southern Tagalog	10.7	11.5	12.2	12.4	12.7	15.6
V. Bicol	8.7	8.7	8.1	7.6	7.2	5.9
VI. Western Visayas	13.2	11.4	9.9	9.9	9.4	6.7
VII. Central Visayas	11.0	9.3	8.3	8.0	7.9	5.0
VIII. Eastern Visayas	11.0	9.3	8.3	8.0	7.9	5.0
VIII. Eastern Visayas	9.2	7.5	6.5	6.2	5.8	7.1
IX. Western Mindanao	4.0	5.0	5.1	4.9	5.3	6.2
X. Northern Mindanao	5.4	5.4	6.0	5.5	5.7	9.4
XI. Southern Mindanao	2.4	4.4	5.3	6.4	7.0	10.6
XII. Central Mindanao	3.5	5.1	5.3	4.9	4.7	7.8

Sources: M.B. Concepcion, "Growth and Distribution of the Population" in *Population of the Philippines: Current Perspectives and Future Prospects*, Table 1.5, p. 13, NEDA 1983.

National Census and Statistics Office. Census Reports for the various years mentioned.

Population density levels in all the regions (Table 2) grew as all regions became increasingly populated over time. Clearly, the most densely settled area across the years is the Metro-Manila area. Using the overall Philippine level as basis, the other regions with density levels higher than that of the country were Central Luzon (ranking a "distant " second to Metro Manila), Central Visayas (third), Bicol (fourth) and the Ilocos (fifth). All the other regions registered density levels lower than that of the entire country but notably lowest in the Cagayan Valley as well as in the Northern, Central, and Southern regions of Mindanao.

TABLE 2

Population Densities by Region, 1948-1980 (Persons per square kilometer)

Region	1948	1960	1970	1975	1980
PHILIPPINES	64.1	90.3	122.3	140.2	164.1
NCR Metropolitan Manila	1,547.0	3,888.1	62,363.9	7,814.5	9,317.4
I. Ilocos	90.1	112.6	138.7	151.6	164.1
II. Cagayan Valley	21.3	33.0	46.5	53.1	60.9
III. Central Luzon	101.7	136.8	195.5	230.9	263.4
IV. Southern Tagalog	56.5	66.1	96.4	111.1	130.4
V. Bicol	94.5	134.0	168.3	181.1	197.2
VI. Western Visayas	125.1	152.2	178.9	205.0	223.8
VII. Central Visayas	141.8	168.7	202.8	226.6	253.3
VIII. Eastern Visayas	82.3	95.2	111.1	121.3	130.6
IX. Western Mindanao	40.8	72.3	100.0	109.6	135.3
X. Northern Mindanao	36.4	51.6	78.1	81.7	97.4
XI. Southern Mindanao	14.8	37.5	61.3	85.6	105.6
XII. Central Mindanao	29.2	59.4	83.3	88.9	97.5

Source: M.B. Concepcion, "Growth and Distribution of the Population" in *Population of the Philippines: Current Perspectives and Future Prospects*, Table 16, p.14, NEDA 1983.

Share to total land area as well as population density levels, of course, are imperfect measures of the evenness or unevenness of population distributions since both do not take into account the habitability as well as the productive potentials of specific lands. The experiences of metropolitan areas and other mega-cities of the developed countries indicate that very high and rising density levels are quite possible in urban ecosystems. However, the issue of increasing population pressure on the limited resources and services of Metro-Manila and other urban centers in countries like the Philippines needs to be raised.

These growing populations in all the regions of the country are the end results of fertility, mortality, and migration. If we simply assume that natural increase resulting from the difference between fertility and mortality levels across the regions do not vary widely as Pascual (1966) and Flieger (1976) did in earlier migration studies, the difference between the country's population growth and that of regional growth indicates net migration status. Differences exceeding the national growth rate represent in-migration areas while those with growth rates below that of the country can be classified as out-migration areas. Thus, the rather large positive differences in the national and regional population growth rates of Metro-Manila, Southern Tagalog and most of the Mindanao regions indicate their in-migration statuses over the years. Notable negative differences for the Ilocos, Bicol and the Visayas in turn point to their out-migration experiences (Table 3). These information, however, are only indicative of migration since better or more direct data are available.

II. OVERVIEW OF MIGRATION PATTERNS

Studies on population redistribution in the Philippines describe two dominant but changing patterns. Long-distance, frontierward, male-dominated movements characterized Philippine migration prior to 1960. Post-60s movements point to increasing urbanward migration, and the dominance of females among the migrants. Over the years, migrants in the country have been highly selective of those in the young adult ages. This paper examines the historical shifts in population redistribution in the country up to 1980. The discussion is done by time periods and proceeds by first presenting overall profiles of net gains and losses, the general directions of movements and the age-sex dimensions of migration for each period. Included in the analysis are summary and detailed tables which in my judgment best illustrate the migration patterns being discussed. Where possible, the data are presented in the current administrative regional groupings to give more relevance to the analysis. References are also made to studies on the determinants of migration during a given period to help elucidate on the patterns noted.

TABLE 3
Annual Rates of Population Growth by Region, 1948- 1980

Region	Average Annual Growth Rates (percentage)			
	1948-1960	1960-1970	1970-1975	1975-1980
PHILIPPINES	3.06	3.01	2.79	2.71
NCR	8.44	4.70	4.70	3.58
I	1.97	2.06	1.80	1.61
II	3.93	3.40	2.71	2.76
III	2.64	3.56	3.19	2.67
IV	1.39	3.75	2.89	3.25
V	3.12	2.25	1.49	1.71
VI	1.74	1.59	2.77	1.77
VII	1.54	1.82	2.24	2.26
VIII	1.29	1.52	1.77	1.49
IX	5.15	3.23	1.85	4.31
X	3.11	4.13	0.91	3.58
XI	8.54	4.93	6.94	4.28
XII	6.43	3.37	1.29	1.87
Differences from the National Rate				
NCR	5.38	1.69	1.91	0.87
I	-1.09	0.09	-0.95	-0.99
II	0.87	0.39	-0.08	0.05
III	-0.42	0.55	0.40	-0.04
IV	-1.67	0.74	0.10	0.54
V	0.06	-0.76	-1.30	-1.00
VI	-1.32	-1.42	-0.02	-0.94
VII	-1.52	-1.19	-0.55	-0.45
VIII	-1.77	-1.49	-1.02	-1.22
IX	2.09	0.22	-0.94	1.60
X	0.05	1.12	-1.88	0.87
XI	5.48	1.92	4.15	1.57
XII	3.37	0.36	-1.50	-0.84

Source: National Census and Statistics Office. Census reports for the various years mentioned

1. Pre-1960 Migration

1.1 1939-1948 Period

Using the survival ratio method, Nava (1959) described migration patterns in the 1939-48 period as consisting primarily of migration to Mindanao, the southern frontier that earned the byname then as "the land of promise" since the government opened up opportunities to lease or own land in remote, sparsely populated areas. This earlier study also showed that most of the provinces in the peripheral Luzon regions – the Ilocos and Bicol – as well as the Visayas were out-migration areas (Table 4). Even Central Luzon lost populations through migration. The other major gaining areas were the Southern Luzon province of Rizal and the city of Manila, both of them are the main components of what is now Metro-Manila. This very early study of Philippine migration used indirect migration measures and one can only make some conjectures on flows as suggested by the net-gaining and losing areas.

1.2 Lifetime-1960 and 1948-1960

Pascual¹ (1966) utilized the 1960 Census data on place of birth and residence in 1960 and estimated that about 16 out of every 100 native-born individuals were living in a different province from that of birth. Based on the 11-region Bureau of the Census and Statistics grouping utilized by Pascual, nearly 13 per cent of the population were residents of a region other than that of their birth. Her analysis of lifetime net migration up to 1960 (Table 5) indicates similar migration patterns as those shown by Nava: very heavy influx to Mindanao and the Manila-Rizal area. The province of Rizal gained the most in terms of lifetime migrants.

Regionwise, the combined area of Southern and Central Mindanao ranked first in terms of net-migration while the Manila-Rizal area ranked second. Thus, the southern portion of Mindanao was the most preferred region of destination up to 1960. The great rush to new lands is reflected in the migration figures for Mindanao where almost all provinces experienced net gains through lifetime migration up to 1960. Zamboanga del Sur and Bukidnon were most noteworthy since about 45-48 per cent of their total 1960 populations (excluding the foreign-born) were born elsewhere. The Cagayan Valley, particularly Isabela and Nueva Viscaya, also experienced substantial net migration up to 1960. In contrast, the entire Visayas, most areas in the Ilocos and Central Luzon and a number of provinces in Bicol registered net losses through lifetime migration.

¹Pascual used 55 provinces in her analysis.

TABLE 4

Nava's Estimated Net Migration by Census Survival Ratio Method: 1939-1948

Region	Net Migrants	Region	Net Migrants
NCR ^a		REGION V	
Manila	283,494	Albay and Catanduanes	-29,441
Rizal	146,658	Camarines Norte	-16,924
		Camarines Sur	59,118
REGION I		Masbate	-22,298
Abra	- 9,919	Sorsogon	-18,601
Benguet	-17,338		
Ilocos Norte	-22,916	REGION VI	
La Union	-94	Antique	- 1,411
Mountain Province ^b	-55,184	Capiz and Aklan	-47,142
Pangasinan	- 5,561	Iloilo	-49,286
		Negros Occidental	28,400
REGION II			
Cagayan	-23,852	REGION VII	
Isabela	130	Bohol	- 35,365
Nueva Viscaya	- 8,194	Cebu	-119,143
Quirino }		Negros Oriental	- 35,539
Batanes }	181	REGION VIII	
REGION III		Leyte and Southern Leyte	-88,542
Bataan	- 5,773	Eastern, Northern & Western Samar	
Bulacan	18,147	REGION IX	
Nueva Ecija	-36,145	Sulu & Tawi-Tawi	40,388
Pampanga	-30,914	Zamboanga del Norte	
Tarlac	- 391	Zamboanga del Sur & Basilan	55,277
Zambales	7,735		
REGION IV		REGION X	
Batangas	-11,562	Agusan del Norte	4,533
Cavite	-14,674	Agusan del Sur	
Laguna	- 5,942	Bukidnon & Camiguin	- 3,274
Marinduque	-12,420	Misamis Occidental	-47,452
Occidental Mindoro }	- 4,186	Misamia Oriental	87,563
Oriental Mindoro }		Surigao	-11,981
Palawan	-198	REGION XI and XII	
Quezon	-10,564	Davao	6,890
Romblon	-16,026	Lanao	64,833
		Cotabato	61,168

^aMetro-Manila is approximated here by the data for the city of Manila and the entire province of Rizal.

^bIncludes Ifugao and Kalinga Apayao.

TABLE 5
Lifetime -1960 and 1948-60 Migration

REGION	Estimated Net-Migration Lifetime-1960	Estimated Net-Migration 1948-60	1948-60 Migration Rate per 1,000 Ave. Population
NCR	328.9		
Manila	189.1	-64,600	- 83
Rizal	688.2	389,000	521
REGION I	-104.4		
Abra	-14.0	- 5,600	- 81
Ilocos Norte	-78.2	-16,200	- 84
Ilocos Sur	-64.8	-24,600	-111
La Union	-46.0	-18,000	- 97
Benguet and Mountain Province	25.8	15,600	64
Pangasinan	-203.0	- 69,600	-100
REGION II	91.2		
Cagayan	- 3.2	- 2,400	- 10
Ifugao			
Isabela	84.7	29,200	125
Kalinga-Apayao			
Nueva Viscaya}	25.3	12,200	166
Quirino}			
Batanes	- 5.7	- 400	- 52
REGION III	-97.4		
Bataan	12.5	7,000	88
Bulacan	-47.0	-16,000	- 48
Nueva Ecija	-57.4	-28,200	- 78
Pampanga	-84.7	- 4,000	- 11
Tarlac	-48.7	-34,000	- 95
Zambales	11.8	na	na

TABLE 5 (continuation)
Lifetime -1960 and 1948-60 Migration

REGION	Estimated Net-Migration Lifetime-1960	Estimated Net-Migration 1948-60	1948-60 Migration Rate per 1,000 Ave. Population
REGION IV	- 15.5		
Batangas	-104.1	-39,400	- 96
Cavite	- 26.6	-10,400	- 47
Laguna	- 3.6	-14,600	- 55
Marinduque	- 24.2	- 600	- 9
Occidental Mindoro	22.3	9,000	211
Oriental Mindoro	62.3	27,000	235
Palawan	24.6	3,600	39
Quezon	59.5	38,600	108
Romblon	- 28.3	- 3,200	- 41
REGION V	- 49.1		
Albay	- 96.1	- 29,800	- 10
Camarines Norte	20.8	25,600	272
Camarines Sur	25.2	- 14,600	- 32
Catanduanes	- 23.7	- 10,800	-119
Masbate	12.6	4,400	25
Sorsogon	- 65.2	- 29,200	-139
REGION VI	-120.2		
Aklan	- 33.8	-11,400	- 80
Antique	- 66.0	-34,600	-211
Capiz	-144.5	-33,800	-183
Iloilo	-199.4	-90,200	-146
Negros Occidental	- 16.4	-34,600	- 43
REGION VII	-212.0		
Bohol	-189.6	-66,000	-166
Cebu	-454.8	-147,800	-173
Negros Oriental}	- 61.3	- 30,800	- 89
Siquijor}			

TABLE 5 (continuation)
Lifetime -1960 and 1948-60 Migration

REGION	Estimated Net-Migration Lifetime-1960	Estimated Net-Migration 1948-60	1948-60 Migration Rate per 1,000 Ave. Population
REGION VIII	-113.9		
Leyte & Southern Leyte	-208.9	- 92,200	-126
Eastern Samar, Northern Samar Samar (Western)	- 58.5	- 39,400	- 73
REGION IX	255.9		
Sulu & Tawi-Tawi	- 20.7	6,800	- 35
Zamboanga del Norte	43.2	31,600	216
Zamboanga del Sur and Basilan	336.0	93,600	263
REGION X	48.0		
Agusan del Norte	97.8	49,200	377
Agusan del Sur			
Bukidnon	81.2	5,000	649
Camiguin			
Misamis Occidental	-149.3	33,800	-221
Misamis Oriental	- 10.8	na	na
REGION XI and XII	351.0		
Davao	337.8	159,600	390
Cotabato	352.7	118,000	241
Surigao	2.5	- 2,800	- 13
Lanao del Norte	101.7	29,000	214
Lanao del Sur	-8.3	na	na

N.A. Not Applicable

^aProvincial level figures are from Pascual (1966) while regional rates are from Gonzales and Pernia (1983).

^bBased on Pascual (1966), Tables 5 and 6, pp. 30-35.

Zosa's (1973) correlation analysis of interprovincial life time-1960 migration streams indicate the tendency for migrants to settle in areas where the dominant ethnic composition closely resembled that of the sending province. "Social facilitating" factors like ethnicity or contiguity emerged as more significant than economic variables like manufacturing employment and the presence of amenities. Detailed census data for the period specifically showed that Visayans streamed toward Mindanao provinces where large segments of the population spoke the same native tongue.

Pascual went further to analyze residence in 1948 compared to province of enumeration in the 1960 census. A comparison of the figures seen in Table 5 with general patterns given earlier (Table 4) for the 1939-48 period indicates that the city of Manila was a net in-migration area during its early years of expansion but started to lose more substantial numbers to areas outlying the city during the 1948-1960 period. Pascual described the pattern as "the beginning of Philippine suburbanization."

Indeed, the largest number of intercensal in-migrants to a single province headed toward Rizal province. Southern Luzon was also a major gaining area despite the losing status of some provinces, owing primarily to the large gains contributed by the provinces of Quezon and the Mindoros.

Aside from the new trend toward suburbanization, the 1948-60 period can also be characterized by the continuation of most of the migration patterns prevailing in the preceding period: the gaining status for most areas in Mindanao and the net losses for the Visayas, most of the Bicol, Ilocos and Central Luzon provinces.

The Cagayan Valley presents an interesting case where some provinces gained relatively large numbers due to migration even as other provinces in the region registered losses which were much lower in volume. The big difference between the net gains and losses indicate that sparsely populated Cagayan Valley, which comprised the country's northern frontier, also drew in substantial numbers of migrants.

A "migration stream" refers to a group of migrants who depart from a common area of origin and head toward a common area of destination. In summary, there were two major migration streams between 1948-1960: from Luzon and Eastern-Western Visayas to the NCR and another major stream from the Visayas to Mindanao.

Of the in-migrant streams between 1948-60, the most dominant involved the following: (a) two fifths of the in-migration to Manila which originated from the Visayan area, (b) about one-half of in-migrants to Rizal province which came from nearby Manila and Central Luzon, and (c) the provinces of Mindanao which received practically all their settlers from the Visayan area, particularly Bohol, Cebu, Leyte and Samar.

Of the out-migration streams for the 1948–60 period, the most noteworthy are (a) the 156,600 migrants leaving the city of Manila to establish residence in its suburbs that were geographically located in contiguous Rizal province, (b) the Visayas which sent over two-fifths of its migrants to the southwestern portion of Mindanao, notably Cotabato, Davao and Zamboanga.

Pascual also noted the preponderance of young adult migrants. Age-based indicators of migrant characteristics at the time of enumeration (Table 6) point to the youthfulness of most migrants where over 50 per cent belonged to the ages 15–34. Urban areas can be said to attract more females, while rural areas, particularly the in-migration frontier regions of Mindanao, generally attracted more males (Table 7).

2. 1960–1970 MIGRATION

More detailed information on migration were made available in the 1970 Census. Existing NCSO tabulations indicate that about 5 million out of the 36.6 million Filipinos enumerated in the 1970 census resided in municipalities different from where they lived 10 years earlier (Smith 1973 and Flieger 1976). Again, the number is an underestimation since it does not include those who moved after 1960 but died before the 1970 census or movers after 1960 who returned before the 1970 enumeration.

A breakdown of the total population and the number of intercensal migrants and non-migrants between 1960–1970 provided by Flieger et al. (1976) is as follows:

	Number	Per cent of Total Population
TOTAL POPULATION	36,642,666	100.0
Nonmigrants	31,597,216	86.2
Intercensal Migrants	5,045,450	13.8
Intraprovincial	1,736,293	4.7
Intraregional	727,395	2.0
Interregional	2,581,762	7.0

The dominance of transfers across regional borders can be noted in internal migration up to 1970. Intraprovincial migrants claimed the second largest number. Thus, it appears that migrations involving longer distances were more dominant than intra-provincial transfers which involve relatively shorter distances.

TABLE 6
Percentage Distribution of Migrants by Age and Sex, Philippines, 1960

AGE	Percentage Distribution in Each Sex		Total	Sex Distribution Within Each Age	
	Male	Female		Male	Female
Total	100.0	100.0	100.0	49.8	50.2
15-19	14.4	17.3	100.0	45.2	54.8
20-24	15.8	17.3	100.0	47.6	52.4
25-29	14.3	14.5	100.0	49.6	50.4
30-34	12.3	12.6	100.0	49.2	50.8
35-39	10.8	10.7	100.0	50.1	49.9
40-44	8.6	7.6	100.0	53.1	46.9
45-49	7.7	6.3	100.0	54.8	45.2
50-54	5.1	4.7	100.0	52.0	48.0
55-59	3.7	2.9	100.0	56.1	43.9
60-64	3.1	2.9	100.0	57.7	42.3
65 +	4.2	3.9	100.0	51.8	48.2

Source: Pascual (1966), Table 14 p. 69.

TABLE 7
Distribution of Urban and Rural Migrants by Sex and by Region, 1960

REGION	URBAN			RURAL		
	Both Sexes	Male	Female	Both Sexes	Male	Female
Manila	100.0	47.9	52.1	-	-	-
Ilocos & Mountain Province	100.0	40.8	59.2	100.0	53.2	46.8
Cagayan Valley	-	-	-	100.0	51.4	48.6
Central Luzon	100.0	47.4	52.6	100.0	47.4	52.6
Southern Luzon	100.0	46.5	54.4	100.0	50.0	50.0
Bicol Provinces	100.0	49.4	50.6	100.0	51.3	48.7
Western Visayas	100.0	47.5	52.5	100.0	55.6	44.4
Eastern Visayas	100.0	44.1	55.9	100.0	52.0	48.0
Southwestern Mindanao & Sulu	100.0	50.0	50.0	100.0	52.9	47.1
Northwestern Mindanao	100.0	50.4	49.6	100.0	52.8	47.2

^{a/}Based on the 11 BCS regions used by Pascual (1966), Table 15 p. 30.

Migration figures for 1960-1970 indicate that the general pattern of population movements within the country in the 1950s persisted through the 1960s. However, the sixties emerged with the NCR (the Manila-Rizal area) becoming the most preferred region of in-migration, although Southern Mindanao still led in terms of net-migration. The Visayan provinces persisted as out-migration areas while wide areas in Mindanao attracted migrants (Table 8).

TABLE 8
1960-1970 Net Migration Rates of the Regions of the Philippines
(Rates per 1,000 population)

REGION	Rank	Net Migration Rate	In-Migration Rate	Out-Migration Rate
Regions with Net Population Gain				
NCR Metro-Manila	2	+ 127.14	231.59	104.14
IV Southern Tagalog	6	8.72	64.16	55.44
XI Southern Mindanao	1	159.21	212.63	53.42
X Northern Mindanao	3	71.21	156.27	85.05
IX Western Mindanao	4	43.00	83.67	40.67
II Cagayan Valley	5	15.72	57.05	41.33
XII Central Mindanao	7	1.97	28.30	26.32
Regions with Net Population Losses				
VII Central Visayas	13	- 96.24	39.47	135.71
VIII Eastern Visayas	12	- 86.32	29.06	115.38
VI Western Visayas	11	- 64.24	22.08	86.32
I Ilocos	10	- 32.65	20.35	52.71
V Bicol	8	- 16.98	18.45	35.43
III Central Luzon	9	- 27.92	66.54	94.46

Source: Gonzales and Pernia (1983), Table 2, p. 306 based on Flieger (1976), Table 21, p. 40.

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Manila	100.0	47.9	52.1	-	-	-
Ilocos & Mountain Province	100.0	40.8	59.2	100.0	53.2	46.8
Cagayan Valley	-	-	-	100.0	51.4	48.6
Central Luzon	100.0	47.4	52.6	100.0	47.4	52.6
Southern Luzon	100.0	46.5	54.4	100.0	50.0	50.0
Bicol Provinces	100.0	49.4	50.6	100.0	51.3	48.7
Western Visayas	100.0	47.5	52.5	100.0	55.6	44.4
Eastern Visayas	100.0	44.1	55.9	100.0	52.0	48.0
Southwestern Mindanao & Sulu	100.0	50.0	50.0	100.0	52.9	47.1
Northwestern Mindanao	100.0	50.4	49.6	100.0	52.8	47.2

^{a7}Based on the 11 BCS regions used by Pascual (1966), Table 15 p. 30.

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Source: Gonzales and Pernia (1983), Table 2, p. 306 based on Flieger (1976), Table 21, p. 40.

Interregional migration streams (Table 9) give information on the general directions of movements and the more important origins or destinations of population transfers across regions: (a) the majority of Visayan migrants moved to Mindanao, with nearly half a million Visayans settling in the different provinces of the south, and (b) six "significant" streams — each involving at least 50,000 persons and altogether accounting for 35 per cent of all migrants — headed toward Southern Tagalog (which in Flieger's analysis includes Rizal province). Sizable components of this heavy influx to Southern Tagalog included the large outflow from the city of Manila, those originating from nearby Central Luzon, other Luzon regions like Bicol and the Ilocos, and as far south as the western and eastern sections of the Visayas.

Actually, about one-fourth of all intercensal migrants were concentrated in the city of Manila and Rizal province. Rizal province registered the largest number of intraprovincial, intraregional and interregional migrants. Although the city of Manila registered 255,401 interregional in-migrants, outflow was heavy as it also sent 493,006 persons to other regions of the country, including 276,391 who headed toward Southern Tagalog, particularly Rizal. Combining Manila and Rizal, however, results in net in-migration for the NCR (although the NCR data are not shown in the Table).

The large influx to Southern Tagalog (which in the given table includes Rizal province) highlights the magnitude of the process of suburbanization then going on around the city of Manila. Moreover, even as Central Luzon experienced population losses as a region, provincial streams indicate that the province of Bulacan which is contiguous to Rizal experienced heavy in-migration, as proximity makes Bulacan an inevitable participant of the suburbanization and metropolitanization process occurring around the city of Manila. Smith (1977) aptly describes migration in the sixties as marked by the growing centripetal pull to the metropolitan region, replacing the centrifugal drive to the frontiers. As Pernia, Paderanga, Hermoso, et al. (1983) emphasized, the import substitution policy prevailing during the period propelled the development of Manila and nearby urban centers and spilled over into contiguous areas, forming an attractive and broader Central Industrial Region.

Plameras (1977) attempted to identify factors affecting interregional migration streams during the given period. The results indicate that economic factors like high income and employment opportunities significantly inhibited outmigration from an area. Migrants were also noted to favor places wherein natives of their region settled. Gonzales and Pernia (1983) also used regression analysis to explain interregional migration between 1960–1970. Generally, their results show the importance of employment opportunities at destination, farm density at destination, extent of irrigation at origin, level of education at origin, as well as social factors at destination like common "migrant stock" (defined as persons who come from the same origin as the potential migrant) and ethnicity. Particularly noteworthy is the more significant effect of employment opportunities over income.

TABLE 9
Numbers of 1960-1970 Inter-regional Migrants, by Region of Origin and Region of Destination: Philippines^a
(based On A 12-region Grouping)

Region of Destination	Region of origin												All In-Migrants
	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
I Ilocos		10,228	17,401	5,449	1,459	685	786	1,123	588	523	1,530	15,299	55,071
II Cagayan Valley	29,635		34,232	4,812	1,820	876	609	835	82	202	436	8,996	82,535
III Central Luzon	22,144	10,898		48,458	16,809	10,340	6,839	18,932	1,276	2,204	3,170	67,801	208,871
IV Southern Tagalog	51,837	21,936	151,518		125,981	77,049	40,628	89,160	8,523	10,791	12,087	276,397	865,907
V Bicol	1,948	784	5,600	29,425		3,798	10,079	5,953	402	1,295	1,892	36,951	98,127
VI Western Visayas	642	674	1,890	7,546	3,040		22,230	1,671	2,161	2,619	8,422	22,377	73,272
VII Central Visayas	408	382	1,646	5,660	3,212			15,445	10,088	17,593	15,585	14,045	106,838
VIII Eastern Visayas	798	228	1,358	4,837	2,831	1,739	17,700		1,136	4,735	4,719	22,816	62,907
IX Western Mindanao	838	342	3,003	2,684	17,722	33,799	7,735	944		44,872	8,909	3,906	124,754
X Northern Mindanao	3,312	2,425	3,794	6,195	3,324	28,452	119,567	33,229	27,745		37,537	11,040	276,620
XI Southern Mindanao	10,008	2,384	20,877	8,468	3,764	101,161	110,884	40,837	19,362	40,336		13,378	371,459
XII City of Manila	21,226	9,301	55,292	62,219	25,830	23,716	14,190	34,746	1,909	2,868	4,104		255,401
All Out-migrants	142,796	59,582	296,621	185,753	189,014	288,312	377,311	249,666	73,272	128,038	98,391	493,006	2,581,762

Source: Flieger 1976, Table 21, p. 40.

Zachariah and Pernia (1975) studied interregional and rural-urban migration in the Philippines during the sixties, particularly the economic effects on the areas of out-migration. While out-migration effectively kept down the population growth rate of origin areas, it has not helped much in raising the level of living of population in origin areas, owing in part to selective out-migration.

Pernia (1977) further analyzed 1960–70 patterns of internal migration by first regrouping twelve Philippine regions into four categories of urbanization: metropolitan, more urbanized, less urbanized, and frontier regions using the 1960–70 national urbanization average but excluding Metro-Manila (Table 10). Overall, the vast majority of migrants surmounted both long distances and different socioeconomic milieus. Large migration streams proceeded from the more urbanized to the frontier and the metropolitan regions. Both the frontier regions and Metro-Manila experienced the most substantial in-migration. In contrast, the less urbanized regions were heavily sending out-migration streams to all regions except to other less urbanized areas. To put these patterns in their proper perspective, the aggregate of streams headed toward the country's premier region (Metro-Manila) during the sixties nearly matched the number that proceeded to the four frontier regions (Cagayan Valley and three Mindanao regions). This apparent shift to urbanward migration in the sixties, with the NCR as the leading destination area, was in accord with the industrializing character of the economy which revolved around the NCR (Gonzales and Pernia 1983).

Age selectivity characterized Philippine migration during the decade of the 60s (Table 11). Flieger emphasizes that male intraregional and interregional migrants were concentrated in the age group 20–39 (45 per cent) while the bulk of female migrants belonged to the younger age group 15–29 (46 per cent). The same table shows that intraprovincial migrants were more widely spread across the various ages, although the very young comprised large segments among these short-distance movers, very likely part of families on the move.

De los Santos attempted to analyze the determinants of interregional migration for the 1960–70 period for each broad age group. Incomes at origin and destination largely and significantly affected the migration rates of young males and females (10–34 years). The presence of past migrants in areas of destination was a very significant pull factor for young migrants. Distance did not significantly deter migrations of young people. Smaller effects of incomes at origin and destination were noted for the middle-aged and older migrants. Distance, however, was a major deterrent factor among older movers.

TABLE 10
1960-1970 Migration by Broad Regions of Origin and Destination

Region of Residence, 1960	Region of Residence, 1970				
	Metro Manila	More Urbanized	Less Urbanized	Frontier	Total
Numbers					
Metro Manila ^a		156,598	68,734	37,208	262,540
More Urbanized ^b	352,593	125,121	64,471	386,601	928,786
Less Urbanized ^c	232,910	124,588	10,881	107,742	476,121
Frontier ^d	48,842	70,711	21,501	145,115	286,169
Total	634,345	477,018	165,587	676,666	1,953,616

Note: The matrix includes persons 10 years old and over by 1970 who moved between the broad regional groupings, as well as those who moved between individual regions under the broad regional groupings.

^aMetro Manila comprises Manila City and Rizal province.

^bMore urbanized regions = Central Luzon, Southern Luzon, Western Visayas, and Central Visayas.

^cLess urbanized regions = Ilocos, Bicol, Eastern Visayas

^dFrontier = Cagayan; Western, Northern and Southern Mindanao.

Sources: NCSO, 1970 Census; Pernia (1977) based on Table 39, p.98.

TABLE 11
Age Structures of 1970 Census Population and 1960-70 Intercensal Non-Migrant and Migrant
Populations, by Sex: Philippines (Percent)

AGE GROUP	1970 Census Population		Intercensal Non-migrants		Intercensal Intra-Provincial Migrant		Intercensal Intra and and Inter-Regional Migrants	
	Male	Female	Male	Female	Male	Female	Male	Female
0-4	16.3	15.6	18.4	17.5	11.4	9.8	7.1	6.1
5-9	16.5	15.7	15.6	14.6	15.6	13.1	13.0	11.1
10-14	14.0	13.5	12.2	11.6	11.9	10.9	10.0	9.9
15-19	10.9	11.4	9.5	9.8	9.5	13.6	10.2	15.8
20-24	8.4	8.8	8.1	8.7	9.7	14.0	13.7	17.2
25-29	6.5	6.9	7.1	7.1	10.6	11.3	13.9	13.0
30-34	5.5	5.8	5.8	5.8	8.6	7.7	10.5	8.4
35-39	5.2	5.2	5.1	5.0	6.7	5.3	7.1	5.4
40-44	4.0	4.1	3.8	4.0	4.3	3.8	4.4	3.6
50-54	2.8	2.8	2.8	3.3	2.3	2.3	2.3	2.1
55-59	2.2	2.2	2.5	2.8	2.1	1.8	1.7	1.7
60-64	1.7	1.5	2.1	2.2	1.6	1.3	1.2	1.2
65-69	1.0	1.1	1.4	1.5	1.0	0.8	0.8	0.8
70-74	0.8	0.8	1.0	1.0	0.7	0.6	0.5	0.5
75 +	0.8	1.0	1.2	1.3	0.8	0.7	0.5	0.6
All Ages	100.0 (18,230,616)	100.0 (18,412,050)	100.0 (15,818,052)	100.0 (15,779,164)	100.0 (827,259)	100.0 (909,034)	100.0 (1,585,305)	100.0 (1,723,852)

Source: Flieger et al, Table 49, p. 157.

Sex ratios indicate that Philippines migration in the 1960-70 period was clearly female-dominated, with only 91 males for every 100 female migrants. Table 12 shows the female dominance of sex ratios among intra- and interregional migrants. Some of the most pronounced female selectivity were noted for the city of Manila and Rizal province where the sex ratios of those coming in from other provinces amounted to 72 and 81, respectively. Region-wise, the most female lopsided sex ratios were registered for Central Luzon (81) and Southern Tagalog (which including Rizal amounted to 86).

TABLE 12

Sex Ratios of Total and Migrant Populations, by Type of Migrant, Region and Province: Philippines, 1970

A R E A	Total Population 1970	Intra-Provincial Migrants	Intercensal Migrants	
			Intra- and Inter-Regional Migrants	
			In-migrants	Out-migrants
Philippines	99.0	91.0		
I Ilocos	97.2	77.2	92.9	91.6
II Cagayan Valley	101.9	95.5	107.3	88.3
III Central Luzon	97.8	81.6	81.3	90.1
IV Southern Tagalog	97.2	95.6	85.6	96.8
V Bicol	101.6	89.8	94.2	81.6
VI Western Visayas	96.7	85.7	91.5	89.5
VII Central Visayas	96.1	91.0	96.9	93.6
VIII Eastern Visayas	101.4	91.0	95.4	73.0
IX W. Mindanao	99.6	98.4	96.2	104.1
X N. Mindanao	102.0	95.6	106.2	99.1
XI S. Mindanao	104.9	103.0	104.5	109.5
XII City of Manila	93.0	83.8	71.9	96.5

N.B. Flieger used a 12-region grouping.
Source: Flieger, 1976, Table 52, p. 159.

Thus, the main scene of metropolitanization in the sixties – the Manila-Rizal, Southern Tagalog and Central Luzon area – experienced very female-dominated in-migration. Migration for the period can be summarized according to male-female dominance, the migration status of the regions, and the economic conditions then prevailing at the subnational level (Flieger 1976):

- a) Group A – male-dominant net in-migration, frontierward
Example: Benguet, Lanao del Norte, Misamis Oriental, provinces in Northern and Southern Mindanao
- b) Group B – female-dominant net in-migration, headed toward developed areas with excellent economic opportunities:
 - 1. the urban-industrial complex
Example: Metro-Manila
 - 2. Mindanao provinces with large urban centers
Example: Davao, Cotabato, Zamboanga del Sur, Agusan
- c) Group C – female-dominant net out-migration, originating from agricultural areas with underdeveloped or diminishing economic opportunities
Example: Some Northern Luzon provinces, Southern Leyte, Negros Occidental
- d) Group D – male-dominant net out-migration, originating from underdeveloped or diminishing economic opportunities
Example: The island provinces of Southern Tagalog, some Cagayan Valley provinces.

Hence, urbanizing or industrializing regions drew predominantly female migrants. Moreover, female migrants appear to constitute a “second wave” of migration. Earlier pioneering moves to Mindanao were male-dominated, but once higher levels of development or urban centers have been established, females start to constitute the bulk of subsequent streams.

3. 1965–1973 MIGRATION

Pernia's (1977) regrouping of regions according to urbanization levels indicated the preference of migrants to go to the metropolitan or the frontier regions, although the actual rural or urban origins and destinations could not be ascertained. The 1973 National Demographic Survey (Pernia 1977 and Perez 1978) permits determination of where migrants actually went as well as a closer look at migration patterns prior to 1965 and between 1965–73 (Table 13).

TABLE 13

Distribution of Migrant Population 15 Years Old and Over by Migrant Type, Stream, and Sex

Type of Stream	Birth-1965	Percent	1965-1973	Percent
BOTH SEXES				
Rural-rural	1,583,682	32.6	590,594	19.7
Rural-urban	1,453,005	29.9	770,988	25.7
Rural-Manila	661,358	13.6	405,361	13.5
Urban-urban	255,785	5.3	169,109	65.6
Urban-Manila	323,198	6.6	500,068	16.7
Urban-rural	461,997	9.5	335,093	11.2
Manila-rural	83,127	1.7	138,518	4.6
Manila-urban	41,494	0.9	87,087	2.9
All	4,863,646	100.0	2,996,818	100.0
MALES				
Rural-rural	830,911	35.0	296,503	22.4
Rural-urban	686,292	28.9	309,474	23.4
Rural-Manila	323,328	13.6	153,449	11.6
Urban-urban	106,591	4.5	73,338	5.6
Urban-Manila	147,177	6.2	219,253	16.6
Urban-rural	223,330	9.4	158,845	12.0
Manila-rural	40,579	1.7	66,269	5.0
Manila-urban	18,042	0.8	43,782	3.3
All	2,376,250	100.0	1,320,913	100.0
FEMALES				
Rural-rural	752,711	30.3	294,091	17.5
Rural-urban	766,713	30.8	461,514	27.5
Rural-Manila	338,030	13.6	251,912	15.0
Urban-urban	149,194	6.0	95,771	5.7
Urban-Manila	176,021	7.1	280,815	16.8
Urban-rural	238,667	9.6	176,248	10.5
Manila-rural	42,548	1.7	72,249	4.3
Manila-urban	23,452	0.9	43,305	2.6
All	2,487,396	100.0	1,675,905	100.0

Source: Perez (1978) based on the 1973 National Demographic Survey, Table 37, p. 63.

Consistent with earlier Philippine migration streams noted above, ruralward migrations stood out before 1965. These originated from other rural areas as well as urban areas, but reflected the pull of the sparsely settled frontier. Among males, the largest stream was the rural-rural component. The pull of rural areas which can be said to include the settled frontiers can also be noted in the sizable rural-rural flow among females. One must note, however, the sizably large proportions also flowing into urban areas and Manila up to 1965, as urban-ward movements started to be prominent around that time. This was also clearly female-dominated, as women were "pulled" into the various urban-oriented industries and services building-up in the metropolitan area.

The 1965-73 picture shifts slightly, as the migrants heading from rural toward urban areas emerged as the largest in volume. This was the case for both males and females, although it involved larger numbers among females. Another heavy inflow — even approaching the number of rural-rural migrants — proceeded from urban areas toward Metro-Manila. Both patterns indicate the growing importance of metropolitan- and urbanward migrations in the country.

Focusing on the age-sex differentials of these streams, Table 14 contrasts birth-to-1965 migrants with 1965-73 migrants and non-migrants in general. Lifetime migrants were generally older, being more settled in their destination areas. Those moving to Metro-Manila were relatively younger than those headed toward the frontier areas. More recent migrants (1965-73) were generally younger. The youngest were those who proceeded towards the Metropolitan Manila area and the more urbanized regions. The youthfulness of female migrants from the less urbanized or frontier areas who proceeded to Metro-Manila and the more urbanized regions stands out.

4. 1970-1975 MIGRATION

The migration estimates for this period are based on adjustments of 1975 census figures made by Nguigain (1986). Previously available 1970-75 migration figures for the period have not been adjusted for a very large number of persons without information on residence at an earlier date (representing 274,697 or nearly 11 per cent of the total number of migrants), resulting in underestimation specially in the figures for the NCR.

Actually, the problem of underestimation of migration figures for the period particularly for Metro-Manila has been brought out elsewhere (see Feranil, et al. 1987). The aforementioned FAO study questioned the 1970-75 net-migration figure of 67,198 for Metro-Manila because rapid migration into the NCR has been one of the most salient features of population redistribution in the Philippines during the second half of the twentieth century. The unadjusted net migration figure does not also agree with the very high population growth rate of the region between 1970-75 (4.6 per cent per year) which far surpassed the corresponding estimated annual growth rates of all urban areas (3.9 per cent) or for the country as a whole (2.8 per cent). Metro-Manila's low fertility and mortality levels during the period (Cabigon 1983, de Guzman 1977, and Zablan 1983) indicate the significant contribution of migration to the NCR's growth.

TABLE 14

Percentage Aged 15-34 of Sectoral Migrants and Non-Migrants 1973 NDS

AREA	MIGRANTS				NON-MIGRANTS		
	Birth - 1965		1965-1973		AREA	15-24	25-34
	15-24	25-34	15-24	15-34			
BOTH SEXES							
MR-MM	18.3	23.7	58.9	20.0	MM	48.9	20.1
LR-MM	16.8	19.9	44.4	21.1	MR	38.5	19.0
FR-MM	18.0	31.0	57.5	25.7	LR	33.4	22.6
LR-MR	22.6	17.6	55.7	17.9	FR	45.9	19.3
MR-FR	16.8	19.9	44.4	21.0			
LR-MR	11.0	21.0	34.7	23.4			
MALES							
MR-MM	17.3	22.8	58.6	18.1	MM	51.5	20.0
LR-MM	22.3	23.2	59.2	25.4	MR	40.3	18.4
FR-MM	25.4	33.9	45.2	35.8	LR	36.0	21.3
LR-MR	17.8	22.2	42.8	17.9	FR	45.3	18.9
MR-FR	17.0	18.8	40.4	24.9			
LR-FR	12.3	16.6	31.9	18.1			
FEMALES							
MR-MM	19.3	24.5	59.0	21.2	MM	46.4	20.1
LR-MM	17.6	35.4	70.9	11.0	MR	36.8	19.7
FR-MM	10.8	28.1	64.8	19.7	LR	30.8	24.0
LR-MR	27.1	13.3	63.9	18.0	FR	46.5	19.8
MR-FR	16.6	21.1	48.4	17.0			
LR-FR	9.7	25.5	37.2	28.2			

Sectors include MM = Metro Manila

MR = more urbanized regions,

LR = less urbanized regions, and

FR = frontier regions.

However, data on migration for the years before 1980 are not readily available for Metro-Manila since the NCR became a distinct administrative region only in 1975. For lack of data, migration researchers like Perez (1983) had to resort to approximating Metro-Manila's migration by simply aggregating information for both Manila and Rizal. The use of the combined Manila-Rizal area to estimate NCR migrants fails to take account of short-distanced migrants between the non-metropolitan areas of Rizal province and Manila. A large segment of these migrants could have headed toward the cities and municipalities that actually comprise what is now the NCR. Hence, adjustments on the 1970-75 migration figures are necessary. As stated earlier, Nguigain's adjusted migration estimates are used in this paper.

Over 2.5 million of the 42 million residing in the Philippines during the 1975 Census changed residence between 1970 and 1975. The 1960-70 period was distinguished by a very significant number who moved across regional boundaries than those moving within a province. The 1970-75 data indicate that changes were taking place, as intraprovincial migrants slightly exceeded interregional migrants. Migration statuses of the population five years old and above follows:

	Number	Percent
Total Population (5 +)	35,556,007	100.0
Non-migrants	32,995,975	92.8
Migrants	2,560,032	7.2
Intraprovincial	189,121	3.3
Intraregional	320,015	0.9
Interregional	1,050,896	3.0

To recapitulate, the results indicate that interregional migration appeared to have declined in significance during the 1970-75 period. Short-distanced moves appeared to start becoming prominent during the first half of the seventies.

Regional migration statuses as gleaned from the 1975 Census reveal the continuation of past patterns of population redistribution as well as shifts in the attractiveness of regions. Metro-Manila, Southern Tagalog and the Northern-Southern Mindanao regions continued to draw in-migrants (Table 15). Metro-Manila drew in the largest number of in-migrants, while Southern and Central Luzon ranked second and third, respectively. Shifting from its past status as an outmigration region, Central Luzon became a net in-migration area during the first half of the seventies. It is quite likely that the metropolitanization of areas surrounding the country's prime city has spread to wider sections of Central Luzon. Central Luzon already had a large number of services, commercial and industrial activities during this period owing to the opening of the Bataan Export Processing Zone in 1973, the presence of two big American bases, and most

provinces in the region being traversed by major road networks linking Metro-Manila to the northern section of Luzon. The region actually ranked second to Metro-Manila in terms of level of urbanization throughout the country during the given period. As Pernia, Paderanga and Hermoso (1983) stressed, the urban-industrial orientation of migration that began in the sixties became more visible in 1970-75. Both Southern Tagalog and Central Luzon, which together with the NCR formed a "central Industrial region," became primary destination areas.

TABLE 15
Migration Volume and Rates, by Region: 1970-75 ^a

REGION	VOLUME			Net Migration Rate (per thousand pop. age 5 +)
	In-Migrants	Out-Migrants	Net-Migrants	
NCR	310,824	155,737	155,087	34.7
I Ilocos	35,655	92,867	-57,212	-18.3
II Cagayan Valley	29,868	35,985	- 6,117	- 3.4
III Central Luzon	82,287	81,044	1,243	0.3
IV Southern Tagalog	127,449	125,795	1,654	0.3
V Bicol	40,513	82,118	-41,605	-13.5
VI Western Visayas	62,386	70,026	- 7,640	- 2.0
VII Central Visayas	60,913	110,581	-49,668	-15.5
VIII Eastern Visayas	53,171	65,643	-12,472	- 5.0
IX Western Mindanao	22,564	50,821	-28,257	-14.4
X Northern Mindanao	94,294	53,447	40,847	19.2
XI Southern Mindanao	94,416	63,965	30,451	12.4
XII Central Mindanao	36,556	62,867	-26,311	-13.1

^aAdjusted 1975 figures based on Nguiagain (1986) using 1975 Census data adjusted for "Not Stated." Unadjusted figures are in Appendix Table A.

Continuing their historical out-migration status were the Ilocos, Bicol and all the Visayan regions. Central Visayas particularly stood out with rather large net out-migration. Shifts to out-migration status between 1970–75 can be noted for the Cagayan Valley and Western Mindanao which were in-migration areas in the sixties. Actually, two Mindanao regions – the Western and the Central regions – experienced net out-migration during the period. Their large outflows could be partly due to the Muslim-Christian conflict in the early seventies.

Interregional flows (Table 16) indicate that Metro Manila was the most favored destination area of migrants from as far north as the Ilocos to as far south as the Visayan regions. The largest stream to the metropolitan area came from the Ilocos and the NCR's two contiguous regions – Southern Tagalog and Central Luzon. Migration patterns for 1970–75 not only reflect the continuing influx to the metropolis but also indicate a noteworthy predominance. It can be seen that net migration rates were highest for Metro Manila, followed by Northern and Southern Mindanao. The volume of migrants that headed toward the Metro-Manila area during the first part of the seventies far exceeded the combined number going to the two high in-migration regions, Northern and Southern Mindanao.

Streams flowing into and out of the NCR, Southern Tagalog and Central Luzon indicate very large population exchanges across these three highly urban areas. While the NCR was the destination of the largest segment of outmigrants from both contiguous regions, Metro Manila was also the source of substantial numbers of migrants which headed toward Central Luzon. Substantial numbers also flowed in the counter streams between Central Luzon and Southern Tagalog.

The net in-migration regions of Northern and Southern Mindanao also experienced substantial exchanges between them. Central Visayas accounted for about one-fourth of total migrants to Northern Mindanao as well as Southern Mindanao. The losing areas of Western and Central Mindanao were more likely to send their outmigrants to other areas in the south, particularly Northern and Southern Mindanao.

In analyzing 1960–70 migration, Flieger arbitrarily defined a stream involving 50,000 migrants as significant. If we use half the number as representing a significant stream for the 1970–75 period, the following would be the most dominant: (a) seven streams headed toward Metro Manila from the Ilocos, Southern Tagalog, Central Luzon, Bicol, and all three Visayan regions, (b) two streams leaving Metro Manila but heading toward Southern Tagalog and Central Luzon. Although the numbers involved are lower, counterstreams between Northern and Southern Mindanao are worth noting.

TABLE 16
Interregional Migrants in the Philippines, Both Sexes, 1970-75

Regions of Destination	Region of Origin						
	NCR	I	II	III	IV	V	VI
NCR		49,511	19,352	32,778	7,253	44,958	32,519
I Ilocos	11,509	12,874	5,822	5,660	6,529	968	289
II Cagayan Valley	3,331	12,755	-	7,520	3,509	696	176
III Central Luzon	24,836	12,807	3,583	-	21,032	5,290	2,936
IV Southern Tagalog	53,514	6,588	1,673	25,120	-	20,110	6,444
V Bicol	10,739	1,525	6746	2,254	18,001	-	1,319
VI Western Visayas	17,280	1,283	574	1,954	9,571	2,115	-
VII Central Visayas	6,811	1,707	1,005	696	4,366	1,778	7,026
VIII Eastern Visayas	18,231	1,195	402	2,397	8,174	3,421	707
IX Western Mindanao	895	351	125	251	76	121	2,112
X Northern Mindanao	3,369	1,743	1,325	464	2,739	1,222	4,095
XI Southern Mindanao	4,103	2,547	586	1,148	3,260	1,207	7,448
XII Central Mindanao	1,119	845	760	296	594	232	4,955
All Out-migrants	195,860	70,739	28,218	72,279	73,730	67,102	55,788

TABLE 16 (continuation)
Interregional Migrants in the Philippines, Both Sexes, 1970-75

Regions of Destination	Region of Origin						
	VII	VIII	IX	X	XI	XII	All in-Migrants
NCR	26,230	33,717	5,794	4,935	5,799	7,978	310,824,
I Ilocos	1,316	583	45	1109	670	746	35,655
II Cagayan Valley	794	92	51	490	133	221	29,868
III Central Luzon	3,883	3,869	536	1,851	1,223	441	82,287
IV Southern Tagalog	23,345	3,644	2,905	1,871	1,385	847	127,449
V Bicol	2,291	1,165	88	171	485	498	40,513
VI Western Visayas	9,704	652	5,238	2,457	8,569	4,665	60,913
VII Central Visayas	-	5,801	8,405	9,102	9,546	4,665	60,913
VIII Eastern Visayas	8,421	-	1,279	3,446	4,786	620	53,171
IX Western Mindanao	5,401	1,182	-	5,128	1,860	4,368	22,564
X Northern Mindanao	23,009	7,773	15,049	-	17,995	15,501	94,294
XI Southern Mindanao	21,845	6,441	6,452	15,326	-	24,003	94,416
XII Central Mindanao	4,292	624	4,569	6,756	11,514	-	36,556
All Out-migrants	89,787	49,706	40,860	45,950	49,850	48,041	1,050,896

Source: Nguiagain 1986, based on unpublished tabulations of the 1975 Census.

Gonzales and Pernia (1983) also analyzed the determinants of interregional migration between 1970–75. Similar to what was noted for 1960–70 migration, their results highlight the crucial role of social factors like kinship and ethnicity as well as the economic factors like employment opportunities at destination. Farm density at origin exerted pressure for moving out, although poverty incidence hampered the ability to migrate. These findings held even for each sex.

Both Pernia (1977) and Perez (1983) showed the prominence of rural-urban streams during the 1965–73 period. A smaller but significant flow between urban areas was also noted. A comparison of 1965–73 patterns with those of 1970–75 reveals increasing migration between urban areas as well as growing mobility toward rural places between 1970 and 1975:

INTER-SECTORAL STREAMS
(based on Perez, 1983)

	1965–73	1970–75
All flows	100.0	100.0
Rural-rural	19.7	29.2
Rural-urban	39.2	17.9
Urban-urban	25.3	29.8
Urban-rural	15.8	23.1

Perez (1983), however, indicates that rural-rural and urban-urban transfers during the early seventies accounted for very large segments, more particularly among intraprovincial migrants. Interprovincial migrants were described as more evenly distributed across the four sectoral flows given above. As stated above, Perez used migration data which were not adjusted for the very large amount of “not stated.” A comparison of the figures on Table 16 with those on Appendix Table A indicates that interregional flows were underestimated. New estimates of intersectoral migrants are needed to determine rural and urban flows. In the absence of such data, one must consider (a) the large population exchanges involving the NCR, Southern Tagalog, and Central Luzon as well as (b) the sizable numbers of in-migrants to these three regions. The former can be viewed as partly a manifestation of a broader metropolitanization process. The latter some what indicates the pull of sizably urban regions. Both of course emphasize the urbanward character of migration in the early seventies.

TABLE 17

**Index of Age Differential by Sex for Intercensal Migrant Population 5 Years Old and Over:
Philippines, 1970-1975**

AGE GROUP	S E X	
	Males	Females
< 15	-10.6	-15.3
15-24	9.9	38.6
25-34	44.5	29.2
35-44	5.5	-14.4
45-54	25.3	-36.8
55-64	-39.2	-44.6
65 +	-46.7	-51.7

^a/Negative figures indicate that there were relatively fewer migrants in a specified age group.

Source: National Census and Statistics Office, based on a five per cent sample of the 1975 Census of Population

Perez (1983), Table 3.7, p. 50. Please note that the Perez figures are based on unadjusted data.

The dominance of females among migrants was very pronounced during the 1970-75 period. Female migrants outnumbered males with a sex ratio of 92. Correspondingly, non-migrants registered more males, with a sex ratio of 102 (Table 18). The predominance of females among ages 15-24 mainly accounts for the slant in overall migrant sex ratios, with 100 females for only 73 males in this youth age category. Ages 25-34 registered about equal numbers of male and female migrants whereas the older ages registered increasing male dominance.

TABLE 18

**Age-specific Sex Ratios of Population 5 Years Old and Over by Migration Status:
Philippines, 1975**

Age Group (years)	Migrant	Non-Migrant
TOTAL, 15 AND OVER	92	102
< 15	101	105
15-24	73	101
25-34	100	98
35-44	111	99
45-54	110	101
55-64	106	105
65 +	101	101

^{a/}Data excludes movers unable to identify their destinations as urban or rural.

Source: National Census and Statistics Office, based on a five per cent sample of the 1975 Census of Population.

Perez (1983), Table 3.10, p. 52. Please note that the Perez figures are based on unadjusted data.

As Flieger (1976) showed, sex selectivity during the sixties varied according to the type of destination. Long-distanced frontierward migration tended to be male-selective. In contrast, urban-ward migration was very selective of females. Similar patterns held for 1970–75. Females were more likely to move to urban areas, whether these were within their provinces of residence in 1970 or outside provincial boundaries. The highest female selectivity, however, can be noted in the rural-urban streams that involved crossing provincial boundaries. This suggests that a change of socioeconomic milieu did not always deter female migrants during the early part of the seventies. On the other hand, such may have been a reason for migration. In stark contrast, males favored rural destinations (Table 19).

Engracia and Herrin (1984) studied closely the emerging urbanward migration of the early seventies, particularly its female-dominated character. Female migrants were noted to be more likely to be single and much younger than non-migrant females although their educational attainments did not differ much. Compared with female migrants, male migrants were likely to be older, married and better educated. Migrants, regardless of sex, exhibited high labor force participation rates, which is to be expected since many move to the cities to seek employment. Female migrants who were younger, single, and less educated were likely to occupy service occupations, particularly as domestics. Their findings indicate age-sex selectivity favoring females in urban-ward migration, although educational and occupational characteristics suggest that female migrants may have been at some disadvantage.

5. 1975–1980 MIGRATION

As in the 1970 and 1975 censuses, the 1980 Census also contains information on the migration status of the population five years old and above. Once again, Nguingain's adjusted migration figures are used in the analysis:

Total Population	Number	Percent
5 years old and above	40,285,589	100.0
Non-Migrants	37,450,648	93.0
Migrants (excluding international migrants	2,834,941	7.0
Intraprovincial	1,359,029	3.3
Intraregional	281,882	0.7
Interregional	1,194,030	3.0

TABLE 19
Sex Ratios of Migration Streams for Population 5 Years Old and Over by Type of Migration:
Philippines, 1970-1975

MIGRATION STREAM	TYPE OF MIGRATION		
	Intra Provincial	Inter Provincial	Total
ALL STREAMS	93	91	92
Rural-Urban	82	72	74
Urban-Urban	82	84	83
Urban-Rural	102	104	103
Rural-Rural	104	108	106

Note: Data excludes movers unable to identify their destination as urban or rural.

Source: National Census and Statistics Office, based on a five per cent sample of the 1975 Census of Population.

Perez (1983), Table 3.11, p. 53. Please note that the Perez figures are based on unadjusted data.

The migration data on the sixties pointed to the dominance of moves across regional boundaries (interregional migrants). The first half of the seventies indicated diminishing significance of interregional migrants, with intraprovincial migrants becoming more prominent. The 1975–1980 data suggest that intraprovincial moves are becoming increasingly dominant.

Region-wise, the Metro Manila area stands out with the largest number of in-migrants (393,722), although out-migrants were also substantial (213,403), resulting in a net gain of 80,319 (Table 20). This net gain was the largest in the entire country for the given period, and is much larger than the combined net gain of all the other net in-migration regions.

Among the Luzon regions, the Ilocos, Cagayan Valley, and Bicol experienced net losses, continuing patterns manifested during the preceding five-year period. The volume of net out-migration was high particularly for Bicol and the Ilocos, the two long-standing losing areas of Luzon. All regions in the Visayas also registered net losses, maintaining their long established out-migration experiences. Net out-migrants from all three Visayan regions were the highest in the entire country during the 1975–1980 period. Particularly noteworthy were Western and Eastern Visayas where out-migrants during the period outnumbered in-migrants by a ratio of 3 to 1.

A newly emerging in-migration region in the early part of the seventies, Central Luzon remained in the gaining status between 1975–80. However, the volume of net migration to this region declined substantially during the latter part of the seventies owing to a very large number of out-migrants.

The figures in Table 20 indicate that those moving across regional boundaries during the latter part of the seventies heavily favored Metro-Manila. To a lesser extent, Southern Tagalog was also another favored region. Northern and Southern Mindanao – the in-migration regions of Mindanao throughout the sixties and first half of the seventies – received around 90,000 in-migrants each. Although the volume is very substantial, the level pales in comparison with what the NCR and Southern Tagalog registered, and only comes close to the volume of in-migrants registered by Central Luzon. Thus, on one hand, Mindanao retained some of its attractiveness even as late as in the second half of the seventies, as even Central Mindanao which was a net out-migration area between 1970–75 gained once again between 1975–80. Nevertheless, one can say that the “great rush” to Mindanao has diminished and moves to Metropolitan Manila and Southern Tagalog were the most dominant during the seventies.

TABLE 20
Net Migrants 5 Years Old and Over and Net Migration Rates by Region: 1975-1980^a

REGION	In-Migrants	Out-Migrants	Net Migrants	Net Migration Rates (per thousand)
NCR	393,722	213,403	180,319	33.1
I Ilocos	38,703	91,530	-52,827	-15.5
II Cagayan Valley	35,526	37,988	- 2,462	- 1.2
III Central Luzon	106,997	96,342	10,655	2.4
IV Southern Tagalog	187,684	119,800	67,884	12.0
V Bicol	39,532	103,134	-63,602	-19.1
VI Western Visayas	35,405	109,232	-73,827	-17.0
VII Central Visayas	54,243	119,181	-64,938	-18.1
VIII Eastern Visayas	29,314	102,190	-72,876	-27.0
IX Western Visayas	29,650	38,462	- 8,812	- 3.8
X Northern Mindanao	94,304	58,886	35,438	14.0
XI Southern Mindanao	91,278	64,114	27,164	9.8
XII Central Mindanao	59,673	39,787	17,886	8.2
TOTAL	1,148,297	1,148,297	-	-

^a Adjusted migration figures of Nguigain(1986) based on unpublished tabulations, 1980 Census of Population

The trends for Metropolitan Manila, however, need qualification. The data on migration indicate that net-migration to Metro Manila between 1970–75 was estimated to be 67,198 while the figure for 1975–80 was higher at 174,100. Rapid migration into Metro Manila has been one of the most salient features of population redistribution in the Philippines specially in the second half of the twentieth century. This can be indirectly gleaned from the very high population growth rates of the metropolitan region which far outpaced corresponding levels for the country or for other areas:

	Population Size (000,000)			Intercensal Growth Rate	
	1970	1975	1980	1970–75	1975–80
Philippines	36.68	42.07	48.10	2.8	2.7
Urban	11.68	14.15	17.94	3.9	4.9
NCR	3.97	4.97	5.92	4.6	3.6
Other Urban	7.71	9.18	12.02	3.6	5.6
Rural	25.01	27.92	30.15	2.2	1.6

Given the Relatively lower fertility rates in the metropolis and the notably low mortality levels, a substantial portion of Metro Manila's growth across the years can be attributable to migration.

Actually, data on migration for years before 1980 are not readily available for Metro Manila since the NCR became a distinct administrative region only in 1975. Nevertheless, migration researchers like Pascual (1966), Zosa (1973), Flieger (1976), Pernia (1977) and Perez (1983) approximated Metro Manila's migration experience by aggregating information for both Manila and Rizal. The use of the combined Manila-Rizal area to estimate metropolitan migration fails to take account of migrants from areas in Rizal province that do not belong to Metro Manila. A large segment of such migrants could very well have headed toward the cities and municipalities that actually comprise the NCR.

Actually, more rapid growth of all cities and municipalities within the metropolis occurred between 1970–75 than between 1975–80 except for Marikina, Navotas and Taguig (Table 21). The 1970–75 growth rate of the metropolitan area was 4.6 per cent which is much higher than that of the succeeding five-year period. It is quite likely that in-migration to the metropolis during the early seventies may have been much higher, and the approximated 1970–75 net-migration level although substantial is an underestimation.

TABLE 21
Population Size And Annual Growth Rates Of Cities And Municipalities
Comprising Metro-manila

City or Municipality	Population Size		Intercensal Annual Growth Rate (%)		
	1970	1975	1980	1970-1975	1975-1980
NCR	3,966,695	4,970,006	5,925,884	4.63	3.58
Caloocan City	274,453	397,201	467,816	7.70	3.33
Manila City	1,330,768	1,479,116	1,630,485	2.14	1.97
Pasay City	206,283	254,999	287,770	4.35	2.45
Quezon City	754,452	956,864	1,165,865	4.88	4.03
Las Pinas	45,732	81,610	136,514	12.32	10.84
Makati	264,918	334,448	372,631	4.79	2.19
Malabon	141,414	174,678	191,001	4.34	1.78
Mandaluyong	149,407	162,267	205,366	4.07	2.42
Marikina	143,400	168,453	211,613	3.26	4.67
Muntinlupa	65,057	94,098	136,679	7.79	7.65
Navotas	63,245	97,098	126,146	3.14	5.37
Paranaque	97,214	158,974	208,552	10.37	5.58
Pasig	156,492	209,915	268,570	6.07	5.05
Pateros	25,468	32,821	40,288	5.22	4.18
San Juan	104,559	122,492	130,088	3.23	1.21
Taguig	556,257	73,702	134,137	5.95	12.72
Valenzuela	98,456	150,605	212,363	8.90	7.11

Source: 1980 Census of Population and Housing, Vol. I, Metropolitan Manila.

What should also be noted is that while both Metro Manila and the other urban areas of the country grew substantially during the seventies, Metro Manila's growth rate declined between 1975–80 whereas the other urban areas registered even faster growth. The data at present do not readily indicate whether a new migration pattern is emerging, with the other urban areas of the country starting to significantly attract migrants, and in turn countering the defined attractiveness of Metro Manila.

Pernia (1977) attempted to decompose the components of urban growth up to 1970. Overall urban growth during the seventies was due more to natural increase (explaining 64 per cent of urban growth) and the reclassification of previously rural areas (25%) than to migration (11%). Migration, however, explained a higher proportion of Metro Manila's growth. This exercise has not yet been undertaken on data for the seventies. Available census information give some leads. Out of the twenty largest cities and municipalities of the country, 11 grew faster between 1975–1980 than during the preceding decade. Nine of these 20 cities registered 1975–80 growth rates that were higher than that of Metro Manila (Table 22). Raymundo's (1983) paper on urbanization also noted that since 1975, there have been an increasing number of areas having more than 500,000 population, indicating that large urban places seem to be growing faster. The same study, however, also noted that small urban places have also grown rapidly as more rural areas have been reclassified. Thus, the possibility that some "urban turnaround" in migration occurred during the latter part of the seventies should not be discounted, although this topic needs further research.

Interregional migration streams are shown on Table 23. The most preferred region of destination during the 1975–80 period was Metro Manila. Sizable in-migration streams to the NCR originated not only from almost all Luzon regions including the Ilocos, Central Luzon, Southern Tagalog, and Bicol but also as far south as Western and Eastern Visayas. Southern Tagalog drew in the second largest number of in-migrants, but about half came from nearby Metro-Manila and 15 per cent from Bicol. The third largest in-migrants proceeded to Central Luzon, with 41.6 per cent coming from Metropolitan Manila, 12.7 per cent from the Ilocos, and 13.4 per cent from Southern Tagalog.

It should be noted that these three net in-migration regions of Luzon are highly urbanized (Table 24), contiguous to each other, and part of the expanding sprawl of Metropolitan Manila. A close examination of the constituent provinces of Central Luzon indicates that net in-migration tended to occur in most provinces of the region, particularly high for Bulacan and to a certain extent for Bataan, Pampanga and Zambales as well. Southern Tagalog in turn has been primarily a net in-migration area, with massive population build-up in Cavite and Laguna but net outflows for most island provinces. Bulacan, Cavite, and Laguna are closest to Metro Manila and have been scenes of subdivisions reflecting the residential spill-over from the metropolis. It is also quite likely that the Southern Tagalog-Central Luzon area is one setting of an "urban turnaround" although occurring quite close to the Metropolitan Manila area.

TABLE 22
Twenty Largest Cities and Municipalities Outside the NCR, 1970-1980
Ranked on the Basis of 1980 Population

Cities/Municipalities and Region	Population Size		Annual Growth Rate (%)		
	1970	1975	1980	1970- 1975	1975- 1980
Davao (XI)	392,473	484,678	610,375	4.32	4.72
Cebu (VII)	347,116	413,025	490,281	3.55	3.49
Zamboanga (IX)	199,901	265,023	343,722	5.82	5.34
Bacolod (VI)	187,300	223,392	262,415	3.60	3.27
Iloilo (VI)	209,738	227,027	244,827	1.60	1.52
Cagayan de Oro (X)	128,319	165,220	227,312	5.20	6.59
Angeles (III)	134,544	151,104	188,834	2.36	4.55
Tarlac (III)	135,128	160,595	175,691	3.53	1.81
Butuan (X)	131,094	132,682	172,489	0.24	5.39
Iligan (XII)	104,493	118,778	167,358	2.60	7.10
Olongapo (III)	107,785	147,109	156,430	6.44	1.24
General Santos City (XI)	85,861	91,154	149,396	1.21	10.39
Batangas City (IV)	108,868	125,363	143,570	2.87	2.75
Cabanatuan City (III)	99,890	115,258	138,298	2.91	3.71
San Pablo City (IV)	105,517	116,607	131,655	2.03	2.46
Cadiz City (VI)	124,108	127,653	129,632	0.57	0.31
Calamba (IV)	82,714	97,432	121,175	3.34	4.46
Lipa City (IV)	93,971	106,094	121,166	2.46	2.69
Baguio City (I)	84,538	97,449	119,009	2.89	4.08
Silay City (VI)	69,200	104,887	111,131	8.70	1.16

Source: NCSO, Special Report No. 4, 1980 Census of Population.

TABLE 23
Inter-Regional Migrants in the Philippines, by Sex, 1975-1980

Region of Destination	R e g i o n o f O r i g i n												All In-migrants	
	NCR	1	2	3	4	5	6	7	8	9	10	11		12
NCR	-	44,354	16,629	53,254	78,340	53,594	45,888	23,891	50,919	5,126	7,216	8,949	5,563	393,272
I	13,614	-	7,005	7,373	3,931	1,258	946	953	1,011	588	635	824	564	38,703
II	5,251	13,863	-	8,976	2,231	1,408	888	586	718	337	519	515	233	35,526
III	44,435	13,741	4,274	-	14,308	9,125	4,710	3,678	8,510	857	1,522	1,252	678	106,997
IV	92,877	9,632	3,700	10,439	-	23,579	11,678	5,873	11,052	1,965	2,189	2,472	1,223	137,684
V	17,091	1,286	602	3,486	10,229	-	1,098	1,962	1,989	354	510	646	279	39,532
VI	11,708	823	491	1,513	3,308	1,630	-	7,868	906	1,038	1,421	3,112	1,595	35,405
VII	6,479	1,204	1,130	755	1,850	2,368	8,112	-	7,553	4,347	9,054	9,140	2,431	54,243
VIII	10,274	518	270	904	1,659	1,532	831	6,294	-	595	2,604	3,119	719	29,314
IX	1,280	624	763	529	467	330	3,307	9,419	915	-	7,008	2,395	2,612	29,650
X	4,075	1,361	1,072	948	1,196	1,672	8,668	25,510	8,616	11,272	-	18,522	11,391	94,304
XI	4,515	2,049	1,329	1,077	1,514	1,147	12,469	24,409	8,811	5,850	15,603	-	12,505	91,278
XII	1,903	2,248	724	1,088	768	491	10,636	8,239	1,192	6,133	10,585	13,167	-	57,673
All Out-Migrants	231,403	91,530	37,988	96,342	119,800	103,134	109,232	119,181	102,190	38,462	58,866	64,114	39,787	1,104,030

Source: NCSC tabulations.

TABLE 24
Level of Urbanization 1970-80

REGION	1970	1975	1980
PHILIPPINES	31.8	33.6	37.5
NCR	100.0	100.0	100.0
I Ilocos	19.4	21.1	23.8
II Cagayan Valley	14.1	14.8	16.7
III Central Luzon	30.2	33.9	41.8
IV Southern Tagalog	36.0	32.0	37.1
V Bicol	19.2	19.0	21.9
VI Western Visayas	26.7	26.9	28.4
VII Central Visayas	27.9	29.0	32.1
VIII Eastern Visayas	19.4	18.9	21.8
IX Western Mindanao	15.8	15.1	17.4
X Northern Mindanao	20.9	23.7	27.1
XI Southern Mindanao	26.6	27.0	33.9
XII Central Mindanao	15.6	15.5	18.9

Source: NCSO, Special Report No. 4, 1980 Census of Population.

The two Mindanao regions that registered substantial net gains during the period were Northern and Southern Mindanao. As in the previous period, there were substantial exchanges between the two regions. Both were also the destinations of a combined outflow of nearly 50,000 from Central Visayas.

The two other losing Visayan regions differed slightly from Central Visayas. Both the Western and Eastern sections sent their largest number of out-migrants to Metropolitan Manila. The total out-migrants which either Visayan region sent to all four Mindanao regions were still less than the numbers each region lost to Metro-Manila.

By way of summary, we use once again the arbitrary criterion of 25,000 as a significant migration stream. The most significant flows during the period are (a) seven large streams coming from the Ilocos, Central Luzon, Southern Tagalog, Bicol, Eastern and Western Visayas which all ended up in Metro-Manila; (b) the two large streams originating from Metro-Manila and headed toward Southern Tagalog and Central Luzon; (c) one stream from Bicol toward Southern Tagalog.

Table 24 gives an idea of the age selectivity of in-migrants and out-migrants for each region. Metro-Manila alone is distinguished by nearly two-thirds of its in-migrants belonging to the young ages 15-29. The pattern holds for both male and female in-migrants, although female in-migrants were decidedly much younger. In contrast, out-migrants from the metropolis were older.

Out-migrants from Bicol, Cagayan Valley, Ilocos, Eastern and Western Visayas tended to be composed of large segments of young people. Females who moved out of these high net out-migration regions were also concentrated in the ages 15-29.

Table 25 compares sex ratios of in-migrants and out-migrants for the first and second half of the seventies. The most uneven sex ratio can be noted for Metro-Manila where female in-migrants greatly outnumbered males for both decades. Sex ratios were around 67 males for every 100 female in-migrants. This very pronounced unevenness cannot be noted among out-migrants of the NCR, even if females still outnumbered males among those leaving the region.

Southern Tagalog and Central Visayas present an interesting shift from male-dominated in-migration into a female-dominated one by 1980. Quite likely, increasing urbanization of these two areas have been accompanied by greater availability of female-oriented employment opportunities in manufacturing and services thereby attracting more females.

All Mindanao regions registered male-dominated sex ratios among in-migrants for both 1970-75 and 1975-80. This was particularly pronounced for Western Mindanao. Out-migrants from these regions in the south varied. Out-migrants during the early seventies were more likely to be male-dominated whereas the latter half shifted toward more female dominance.

TABLE 25
Proportion of In-migrants and Out-migrants Aged 15-29: 1975-1980

Region	Both Sexes		Male		Female	
	In	Out	In	Out	In	Out
NCR	64.4	39.6	58.4	15.5	68.5	53.7
I Ilocos	43.7	56.2	36.5	51.1	49.8	60.5
II Cagayan Valley	43.9	58.4	42.3	51.8	45.8	63.3
III Central Luzon	48.4	51.7	42.4	46.9	53.5	56.1
IV Southern Tagalog	42.9	54.6	39.2	48.6	46.6	59.5
V Bicol	39.1	58.9	34.8	54.0	43.4	62.7
VI Western Visayas	40.5	56.2	37.2	50.2	43.7	60.9
VII Central Visayas	44.9	49.6	40.2	44.9	49.4	53.8
VIII Eastern Visayas	41.1	55.4	36.2	49.2	45.8	60.0
IX Western Mindanao	39.9	48.9	37.1	44.9	43.0	52.9
X Northern Mindanao	42.0	46.9	39.9	41.3	44.2	52.0
XI Southern Mindanao	45.0	43.3	42.7	38.9	47.4	47.6
XII Central Mindanao	45.0	45.0	42.7	42.3	47.4	47.7

Source: NCSO unpublished census tabulations based on unadjusted data.

The Visayan regions stand out with female dominated inter-regional mobility. In-migrants to the Visayas between 1970–75 registered more females for both the Western and Eastern sections with only Central Visayas deviating. By 1975–80, all in-migration streams to the Visayas became female-dominated. The entire seventies, however, saw the Visayas experiencing very female-dominated out-migration.

6. Historical Overview and Future Prospects

Oftentimes, the gaining and losing regions of the country tend to be the same. Metropolitan-Manila and Southern Tagalog are the major gainers in Luzon while most of the Mindanao regions are the main in-migration areas of the south. The Ilocos, Bicol and all three Visayan regions are the long-standing out-migration areas of the country. The pre-1960 period was marked by the settlement of the Philippine frontier in the south (Mindanao) and the north (Cagayan Valley), drawing long distance migrants particularly in the rush to Mindanao. The post-1960 period saw diminishing flows to frontier areas, with the Cagayan Valley becoming an out-migration region and the northern-southern portions of Mindanao registering lesser in-migration. The sixties and seventies are in fact distinguished by emerging dominance of urbanward migration. This trend may be distinguished by phases, starting with the historical dominant attraction of the capital city, then the emergence of Philippine suburbia with the “older” capital (Manila) diminishing in attractiveness (shortly before 1960), the growing influx to the wider Metropolitan Manila area in the sixties and the seventies, and, more recently, growing attractiveness of the highly urbanized regions contiguous to Metro-Manila (Southern Tagalog specially and to a certain extent Central Luzon) during the latter part of the seventies. These shifts from frontierward to urbanward flows was accompanied by heightened female dominance among migrants.

What are the prospects for the future? World-wide trends indicate increasing urbanization over time. It is also quite logical to expect larger segments of the population residing in urban areas in the country in the coming years. The NEDA Inter-Agency Committee working on the population projections examined trends in various countries and used as model the Chilean experience as typifying the urbanization process that would take place in the country. Projected proportions for urban show nearly uniform increases in per cent urban over time. The level of urbanization for the Philippines is expected to be 43 per cent in 1990, 48 per cent in 2000 and 58 per cent by 2020. These projected trends can be said to either imply more demographic or socio-economic changes in rural places that in turn result in their reclassification as urban, and/or greater migration to urban areas.

The NEDA Inter-Agency projections assume a continuation of the 1975–80 pattern of population redistribution although at a progressively diminishing rate. Thus the IAC projections (1983) as well as more recent ones prepared by the UPPI for the FAO (Zosa-Feranil, et al. 1987)

assume diminishing net in-migration for Metro-Manila. The implicit assumption of these projections is that the government's commitment to administrative decentralization and rural mobilization would result in the promotion of alternative growth centers and consequently, a more balanced population distribution all over the country.

Yet some issues remain vague or unresolved. While the Medium Term Plan emphasizes a more balanced population distribution in the country, the most appropriate spatial distribution of the population has not been defined. Actually, the country does not have a defined migration policy, as the approach has always been through indirect policies like the use of a 50-kilometer radius around Metro-Manila as guide, within which no new large industrial establishments can be erected. Very little knowledge is available on the migration-detering effects, if any, of such indirect policies.

An ideal migration policy has to be developed in the context of a national development policy. It has also to recognize that population distribution problems can be better addressed if the rural or non-developed regions are given more attention.

Past migration trends indicate the youthfulness of migrants as well as the dominance of females in urban-ward migration. What do these highly selective patterns portend for the gaining and the losing areas? What are the social costs and benefits of different types of migration to the specific types of migrants concerned? To the sending area, do high youth and sex selectivity mean losses in human resources? To the receiving area, would labor supply and employment problems be compounded by a very rapid influx of migrants?

APPENDIX TABLE A
Migration Volume and Rates, by Region: 1970-75

REGION	VOLUME			Net Migration Rates (per thousand pop. age 5 +)
	In- Migrants	Out- Migrants	Net Migrants	
NCR	263,058	195,860	+ 67,198	17.4
I. Ilocos	29,669	70,739	-41,148	-2.7
II. Cagayan Valley	24,070	28,218	-4,148	-2.7
III. Central Luzon	99,210	72,279	26,931	8.2
IV. Southern Tagalog	94,113	73,730	20,383	5.0
V. Bicol	35,517	67,102	-31,585	-4.8
VII. Central Visayas	51,081	89,787	-5,042	-14.2
VIII. Eastern Visayas	44,664	49,706	-5,042	-2.4
IX. Western Mindanao	17,993	40,860	-22,867	-13.9
X. Northern Mindanao	81,935	45,950	35,985	20.2
XI. Southern Mindanao	77,385	49,850	27,535	13.5
XII. Central mindanao	29,306	48,041	-18,735	-11.1

APPENDIX TABLE B
Net Migrants 5 Years Old and Over and Net Migration Rates by Region: 1975-1980

REGION	In- Migrants	Out- Migrants	Net Migrants	Net Migration Rates (per thousand)
NCR	378,878	204,778	174,100	3.20
I. Ilocos	35,588	87,571	-51,990	-1.53
II. Cagayan Valley	33,259	36,208	-2,949	-0.14
III. Central Luzon	101,844	92,257	9,587	0.21
IV. Southern Tagalog	183,095	114,683	68,412	1.21
V. Bicol	36,939	99,285	-62,345	-1.87
VI. Western Visayas	33,523	105,536	-72,013	-1.66
VII. Central Visayas	51,757	114,987	-63,230	-1.76
VIII. Eastern Visayas	27,605	98,489	-70,884	-2.63
IX. Western Mindanao	28,143	37,205	-9,062	-0.40
X. Northern Mindanao	92,323	56,639	35,684	1.41
XI. Southern Mindanao	89,017	62,080	26,937	0.89
XII. Central Mindanao	56,326	38,572	17,754	0.82
TOTAL	1,148,297	1,148,297	-	-

Source: National Census and Statistics Office, unpublished tabulations, 1980 Census of Population.

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FEMALE MIGRANTS TO URBAN AREAS IN THE PHILIPPINES

Imelda Zosa-Feranil

I. INTRODUCTION

Across the years, internal migration in the Philippines has shifted from being dominated by the settlement of sparsely populated frontier lands before the sixties (Pascual 1966) to becoming more urbanward thereafter (Flieger 1976; Perez 1978; Smith 1977). Along with these directional trends, the complexion of internal migration has also changed from the earlier long-distanced, male-selective pattern to becoming more female-dominated as migration to the cities became more pronounced (Eviota and Smith 1979 and 1984; Engracia and Herrin 1984).

One prevailing urbanward pattern involves the enduring attraction of the Metro Manila area. Actually, the city of Manila was a high in-migration area before the fifties, but as suburbanization started toward the sixties, cities and municipalities contiguous to or around the core city drew in migrants not only from Manila but also from other parts of the country. Metropolitan Manila became a distinct administrative region only in 1975 when it officially became the National Capital Region (NCR). The data from the seventies indicate that the NCR was the most preferred region of destination of migrants throughout the seventies (Zosa-Feranil 1987). Out of an estimated 1.2 million migrants who crossed regional boundaries between 1975 and 1980, nearly one-third proceeded to Metro Manila. The attractiveness of Metro Manila has also spilled over to the contiguous Southern Tagalog-Central Luzon area starting in 1970-75 owing to the heavy concentration of the country's industries and services in and around the metropolis (Pernia, Paderanga, Hermoso, et al. 1983). Data from the 1980 Census indicate that these two highly urbanized regions continue to draw large volumes of in-migrants from the other regions, although not in levels comparable to that of the metropolis (Nguiagain 1986).

Actually, these patterns appear to be part of the growing preference of migrants for urban destinations. This can be partly observed in Table 1, which is reproduced from a study done by Engracia and Herrin (1984). During the late sixties, over half of male and female migrants

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TABLE 1

Period Migrants in the Philippines, Metro Manila and
other Urban Areas By Sex, 1970, 1975, 1980

Area of destination and period	Per cent distribution of migrants		Migrants as a percentage of total population		Sex ratio
	Male	Female	Male	Female	
<u>1965-70 Philippines</u>	100.0	100.0	9.2	10.1	88.9
Rural	57.2	51.2	7.6	7.7	99.3
Urban	42.8	48.8	12.7	14.9	78.0
Metro Manila	19.6	23.3	17.8	121.9	74.8
Other urban	23.2	25.5	10.2	11.5	80.9
<u>1970-75 Philippines</u>	100.0	100.0	6.2	6.7	92.4
Rural	55.8	48.8	5.0	4.9	105.5
Urban	44.2	51.2	8.9	10.3	79.9
Metro Manila	25.8	29.6	13.6	15.8	80.8
Other urban	18.4	21.6	6.0	7.0	78.7
<u>1975-80 Philippines</u>	100.0	100.0	6.6	7.4	87.9
Rural	45.6	39.8	4.8	4.8	100.7
Urban	54.4	60.2	9.9	11.4	79.4
Metro Manila	26.0	30.2	14.4	17.0	75.5
Other urban	28.4	30.0	7.6	8.6	83.4

Source: Engracia and Herrin (1984), Table 16.1.

settled in rural areas, with the differential more pronounced among males. The diminishing attraction of rural areas can be noted during the first half of the seventies. Male migrants to rural places declined slightly during the same period. Moreover, more than half of all female migrants proceeded to towns and cities. The larger segment of this stream of male and female migrants headed toward Metro Manila. By the second half of the seventies, the attraction of urban areas became much more pronounced, as even the larger component of male migrants (54.4%) moved to urban areas. But the urbanward migration of females after 1975 was much higher (60.2%) than the just stated level for males or the corresponding level among females during the preceding period.

Metro Manila's share in the aggregate of male and female migrants increased substantially between the late sixties and the early seventies (from 19.6% to 25.8% for males and 23.3% to 29.6% for females respectively). Throughout the seventies, however, the proportion of male and female migrants which headed to Metro Manila remained unchanged.

The same table also indicates that during the 1975-80 period, a large segment of migrants from both sexes headed toward other urban areas. Thus, the increasing migration toward urban destinations is partly a result of the continuing influx to Metro Manila as well as the growing attraction of other urban areas. It is not clear whether a trend indicating an urban turnaround has emerged, where in the other urban areas are already exerting "counter-magnets" to the attractive power of Metro Manila (Zosa-Feranil 1987). Indeed, the population of urban areas grew rapidly in the seventies (4.4% per year), far outpacing the already rapid growth of the entire country (2.8%). During the first half of the seventies, Metro Manila grew faster than other urban places, with a growth rate approaching 5 per cent per year. The second half of the seventies saw a reversal, with the other urban areas growing by almost six per cent per year compared with the slightly diminished albeit still rapid increment of nearly four per cent per annum posted by the metropolis (Zosa-Feranil, de Guzman, Zablan, et al. 1987). Urban growth is attributable to natural increase, migration and the reclassification of rural areas. Chan (1987) pointed out that Metro Manila's growth during the 1975-80 period is due more to migration than to natural increase. Raymundo (1983) pointed out that small and large urban places seem to be growing faster since 1975, although she stressed that only a handful of places comprise the large-size categories.

This paper attempts to examine more closely female migrants to urban areas in the Philippines. "Migrants" in the study refers to persons who changed residence across municipal boundaries between the 1975 and 1980 censuses or between the 1970 and 1975 censuses. Much of the analysis is based on data from the 1980 Census through special tabulations provided by the National Statistics Office. The analysis also makes comparisons with the results of an earlier study on female migrants and the employment structure of Philippine cities (Engracia

and Herrin 1984) in order to have a better understanding of the short-term trend during the seventies when urbanward migration became more significant. The data below refer to the population 15 years old and over. The 1975-80 tabulations are based on a 5 percent subsample while 1970-75 data come from a 2.5 percent subsample.

II. ANALYSIS OF MIGRANT CHARACTERISTICS

1. Characteristics in 1980

Table 2 indicates that generally, female migrants to urban areas during the first and second half of the seventies were composed of large segments of single or young members. Female movers tended to be even younger than their nonmigrant counterparts throughout the same period, although young age-selectivity was more pronounced among female migrants during the 1970-75 period.

Their youthfulness may partly explain why female migrants during 1970-75 appeared to have lower educational attainment than non migrant females. The 1975-80 data indicate relatively better educational backgrounds among female migrants given the larger proportions with high school or college education compared with their nonmigrant counterparts or to migrant females during the preceding period.

Comparing urban male and female migrants during the entire seventies, one can note that females were composed of more single, younger but lower educated members. Urban male migrants were heavily concentrated in the young adult ages 20-29. More than half of male migrants was already married by 1980. These men also had a better educational mix. In fact, male migrants in urban areas generally surpassed their non-migrant brothers in terms of the proportions who were either in the young adult ages of 20-29, married, or college-educated. To emphasize, despite an improvement in educational composition among female migrants between the first and the second half of the seventies, these women appeared still disadvantaged educationwise when compared with male migrants.

Urban areas in the country, however, differed in the types of migrants that they received during the 1975-80 period (Table 3). Female migrants to Metro Manila appeared to be very highly selective of single women compared with females moving to other urban areas or to males headed toward either category of urban destinations.

Generally, the age distributions of the nonmigrant populations by sex in both Metro Manila and the other urban areas were similar. Both groups but more specially Metro-Manilans registered very large segments belonging to the ages 20-29. The proliferation of young adults actually distinguishes urban areas from the rest of the country where pyramidal age structures typical of young populations oftentimes prevail. The urban differential can be

TABLE 2
Percent Distribution of Urban Migrants and Non-migrants
in the Philippines During the Period 1970-80,
by Selected Characteristics

Characteristics	MALE				FEMALE			
	1970-1975		1975-1980		1970-1975		1975-1980	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Marital status								
Single	44.2	44.2	47.5	56.6	49.3	41.3	51.7	53.7
Married	54.8	54.3	50.8	41.6	46.7	53.9	43.4	40.3
Widowed	1.0	1.5	1.7	1.8	5.0	4.8	4.9	6.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Education								
Elementary	31.7	37.2	35.0	43.8	43.1	44.2	41.5	47.0
High school	37.4	37.5	33.1	31.5	33.2	31.5	31.5	28.2
College	30.9	25.3	31.9	24.7	23.7	24.3	27.0	24.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Age group								
15-19	18.6	21.4	15.1	19.6	29.1	22.6	23.8	20.2
20-29	43.7	31.5	41.3	32.2	41.8	31.7	44.1	52.8
30-39	21.4	19.7	24.7	21.6	16.3	19.5	17.4	20.5
40-54	12.9	19.5	15.0	19.6	9.6	18.9	11.1	19.1
55-64	3.4	7.9	3.9	7.0	3.1	7.3	3.6	7.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: 1975 data are from Engracia and Herrin (1984) based on the 1975 Census; 1980 results are NSO unpublished special tabulations of the 1980 Census.

TABLE 3
Per Cent Distribution of Migrants and Nonmigrants
to Different Urban Destinations by Selected Characteristics,
Philippines, 1980

CHARACTERISTICS	MALE		FEMALE	
	Migrant	Non-Migrant	Migrant	Non-Migrant
METRO-MANILA				
Number of cases	294,388	1,480,476	387,208	1,664,584
<u>Marital status</u>				
Single	48.4	55.1	54.3	53.6
Married	50.4	43.5	41.2	41.0
Widowed	1.2	1.4	4.5	5.4
Total	100.0	100.0	100.0	100.0
<u>Education</u>				
Elementary	27.6	33.2	37.5	38.4
High school	35.5	36.1	32.9	32.5
College	36.9	30.7	29.6	29.1
Total	100.0	100.0	100.0	100.0
<u>Age group</u>				
15-19	15.5	17.4	24.3	19.3
20-29	43.5	35.6	45.5	36.4
30-39	23.8	22.6	16.4	21.1
40-54	13.8	18.7	10.3	17.4
53-64	3.4	5.7	3.5	5.8
Total	100.0	100.0	100.0	100.0
OTHER URBAN				
Number of cases	297,180	3,116,888	352,528	3,379,140
<u>Marital status</u>				
Single	47.0	57.3	49.3	53.8
Married	51.4	40.8	46.0	40.0
Widowed	1.6	1.9	4.7	6.2
Total	100.0	100.0	100.0	100.0
<u>Education</u>				
Elementary	41.9	48.8	45.7	51.2
High school	30.8	29.4	30.1	26.1
College	27.3	21.8	24.2	22.7
Total	100.0	100.0	100.0	100.0
<u>Age group</u>				
15-19	14.8	20.7	23.2	20.6
20-29	39.1	30.5	42.5	31.0
30-39	25.6	21.1	18.6	20.2
40-54	16.1	20.1	12.0	20.0
55-64	4.4	7.6	3.7	8.2
Total	100.0	100.0	100.0	100.0

Source: NSO unpublished special tabulations.

attributed to some fertility declines as well as to in-migration occurring in the previous periods, which was also selective of people in their late teens or early twenties. Migrants in 1980, however, varied markedly in their age compositions. Women who moved to either urban destinations were likely to be much younger than their male counterparts as well as non-migrants of either sex. It should be noted that Metro Manila was likely to draw the youngest female movers, although other urban areas rank a very close second to Metro Manila in this aspect. In contrast, male migrants in both types of urban areas – but more particularly those who moved to the other urban areas – were generally older.

Female migrants in other urban areas registered the largest segment (45.7%) with the lowest educational backgrounds among the various categories of migrants. These women, however, still came out better than female nonmigrants in these other urban areas where 53.8 per cent reported having only some years of elementary education. Female migrants and nonmigrants of the metropolis did not vary greatly as both groups registered larger proportions with high school and college education than their female counterparts in the other urban areas. But metropolitan females were still no match educationwise when compared with male migrants of the NCR. Metro Manila's male migrants during the 1975-80 period emerged with the largest proportion having college education, besting even the male nonmigrants of the metropolis during the same period.

2. Work Status and The Urban Occupational Structure

Around two out of every five members of the entire country's 17-20 million work force for the 1980-86 period were engaged in industrial or service occupations. Most of the remaining were farmers or in extractive occupations (NSO Integrated Survey of Households Labor Force Surveys, 1980-86). Data on the occupational structure of urban areas at the subnational level are only available from the censuses, which used the gainful occupation approach starting in 1970 up to 1980. A distribution of the usual occupation of the population 15 years old and over in all urban areas as of 1980 is shown on Table 4, along with information for Metro Manila and all the other urban places. Over 50 per cent of the population 15 years old and over in all urban areas were usually gainfully occupied. The largest occupational group included production, processing and other manual workers. Equal proportions reported performing personal services or agricultural/extractive occupations. Professional, technical and administrative workers were fewer than either of the aforementioned occupational groups.

Taking urban areas in their entirety obscures divergence among these places. Metro Manila's occupational structure is distinctly different from that of all other urban places taken in aggregate: larger proportions in the "upper" occupational categories particularly management or professional employment as well as in "middle-level" categories like

TABLE 4
Occupational Distribution of the Population 15 Years Old and Over
by Occupation: 1980

OCCUPATION GROUP	N U M B E R S			P E R C E N T		
	All Urban	Metro Manila	Other Urban	All Urban	Metro Manila	Other Urban
Professional, technical, and administrative	736,484	293,728	442,756	6.7	7.9	6.2
Professors and teachers	303,168	69,864	233,304	2.8	1.8	3.3
All others	433,316	223,864	209,452	3.9	5.9	2.9
Clerical, sales	1,252,272	523,396	728,876	11.4	13.7	10.2
Clerical workers	529,648	266,508	263,140	4.8	7.0	3.7
Working proprietors, traders	343,408	104,008	239,400	3.1	2.7	3.3
Salesmen and related workers	379,216	152,880	226,336	3.5	4.0	3.2
All others	-	-	-	-	-	-
Craftsmen, production process and related labor	1,788,600	736,388	1,052,212	16.3	19.2	14.7
Tailors, sewers, etc.	192,540	73,564	118,976	1.8	1.9	1.6
All others	1,596,060	662,824	933,236	14.5	17.3	13.1
Service, sports	830,008	376,508	453,500	7.5	9.8	6.3
Housekeepers, cooks, maids	803,744	364,772	438,972	7.3	9.5	6.1
All others	26,264	11,736	14,528	.2	.3	.2
Agriculture	823,980	34,188	789,792	7.5	.9	11.0
Other occupations	59,896	23,980	35,916	.6	.6	.5
All gainful occupations	5,491,240	1,988,188	3,503,052	50.0	51.9	49.0
Non-gainful occupations	5,481,152	1,838,468	3,642,684	50.0	48.1	51.0
Students	1,841,804	631,784	1,210,020	16.8	16.5	16.9
Housekeepers (own home)	2,712,956	886,664	1,906,292	25.5	23.2	26.7
All others	846,392	320,020	526,372	7.7	8.4	7.4
TOTAL	10,972,392	3,826,656	7,145,736	100.0	100.0	100.0

Source: NSO, 1980 Census of Population special unpublished tabulations based on the 5 per cent sub-sample.

TABLE 5
Distribution of Migrants and Nonmigrants in Urban Areas,
By Occupation and By Sex, Philippines, 1975 AND 1980

OCCUPATIONAL CATEGORIES	1 9 7 5				1 9 8 0			
	M A L E		F E M A L E		M A L E		F E M A L E	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	8.5	6.4	4.9	6.3	8.8	6.4	5.8	6.9
Professors and teachers	1.0	1.4	2.5	4.1	.9	1.2	2.8	4.4
All others	7.5	5.0	2.4	2.2	7.9	5.2	3.0	2.5
Clerical, sales	16.3	12.9	8.9	10.5	14.6	12.3	9.4	10.5
Clerical workers	5.5	4.1	2.3	2.0	6.1	5.1	5.0	4.4
Working proprietors, traders	3.2	3.4	1.4	2.8	3.9	3.7	1.6	2.7
Salesmen and related workers	4.6	3.2	3.1	3.8	4.6	3.5	2.8	3.4
All others	3.0	2.2	2.1	1.9	-	-	-	-
Craftsmen, production process and related labor	21.0	16.1	4.6	5.2	33.8	28.5	5.6	4.8
Tailors, sewers, etc.	1.9	1.1	2.5	2.5	1.6	1.1	2.4	2.3
All others	19.1	15.0	2.1	2.7	32.2	27.4	3.2	2.5
Service, sports	9.9	5.9	25.2	8.0	9.2	5.7	19.7	7.3
Housekeepers, cooks, maids	4.0	1.6	22.8	6.6	8.9	5.4	19.7	7.3
All others	5.9	4.3	2.4	1.4	.3	.3	.2	.2
Other occupations ^a	24.9	32.4	4.5	6.0	10.2	16.7	.4	1.0
All gainful occupations	80.6	73.7	48.1	36.0	76.6	69.6	40.9	30.5
Non-gainful occupations	19.4	26.3	51.9	64.0	23.4	30.4	59.1	69.5
Students	12.9	16.1	11.4	15.1	13.0	18.4	11.8	16.5
Housekeepers (own home)	0.6	0.7	35.5	41.7	.5	.5	43.7	48.4
All others	5.9	9.5	5.0	7.2	9.9	11.5	3.6	4.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^a Includes farmers, fishermen, etc.; miners, quarrymen and related workers; workers in transport and communication; stevedores and related freight handlers; and members of the armed forces.

Sources: Engracia and Herrin (1984) and NSO, 1980 Census of Population Special tabulations.

production and crafts, clerical and sales. Service workers also abound. The other urban areas reported one out of every 10 working age members as a farmer or fisherman, indicating the persistence of a large segment of the traditional or extractive occupations in urban areas outside Metro Manila.

3. Work Status and Occupational Structure of Migrants and Nonmigrants

The occupational structure of migrants and nonmigrants by sex during the first and second half of the seventies is shown on Table 5. Succeeding tables further decompose the occupational distribution according to marital status, education and age considering that male and female migrants and nonmigrants vary in these social characteristics.

The data in Table 5 indicate that female migrants to urban areas during the entire seventies exhibited higher work participation rates (WPR or % with gainful occupations) than nonmigrants of the same sex. This finding follows a pattern noted in earlier studies of female migration to the cities of Southeast and East Asia (Shah and Smith 1981; Khoo 1984). In 1975, 48 per cent of female urban migrants reported a gainful occupation compared with 36 per cent among nonmigrant women. By 1980, work participation rates declined, but the differential remains with female migrants registering a WPR of 41 per cent compared with 31 per cent among nonmigrants. Despite their youthfulness, fewer female migrants reported themselves as mainly students. Understandably, only 36 per cent of this rather young group was primarily house keepers. The very large category of "native" women who were not mainly working registered larger proportions as students and housekeepers.

A close examination of the occupational structure indicates that half of working female migrants in 1975 and 1980 were in personal services. Although a slight decline occurred by 1980, the concentration of female migrants in service occupations prevails. More often these women ended up as domestic helpers, cooks, maids or nannies. Nevertheless, female migrants experienced some increases in the proportions who were in crafts or other production work, as well as in clerical or sales employment between 1975 and 1980. The proportion of female migrants in the highest occupational category also increased slightly from the 1975 level although the resulting level of professionals and administrators is still rather low. This pattern appears common to certain Southeast and East Asian countries (Khoo 1984).

In contrast to their migrant counterparts, female nonmigrants registered relatively larger proportions in the "highest" occupational category composed of professional, technical and administrative workers. This pattern prevailed throughout the seventies. Nonmigrants also registered larger proportions in sales and clerical occupations, with the 1980 level higher than that of 1975. A larger proportion of nonmigrants than migrants was production or processing

workers in 1975, but the reverse occurred by 1980. The smaller segment of service workers among nonmigrants also declined by 1980.

As expected, males registered very large proportions who were working, with male migrants registering the highest work participation rates followed by male nonmigrants, then female migrants, and finally female nonmigrants. Except for services, males also registered the larger proportions in all major occupational categories throughout the seventies. It seems that other than the professors and teachers category which females appear to dominate or be even "typecast" into, males appeared more able to get jobs that entail higher pay or prestige. Once again, male migrants appeared to do best, even generally better than their nonmigrant counterparts. Male migrants had the highest proportions of professional/administrative and clerical/sales workers between 1975 and 1980. This may be partly due to the former's educational mix, as substantially more have some years of college education. During both years, the largest segments of male migrants and nonmigrants were craftsmen and production workers, but the concentration was heaviest among male migrants particularly in 1980.

Thus, female migrants emerged as the most disadvantaged even in relation to female nonmigrants, to males in general but most specially with respect to male migrants. In contrast, male migrants appear to be most successful if broad urban occupational distributions were used as criterion.

The migrant/nonmigrant occupational structure in two types of urban areas is shown in Table 6. Male migrants to Metro Manila seemed to have very good chances of being in higher level occupations even when compared with male nonmigrants of the metropolis, as well as with all other remaining groups including those in the other urban areas. Similarities in occupational distributions between male migrants and nonmigrants suggest that generally, male migrants do not find difficulty in being integrated into the urban-industrial occupational structure.

Females who moved to Metro Manila between 1975-80 emerged with the heaviest concentration in service occupations. Actually, the proportion of female migrants in this broad occupational category equalled the combined proportion in all the other gainful occupation categories. Women moving to the other urban areas were likely to be in service occupations, although not in the same extent of concentration as that of Metro Manila.

The proportions of female nonmigrants in Metro Manila who were professionals or clerical/sales workers nearly equalled corresponding levels among male nonmigrants. However, larger proportions of female nonmigrants in the NCR were also gainfully employed in services, whereas males were notably prominent in the production and processing occupations as well as in professional or executive-level positions. Female nonmigrants in other

TABLE 6
Occupational Distribution of Male and Female Migrants and Female Migrants
and Nonmigrants in Metro Manila and Other Urban Areas, 1980

OCCUPATIONAL CATEGORIES	M A L E				F E M A L E			
	Metro Manila		Other Urban		Metro Manila		Other Urban	
	Migrant	Non- Migrant	Migrant	Non- Migrant	Migrant	Non- Migrant	Migrant	Non- Migrant
Professional, technical, and administrative	10.2	8.8	7.4	5.2	5.9	6.7	5.8	7.0
Professors and teacher	.5	.7	1.2	1.5	2.3	3.0	3.4	5.1
All others	9.7	8.1	6.2	3.7	3.6	3.7	2.4	1.9
Clerical, sales	15.3	15.3	13.7	10.9	10.4	12.8	8.2	9.5
Clerical workers	7.1	6.9	5.0	4.2	6.4	7.1	3.4	3.1
Working proprietors, traders	3.5	3.9	4.2	3.7	1.2	2.0	2.1	3.1
Salesmen and related workers	4.7	4.5	4.5	3.0	2.8	3.7	2.7	3.3
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labor	35.2	33.7	32.5	26.0	6.6	6.4	4.6	3.9
Tailors, sewers, etc.	1.3	1.1	2.0	1.1	2.5	2.6	2.4	2.1
All others	33.9	32.6	30.5	24.9	4.1	3.8	2.2	1.8
Service, sports	10.3	7.3	8.1	4.9	22.5	9.0	16.5	6.5
Housekeepers, cooks, maids	10.0	7.3	8.1	4.9	22.5	9.0	16.5	6.5
All others	.3	.4	.3	.2	.2	.2	.2	.2
Other occupations	3.2	3.1	17.3	23.2	.1	.1	.8	1.4
All gainful occupations	74.2	68.1	79.0	70.2	45.5	35.0	35.9	28.3
Non-gainful occupations	25.8	31.8	21.0	29.8	54.5	65.0	64.1	71.7
Students	14.6	18.4	11.6	18.3	11.8	16.3	11.8	16.6
Housekeepers (own home)	.5	.5	.5	.7	38.6	43.8	49.3	50.7
All others	10.7	13.0	8.9	10.8	4.1	4.9	3.0	4.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: NSO, 1980 Census of Population Special tabulations.

urban areas displayed the lowest work participation rates although they had the largest proportion of professionals among all females.

4. Work Status, Occupational Structure and Marital Status

The differentials in migrant characteristics and the apparent concentration of female migrants in services need a closer look. This paper deals with who these women are, where they are found, what ages they belong to, their educational backgrounds and their marital statuses. The occupational distributions of urban female migrants and nonmigrants by marital status in 1975 and 1980 are shown in Table 7. Single migrants stand out with the highest work participation rates during 1975 and 1980. Although the work participation rates of women belonging to different marital statuses declined uniformly by 1980, female migrants oftentimes emerged with higher work participation rates than nonmigrants. Widowed female migrants also exceeded the work participation rates of their nonmigrant counterparts while married women of either migration statuses did not vary with their very low levels of work participation. The need to care for their children and attend to homemaking given the rising costs of domestic helpers in urban areas may be some of the reasons for the low WPRs.

The occupational distributions of migrants and nonmigrants by marital status during 1975 and 1980 reveal that the work participation rates of single female migrants were high because of the large segments in services. No other group displayed such pronounced concentration in just one occupational category during both years. However, nearly all single migrants belonging to this category were rendering personal services as housekeepers, cooks, maids, janitresses, laundrywomen, etc.

Actually, relatively large portions of widowed migrants and single nonmigrants were also service workers for both years. Despite the high likelihood of service occupations for single migrants and non-migrants as well as widowed migrants, the 1975-80 data suggest slight declines in the percentages of who were service workers, with corresponding increases in the very small groups represented by professional/technical and administrative workers. The proportion of production workers among single migrants also increased (5 per cent in 1975 to 7.2 per cent in 1980).

The 1980 occupational structure of females in specific types of urban places according to marital status (Table 8) shows that the higher work participation rates and concentration in service occupations among single female migrants were even more pronounced for Metro Manila than in the other urban areas of the country. Nearly two-third (64.3 %) of single migrants to the metropolis were economically active compared to 56.8 per cent for the

TABLE 7
Distribution of Urban Female Migrants and Nonmigrants By Occupation
And By Marital Status, Philippines, 1975 and 1980

OCCUPATIONAL CATEGORIES	1 9 7 5						1 9 8 0					
	SINGLE		MARRIED		WIDOWED		SINGLE		MARRIED		WIDOWED	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	2.8	5.3	7.2	7.3	2.6	3.6	4.4	5.9	7.2	8.0	3.1	3.7
Professors and teachers	1.0	3.2	4.2	5.1	1.0	1.7	1.3	2.9	4.1	5.6	1.4	2.6
All others	1.8	1.8	3.0	2.2	1.6	1.9	3.1	3.0	3.1	2.4	1.7	1.1
Clerical, sales	8.2	10.0	9.4	10.5	11.4	13.3	8.8	10.6	9.6	10.2	10.4	12.5
Clerical workers	1.9	2.7	2.8	1.7	1.0	0.9	5.2	6.0	5.1	3.8	2.0	1.6
Working proprietors, traders	0.3	0.9	2.2	3.6	4.5	6.2	.6	1.4	2.1	3.2	3.9	5.4
Salesmen and related workers	3.7	3.7	2.2	3.6	4.7	5.8	3.0	3.2	2.4	3.2	4.5	5.5
All others	2.3	2.7	2.2	1.6	1.2	0.4	-	-	-	-	-	-
Craftsmen, production process and related labor	5.0	5.6	4.4	4.8	5.9	5.9	7.2	5.8	4.6	4.0	4.1	5.2
Tailors, sewers, etc.	2.2	2.6	2.6	2.4	4.3	2.7	2.9	2.5	2.1	2.1	2.1	3.0
All others	2.8	3.0	1.8	2.4	1.6	3.2	4.3	3.3	2.5	1.9	2.0	2.2
Service, sports	45.9	15.6	4.0	2.4	21.2	8.1	40.2	14.2	3.4	2.3	17.0	8.6
Housekeepers, cooks, maids	42.7	13.8	2.5	1.3	17.4	5.9	40.0	14.2	3.4	2.3	17.0	8.6
All others	3.2	1.8	1.5	1.1	3.8	2.2	2	.1	2	2	.7	.4
Other occupations	7.8	12.5	1.2	1.4	3.4	4.8	.5	1.0	2	.6	1.7	3.3
All gainful occupations	69.6	48.4	26.3	26.5	44.7	35.9	61.1	37.6	25.2	25.3	37.0	33.7
Non-gainful occupations	30.4	51.6	73.7	73.5	55.3	64.1	38.9	62.4	74.8	74.7	63.0	66.3
Students	22.5	37.8	0.8	0.6	1.0	0.6	26.5	44.0	1.3	1.1	.7	.7
Housekeepers (own home)	2.1	4.4	70.5	70.3	32.0	34.8	7.2	11.5	72.5	72.4	47.0	48.1
All others	5.8	9.4	2.4	2.6	22.3	28.7	5.2	6.9	1.0	1.2	15.3	17.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Engracia and Herrin (1984) and NSO, 1980 Census of Population Special tabulations.

remaining urban areas. Both levels of course exceeded those of the other marital status categories in either urban milieus.

More than 42 per cent of single migrants to the metropolis was in service and sports occupations. Almost all of these women provided the types of services that are expectedly present in the prime urban area of a less developed country: keeping house for other people as domestic helpers, attending to catering and lodging establishments, providing laundry services either on per piece or monthly basis, serving as the neighborhood home service beauticians, and even working in the numerous quick eateries as waitresses or in beer joints as hospitality girls. Thirty-seven per cent belonged to the same category in the other urban areas of the country, an indication that the other urban areas are not far behind Metro Manila in terms of the proliferation of single women in the urban service sector.

The broad occupational categories that claimed the next two larger proportions of single female workers are (a) the combination of clerical and sales, and (b) craftsmen and processing workers. But their relative shares in both Metro Manila and the other urban areas pale in comparison to those in services. Single non-migrants in Metro Manila appeared more likely to get into clerical or sales employment than single migrants. This may be partly due to the former's more established 16 social contacts with urban residents, including potential employers, or better access to information on such jobs. It is also likely that single migrants may have very little choice in terms of job opportunities in rather tight labor market situations, thus come out more easily absorbed into the service sector.

The concentration of single female migrants in the low-level service occupations can be better appreciated if one notes that single women dominated migration to urban areas in 1980. Actually, about one out of every four migrants to the metropolis was a single woman. Single women in turn comprised 42 per cent of all females who moved to urban areas during the same period.

Widows are an interesting group. Their levels of participation in both urban areas are midway between those of single women and married ones. The occupational distributions of migrant widows in both areas resembled those of single migrant women owing to the large proportions in the service sector. Nonmigrant widows in both Metro Manila and the other urban areas were different because their largest percentages of workers were in clerical or sales. While nonmigrants may have some edge in information or access to higher level occupations, economic pressure on widowed migrants to support their families and therefore be available for any kind of work may push them to personal service occupations.

Married women of either migrant statuses in both types of urban areas did not differ substantially with their very low levels of work participation and in the ensuing occupational

TABLE 8
Distribution of Urban Female Migrants and Non-Migrants by Occupation and by Marital Status, Metro Manila and other Urban Areas, 1980

Major Occupation Groups	METRO MANILA				OTHER URBAN							
	Single	Married	Widowed	Single	Married	Widowed						
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant						
Professional and technical	4.7	6.8	7.4	7.0	4.0	3.5	4.0	5.6	7.3	8.2	2.3	3.8
Professors and teachers	1.1	2.3	3.5	3.6	1.5	1.6	1.7	3.3	4.7	6.5	1.3	2.9
All others	3.6	4.5	3.9	3.4	2.5	1.9	2.3	2.3	2.6	1.7	1.0	.9
Clerical, sales	9.3	13.1	11.5	12.4	9.6	14.2	8.2	9.3	7.9	9.2	11.1	11.8
Clerical workers	6.1	9.1	7.1	6.2	2.0	3.1	3.9	4.4	3.3	2.7	2.0	.9
Working proprietors, traders	.5	1.0	1.7	2.4	3.1	4.3	.8	1.6	2.6	3.5	4.6	5.9
Salesmen and related workers	2.7	3.0	2.7	3.8	4.5	6.8	3.5	3.3	2.0	3.0	4.6	5.0
All others	-	-	-	-	-	-	-	-	-	-	-	-
Craftsmen, production process and related labor	7.8	7.4	5.7	5.6	4.8	6.8	6.6	4.9	3.4	3.3	3.6	4.5
Tailors, sewers, etc.	2.6	2.6	2.3	2.4	2.6	3.8	3.4	2.4	1.8	1.9	1.8	2.6
All others	5.2	4.8	3.4	3.2	2.2	3.0	3.2	2.5	1.6	1.4	1.8	1.9
Service, sports	42.4	16.6	3.8	3.4	17.7	11.9	37.0	13.0	3.4	2.2	17.7	7.9
Housekeepers, cooks, maids	42.2	16.5	3.6	3.1	17.2	11.3	36.9	12.9	3.2	2.0	16.9	7.5
All others	.2	.1	.2	.3	.5	.6	.1	.1	.2	.1	.8	.4
Other occupations	.1	.1	.1	.1	.2	.3	1.0	1.5	.4	.9	3.2	4.8
Gainful Occupations	64.3	44.0	28.5	28.5	36.3	36.7	56.8	34.3	22.4	23.8	37.9	32.6
Non-gainful Occupations	35.7	56.0	71.5	63.7	63.3	43.2	65.7	77.6	76.2	62.1	67.4	
Students	24.0	40.5	1.2	1.1	.9	.6	30.1	45.9	1.3	1.1	.5	.7
Housekeepers (own home)	6.1	8.2	69.2	69.0	46.9	44.9	8.7	13.2	75.4	74.0	47.1	49.4
All others	5.6	7.3	1.1	1.4	15.9	17.8	4.4	6.6	.9	1.1	14.5	17.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

distributions. Only around 29 per cent of married migrant and nonmigrant women in Metro Manila and 23 per cent of their counterparts in the other urban areas were working in 1980. The occupational distributions, however, indicate a better spread, with fewer proportions in services but larger segments in the professional/administrative and clerical categories. Married women of Metropolitan Manila exceeded those in the other urban areas in terms of clerical and production workers while those in the other urban areas registered slightly more professionals.

5. Work Status, Occupational Structure and Educational Attainment

The occupational distribution of female migrants and nonmigrants in urban areas by educational attainment is given in Table 9. One can immediately notice the wide variation and the lack of uniform trends in work participation rates among women coming from different migration and education statuses. For 1975, the WPRs among migrants include 52 per cent among women with elementary schooling, 42 per cent for those of some years of high school and 49 per cent among those with some college education. The corresponding rates for nonmigrants are 33, 30 and 52 per cent respectively. As Engracia and Herrin (1984) stressed, migrants were much more likely to work at lower levels of education, but this did not hold true for those with higher levels of education.

The WPRs for females in 1980 appeared to have shifted and declined slightly. Among migrants the rates were 43 per cent for those with elementary schooling, 35 for those in the high school category and 46 for those with some college education while the corresponding levels among nonmigrants were 26, 22 and 46 per cent respectively. Both years, therefore, indicate that the high school category for either migrant statuses tended to display participation rates lower than levels registered by those with elementary or college education. The levels in 1980 show that the college educated displayed the highest participation rates among migrants and nonmigrants while migrants with only elementary schooling were not far behind.

The occupational distributions indicate that college educated women were concentrated in the professional, technical, administrative and clerical occupations. This is particularly true for nonmigrants in both years, suggesting that better-educated natives or the more settled have better chances of obtaining the more prestigious or higher earning jobs than college educated migrants. Migrants with elementary schooling, and to a certain extent those with some years of high school, had greater propensity to land in service and sports occupations. Those with some high school attainment were also likely to perform processing, or production-related work or clerical employment.

TABLE 9
Distribution of Female Migrants and Non-Migrants in Urban Areas, by Occupation and by Education, Philippines, 1975 and 1980

Major Occupation Groups	1		9		7		5		1		8		0	
	Elementary		High School		College or more		Elementary		High School		College or more			
	Migrant Migrant	Non-Migrant	Migrant Migrant	Non-Migrant	Migrant Migrant	Non-Migrant	Migrant Migrant	Non-Migrant	Migrant Migrant	Non-Migrant	Migrant Migrant	Non-Migrant		
Professional, technical, administrative	0.3	0.4	0.8	0.8	0.8	0.8	19.1	24.8	0.0	0.2	.4	.3	19.5	23.8
Professors and teachers	-	-	0.1	0.1	0.1	0.1	10.3	17.4	0.0	0.0	.0	.0	9.6	15.5
All others	0.3	0.4	0.7	0.7	0.7	0.7	8.8	7.4	0.0	0.0	.4	.3	9.9	8.3
Clerical, sales	4.6	8.3	6.7	8.7	8.7	17.3	19.2	17.3	4.2	7.6	6.6	7.9	19.2	18.3
Clerical workers	-	0.1	0.9	1.1	1.1	7.0	8.4	7.0	0.3	0.1	1.6	1.6	15.0	13.9
Working proprietors and traders	1.3	3.3	1.3	2.5	2.5	1.9	1.4	1.9	1.3	3.1	1.5	2.6	2.0	2.5
Salesmen and related workers	3.0	4.7	3.7	4.1	4.1	1.7	2.0	1.7	2.6	4.4	3.5	3.7	2.2	1.9
All others	0.3	0.2	0.8	1.0	1.0	6.7	7.4	6.7						
Craftsmen, production process and related labor	4.6	6.3	7.0	6.6	6.6	1.9	1.9	1.6	4.4	5.5	9.4	6.5	3.3	2.0
Tailors, sewers, etc.	2.4	2.7	4.0	3.5	3.5	0.8	0.8	0.8	2.2	2.9	4.3	3.2	.8	.7
All others	2.2	3.6	3.0	3.1	3.1	1.1	1.1	0.8	2.2	2.6	5.1	3.3	2.5	1.3
Service, sports	39.2	11.9	22.2	7.1	7.1	3.3	3.3	1.5	33.9	11.5	18.7	7.3	3.4	1.9
Housekeepers, cooks, maids	36.4	10.4	19.2	5.2	5.2	2.2	2.2	0.7	33.7	11.3	18.5	7.1	3.2	1.6
All others	2.8	1.5	3.0	1.9	1.9	1.1	1.1	0.8	0.2	.2	.2	.2	.2	.3
Other occupations	3.3	5.6	5.6	6.4	6.4	5.0	5.0	6.2	0.6	1.5	.2	.5	.3	.4
All Gainful Occupations	52.0	32.5	42.4	29.7	29.7	48.7	48.7	41.6	43.1	26.3	35.3	22.5	45.7	46.4
Non-Gainful Occupations	48.0	67.5	57.6	70.3	70.3	51.3	51.3	48.4	56.9	73.7	64.7	77.5	54.3	53.6
Students	2.0	2.7	16.7	26.7	26.7	21.6	21.6	25.1	1.9	2.3	15.9	27.5	19.7	25.4
Housekeepers (own home)	39.0	54.6	36.9	39.0	39.0	27.1	27.1	20.3	51.2	66.6	46.0	47.0	31.1	23.8
Others	7.0	10.2	4.0	4.6	4.6	2.6	2.6	3.0	3.8	*4.8	2.8	3.3	3.5	4.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 10 shows that migrants in Metro Manila and the other urban areas who had elementary or high school education always exceeded the work participation rates of their nonmigrant counterparts. The WPRs of Metro Manilans also surpassed corresponding levels among women in the other urban areas. The highest participation rates had been noted of Metro Manila migrants with only elementary education. Most of these migrant women, however, were likely to end up as service or recreation workers.

Women with college education of either migrant statuses in both Metro Manila and the other urban areas registered relatively high participation rates closely approaching the levels posted by metropolitan migrants with only elementary education. Their college backgrounds resulted in better spread toward the highest level occupational category composed of professionals, technical workers and executives, and the middle-level occupations like clerical and sales. Despite such a mix, however, larger proportions of educated nonmigrants were found in the "Professionals and administrative" category compared with migrants.

The lowest participation rates emerged among female non-migrants who have only some high school education and who were residing in the other urban areas of the country. Their non-migrant counterparts in Metro Manila also registered the lowest participation rates within the metropolis, but the latter's WPR is still higher than the corresponding level in the other urban areas. Despite their educational backgrounds, migrant women with some years of high school were also more likely to be absorbed into the service sector, even as others found jobs as manufacturing workers. This was true for both Metro Manila and the other urban areas in 1980. Moreover the small segment of working nonmigrants with high school education in both areas showed lesser propensity to be in services, as larger segments worked in clerical, secretarial, and sales jobs. A large portion of Metro Manilan nonmigrants with high school education also found employment in processing occupations, but the same cannot be said of those in the other urban areas.

6. Work Status, Occupational Structure and Age

It was noted above that female migrants to the cities and poblaciones of the country were predominantly young. Indeed, of the estimated 1.33 million migrants aged 15 and over in all urban areas in the country, in 1980, nearly one-fourth was females aged 20-29 while 13 and 9 per cent was women aged 15-19 and 30- 39, respectively. Focusing only on the occupational distributions of those in ages 15-39 where migrant selectivity was most pronounced, one finds that migrants always exceeded non-migrants in levels of participation for both 1975 and 1980 (Table 11).

TABLE 10
Distribution of Female Migrants and Nonmigrants by Occupation and Educational Attainment,
Metro Manila and Other Urban Areas, 1980

MAJOR OCCUPATION GROUPS	METRO MANILA						OTHER URBAN					
	Elementary		High school		College +		Elementary		High school		College +	
	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant
Professional and technical, administrative	1	.1	.4	.4	17.9	19.2	.2	.2	.3	.2	21.6	26.9
Professors and teachers	-	-	0	.1	7.1	8.7	.1	-	.0	0	12.9	20.0
All others	.1	.1	.4	.3	10.8	10.5	.1	.2	.3	.2	8.7	6.9
Clerical, sales	3.7	2.2	6.4	8.5	21.5	22.5	4.3	7.8	6.7	7.4	16.2	15.5
Clerical workers	3	.2	2.1	2.5	17.4	18.2	.1	.1	1.0	1.0	11.7	11.1
Working proprietors, traders	.8	1.9	1.0	1.9	1.7	2.2	1.8	3.6	2.1	3.0	2.4	2.6
Salesmen and related workers	2.6	5.1	3.3	4.1	2.4	2.1	2.4	4.1	3.6	3.4	2.1	1.8
All others	-	-	-	-	-	-	-	-	-	-	-	-
Craftsmen, production process and related labor	4.8	7.0	11.1	9.4	3.9	3.0	4.0	5.0	7.4	4.8	2.2	1.5
Tailors, sewers, etc.	2.5	3.2	4.1	3.9	.7	.8	1.8	.8	4.5	2.8	.8	.6
All others	2.3	3.8	7.0	5.5	3.2	2.2	2.2	2.2	2.9	2.0	1.4	.9

TABLE 10 (Continuation)
Distribution of Female Migrants and Nonmigrants by Occupation and Educational Attainment,
Metro Manila and Other Urban Areas, 1980

MAJOR OCCUPATION GROUPS	METRO MANILA						OTHER URBAN					
	Elementary		High school		College +		Elementary		High school		College +	
	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant	Migrant	Non Migrant
Service, sports	41.5	17.6	22.0	8.5	3.6	2.1	26.8	9.4	14.9	6.5	3.2	1.7
Housekeepers, cooks, maids	41.3	17.4	21.8	8.3	3.4	1.8	26.6	9.2	14.7	6.3	3.0	1.5
All others	2	2	2	2	2	3	2	2	2	2	2	2
Other occupations	1	2	1	1	2	2	1.0	2.0	4	8	5	4
ALL GAINFUL OCCUPATIONS	50.2	32.1	40.0	26.9	47.1	47.0	36.3	24.4	29.7	19.7	43.7	46.0
NON-GAINFUL OCCUPATIONS	49.8	67.9	60.0	73.1	52.9	53.0	63.7	75.6	70.3	80.3	56.3	54.0
Students	1.6	1.9	14.1	21.6	20.1	23.4	2.2	2.4	18.1	31.2	19.3	26.7
Housekeepers (own home)	43.7	60.3	42.7	47.9	28.8	24.9	58.1	68.8	50.0	46.5	34.1	23.1
All others	4.5	5.7	3.2	3.6	4.0	4.7	3.2	4.4	2.2	2.6	2.9	4.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: *Engracia and Herrin (1984)* and *NSO, 1980 Census of Population Special Tabulations*.

TABLE 11
Distribution of Female Migrants and non Migrants in Urban Areas, by Occupation and by Age,
Philippines, 1975 and 1980

Major Occupation Groups	1 9 7 5						1 9 8 0					
	15 to 19		20 to 29		30 to 39		15 to 19		20 to 29		30 to 39	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.3	0.2	5.2	7.4	10.1	10.2	2	2	6.1	6.5	11.9	12.8
Professors and teachers	0.2	-	2.3	4.4	5.7	7.2	0	0	1.8	2.6		9.8
All others	0.1	0.2	2.9	3.0	4.4	3.0	2	2	4.3	4.1	4.3	3.0
Clerical, sales	4.1	3.6	10.5	13.0	12.8	13.5	3.4	2.7	11.1	13.2	13.2	13.4
Clerical workers	0.3	0.4	3.3	3.7	3.5	2.5	9	.8	7.3	8.3	7.1	5.7
Working proprietors, traders	0.1	0.3	0.7	1.6	3.0	4.1	2	2	1.1	1.6	3.1	3.7
Salesmen, related workers	3.2	2.5	3.1	3.7	3.0	4.5	2.3	1.7	2.7	3.3	3.0	4.0
All others	0.5	0.4	3.4	4.0	3.3	2.4	-	-	-	-	-	-
Craftsmen, production process and related labor	3.2	3.2	5.7	6.3	5.6	6.6	4.0	2.9	7.6	6.1	5.5	5.8
Tailors	1.4	1.1	2.8	2.9	4.2	3.7	1.4	1.0	3.0	2.6	2.8	3.1
All others	1.8	2.1	2.9	3.4	1.4	2.9	2.6	1.9	4.6	3.5	2.7	2.7

TABLE 11 (Continuation)

DISTRIBUTION OF FEMALE MIGRANTS AND NON MIGRANTS IN URBAN AREAS, BY OCCUPATION AND BY AGE,
PHILIPPINES, 1975 AND 1980

Major Occupation Groups	1 9 7 5				1 9 8 0			
	15 to 19		20 to 29		15 to 19		20 to 29	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Service, spor'	43.2	13.8	23.2	9.3	11.7	5.9	16.9	8.2
Housekeepers, cooks, maids	40.8	12.4	20.1	7.5	9.8	4.1	16.7	8.1
All others	2.4	1.4	3.1	1.8	1.9	1.8	.2	.1
Other occupations	5.2	8.5	6.1	9.6	1.7	3.0	.4	.8
ALL GAINFUL OCCUPATIONS	56.0	29.4	50.9	45.7	42.1	39.3	42.1	34.8
NON-GAINFUL OCCUPATIONS	44.0	70.6	49.1	54.3	57.9	60.7	57.9	65.2
Students	28.3	53.2	7.5	11.6	0.7	0.6	8.7	13.6
Housekeepers (own home)	9.5	8.6	39.0	38.7	55.2	57.9	46.8	48.0
Others	6.2	8.8	2.6	4.0	2.0	2.2	2.4	3.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Engracia and Herrin (1984) and NSO, 1980 Census of Population Special Tabulations.

As noted by Engracia and Herrin (1984), work participation of female migrants in 1975 tended to decline with age. A closely similar pattern emerges for 1980. However, nonmigrant women did not exhibit a uniform pattern of participation during 1975 and 1980. In 1980, levels of participation among nonmigrants tended to rise with age, in contrast to 1975 where participation among women in their twenties came out higher.

Table 12 shows a breakdown of the usual occupation by age of migrants and nonmigrants in specific urban areas. Similar to patterns noted above, migrants in either Metro Manila or the other urban areas usually had higher participation rates than nonmigrants except for women in their thirties in the other urban areas. Moreover, Metro Manilans of either category had higher propensity to be economically active than their counterparts in the other urban areas. Participation in the work force was also highest for women in their teens and tended to go down as age increases, although migrants to Metro Manila showed less tendency to do so.

Table 12 also tells us that nearly all female migrants aged 15-19 in Metro Manila and the other urban areas were service workers while very few went to either manufacturing occupations or to be part of the clerical or sales work force. Service occupations appear to be a major absorber of young female migrants to both types of urban destinations considering that even women in their twenties belonged to the service sector in 1980. However, the predilection appears to decline at the older ages.

III. SUMMARY AND ISSUES FOR RESEARCH AND POLICY

Philippine migration is becoming increasingly urbanward. Recent information indicates the continuing influx to Metro Manila as well as the growing attraction of other urban areas. Moreover, females migrating to the cities comprise larger numbers and these women are likely to be single, younger and slightly better educated than nonmigrant females. In contrast, male migrants tended to be married, older and better educated than female migrants. Urban areas differed in the types of migrants that they received, with female migrants to Metro Manila most selective of the very young and single migrants. On the whole, the educational backgrounds of female migrants to the metropolis were comparable to those of their nonmigrant counterparts. On the other hand, female migrants to the other urban areas had the lowest educational attainment among all the groups studied.

Migrants of either sex generally have higher work participation rates than nonmigrants. A closer look at women in the cities reveals higher economic activity among female migrants who were young, single or widowed, with elementary schooling or college educated. Except for the college educated, most of these female migrants were likely to end up in services. While this

TABLE 12

Distribution of Female Migrants and Nonmigrants in Urban Areas, by Occupation and by Age,
Metro Manila and Other Urban Areas, 1975 and 1980

MAJOR OCCUPATION GROUPS	M E T R O M A N I L A						O T H E R U R B A N					
	15 to 19		20 to 29		30 to 39		15 to 19		20 to 29		30 to 39	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	2	2	6.3	7.3	11.3	11.2	3	1	5.8	6.0	12.1	13.7
Professors and teachers	-	0.0	1.4	1.8	6.1	6.5	-	0	2.3	2.8	8.9	11.5
All others	2	2	4.9	5.5	5.2	4.7	3	1	3.5	3.2	3.2	2.2
Clerical, sales	3.3	3.1	12.9	16.1	14.7	16.3	3.6	2.4	9.1	11.6	11.6	11.9
Clerical workers	1.2	1.4	9.2	11.6	9.5	8.8	6	4	5.1	6.4	4.7	4.0
Working proprietors, traders	.1	.1	.9	1.1	2.3	2.9	3	3	1.4	1.9	3.9	4.2
Salesmen, related workers	2.0	1.6	2.8	3.4	2.9	4.6	2.7	1.7	2.6	3.3	3.0	3.7
All others	-	-	-	-	-	-	-	-	-	-	-	-
Craftsmen, production process and related labor	3.8	3.4	9.0	8.4	7.2	7.9	4.0	2.7	5.9	4.7	3.9	4.8
Tailors	.9	.9	3.0	2.9	3.5	3.6	1.9	1.1	3.1	2.4	2.2	2.9
All others	2.9	2.5	6.0	5.5	3.7	4.3	2.1	1.6	2.8	2.3	1.7	1.9

TABLE 12 (Continuation)

DISTRIBUTION OF FEMALE MIGRANTS AND NONMIGRANTS IN URBAN AREAS, BY OCCUPATION AND BY AGE,
METRO MANILA AND OTHER URBAN AREAS, 1975 AND 1980

MAJOR OCCUPATION GROUPS	M E T R O M A N I L A						O T H E R U R B A N					
	15 to 19		20 to 29		30 to 39		15 to 19		20 to 29		30 to 39	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Service, sports	42.8	13.0	19.6	9.9	13.0	7.8	35.2	11.0	13.7	7.3	7.4	4.9
Housekeeper, cooks, maids	42.7	13.0	19.4	9.7	12.7	7.5	35.1	11.0	13.5	7.2	7.2	4.6
All others	.1	0	.2	2	.3	.3	.1	0	.2	.1	.2	.3
Other occupations	1	0	1	1	1	1	.6	2	.6	1.1	.8	1.0
ALL GAINFUL OCCUPATIONS	50.2	19.7	47.9	41.8	46.3	43.3	43.7	17.1	35.1	30.7	35.8	36.3
NON-GAINFUL OCCUPATIONS	49.8	80.3	52.1	58.2	53.7	56.3	56.7	82.9	64.9	69.3	64.2	63.7
Students	33.2	63.3	8.4	12.3	.6	.7	34.7	63.7	9.0	14.3	1.0	.9
Housekeepers (own home)	12.2	12.2	40.6	41.9	51.9	54.5	18.0	14.6	54.1	51.7	62.5	61.8
Others	4.4	4.8	3.1	4.0	1.2	1.5	3.6	4.6	1.8	3.3	.7	1.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Engracia and Herrin (1984) and NSO, 1980 Census of Population Special Tabulations.

was most pronounced among female migrants in Metro Manila, the same pattern can be noted in the other urban places too.

Despite their low participation rates, larger proportions among female nonmigrants worked as professional/technical/administrative workers or in sales and clerical occupations. Male migrants, specially those in Metro Manila, appeared to do very well in the city, nearly matching the occupational distributions of their nonmigrant counterparts, suggesting better integration of male migrants into the urban-industrial structure.

While Metro Manila has been at the receiving end of a large exodus of young migrants since the sixties, it cannot be seen from the data whether longer-duration female migrants moved out of the service sector into higher-level jobs. The Costellos' research on rural-urban migrants into a middle-sized Philippine city (1981 and 1984) offers an alarming scenario of very little chances for occupational mobility out of domestic services. "Labor market segmentation" characterizes the process in which there are various clusters of jobs from which probability of mobility into other jobs is minimal, and in which various groups of workers are systematically placed at a disadvantage compared with other groups, as a result of being in such jobs (Standing 1978). While the topic merits a study specially for different types of urban areas in the country, it seems that the service sector serves as a means of entry for female migrants into the urban-industrial labor force. More study is needed on whether this only forms part of the initial adjustment process in the city and that opportunities for movement into other urban-industrial occupations are available. It is also quite likely that entering into services is the start of a process of lasting social marginalisation within the city, where females who continue to be economically active practically remain in the service sector. Lack of opportunities for skills formation may limit their chances of moving up the occupational ladder. If they do move at all, it could possibly be only to other low paying jobs or even out of the labor force. While improvements in the educational mix of recent migrants can be noted, it remains to be seen whether opportunities for employment have changed. Moreover, are conditions the same in Metro Manila as well as in other urban places?

Clearly, female migrants are an important manpower resource in urban areas because of their concentration in the young adult ages. Their movement into the city is also very likely to be economically motivated, hence their high participation rates. But most of the urban areas of the Philippines are currently plagued by very rapid growth of their labor force combined with high unemployment rates oftentimes exacerbated by the heavy influx of migrants. Unemployment levels in Metro Manila, for example, reached as high as 24 per cent in early 1986. Thus, females need to compete with males, the traditional wage earners, for the scarce jobs available and very likely end up with very limited options.

The study also reveals that taking urban areas in their entirety obscures differences across urban areas. The country's statistical system specially on employment should make available more information on constituent urban areas of the country. Metro Manila has the most modern occupational structure in the whole country, with large segments in the professional and executive categories, in processing and production and even in clerical and sales occupations. The data indicate that the remaining urban areas have very large agricultural or extractive sectors. Despite the modern character of the metropolis, female migrants to this area appear to be most easily absorbed only in the service sector. More study is needed to what extent the higher occupational categories in the metropolis are open to female migrants. The situation for female migrants in the other urban areas appears slightly better although the pattern remains. But do the patterns noted above hold for all other urban areas in all remaining 12 regions of the country? Some regions are more depressed, although their urban areas have been attracting migrants, too. Are situations in these poorer regions better or worse?

Finally, while women appear to be at a disadvantage in terms of urban employment opportunities, what should be the policy toward them? Have they been considered in the general "income-generating" thrusts adopted by the government for both the rural and the urban sectors? Past efforts have also been "curative" and very specialized, as programs have addressed primarily hospitality girls and the like, while the bigger issue of women flocking to the cities in search of employment remains.

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FEMALE MIGRANTS AND THE REGIONAL DIMENSION OF URBANWARD MIGRATION IN THE PHILIPPINES*

Imelda Zosa Feranil

I. INTRODUCTION

The country has three primary development goals: the alleviation of poverty, the generation of more productive employment and the promotion of equity and social justice through sustained economic growth. *The Medium-Term Philippine Development Plan (1987-1992)*, however, points out that economic growth has to be sustained along with reductions in population growth. The same document also identifies population distribution as another manifestation of the burgeoning population especially in the countryside. Migration is also highly selective of young, working age adults, reflecting the search for better employment opportunities among the new entrants to the work force.

The 1987 UNFPA Basic Needs Assessment Mission called for studies on migrant absorptive capacity in the cities with a view to introducing innovative approaches that are linked to overall development. Development planning in the country also needs answers to the human resource issues related to spatial movements, including urbanward flows in specific regions: Who are the urban migrants and where are they going? What kinds of migrants join the urban work force? How do types of employment compare between non-migrants and migrants? How long do they seek employment? What are the differentials by sex, age, education, marital status, and occupation? Statements on the status of women in the country today would be incomplete without a fuller picture of the Filipina as an urban migrant, considering the increasing numbers of women moving to the cities.

1. Broad Migration Patterns

Two important patterns can be said of Philippine migration and urbanward movements. Philippine internal migration before 1960 had been characterized as frontierward while post-1960 movements have become increasingly urbanward (Pascual 1966); Flieger 1976; Smith 1977; Perez 1978; Engracia and Herrin 1984). Rising dominance of urbanward migration has in turn contributed to the rapid growth of urban areas. After 1960 and up to the present, the

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most attractive urban area in the country has persistently been Metro Manila (the National Capital Region or NCR). Of the 1.2 million interregional migrants between 1975 and 1980*, almost one-third proceeded to the NCR. Moreover, the flow to Philippine towns and cities has been dominated by female migrants. This was noted not only for the 1960s and the early 1970s (Eviota and Smith 1984) but for the entire 1970s as well (Engracia and Herrin 1984). While female migrants continue to dominate, the second half of the seventies was also marked by a more sizeable segment of male migrants moving to urban centers.

Earlier studies showed that female migrants to the cities during the seventies were predominantly single, young and slightly better educated compared to female non-migrants. In contrast, male migrants tended to be married, older and often times much better educated than female migrants (Eviota and Smith 1984; Engracia and Herrin 1984; Feranil, this volume).

Migrants in the last two studies refer to persons ages 15 years and above who crossed municipal boundaries during the 5-year intercensal period. Urban areas differed in the types of migrants that they received, with Metro Manila highly selective of the very young and single migrants. Female migrants of the other urban areas were also young but they had the lowest educational attainments when compared to all other male and female migrants and natives. Urbanward women were more likely to join the work force compared to their non-migrant sisters although most female movers worked primarily in service occupations. This pattern was true among those headed towards Metro Manila and the other urban places although very pronounced in the former. Male migrants, however, appeared to be better integrated into the urban occupational structure considering that they tended to match the occupational distributions of non-migrant males.

2. Objectives Of The Study

This paper explores the regional patterns of the findings stated earlier. Except for the dominant flow to Metro-Manila, is female migration to the other urban areas of the same magnitude across the regions? Do the urban areas in the different regions manifest uniform patterns or are there pronounced differences even among them? What are the characteristics of female migrants moving to the urban areas of the various regions? What types of work do these women perform? In which regions do female migrants usually end up as service workers. Should we expect a more modern occupational distribution among urban female migrants in the more developed regions?

*Those who crossed regional boundaries between 1975-80 and settled in the 1980 region of enumeration.

3. Data Sources And Limitations

The main sources of data for this paper are the 1980 Census of Population and Housing and the 1983 National Demographic Survey. The regional migration statistics on volume of migration and the more detailed tabulations including those by age, sex, marital status, education and occupation shown below come from unpublished 1980 census tabulations. Indicators of urbanization come from published census reports. Socio-economic characteristics are taken from data regularly monitored by the National Economic and Development Authority (NEDA) Regional Development Staff, those compiled by the staff of the National Statistical Coordination Board, and the published and unpublished tabulations of various censuses of establishments and the labor force surveys conducted by the National Statistics Office.

In the censuses, migration data are available in great detail up to the city or municipal level in terms of destination (i.e., the area of enumeration at the time of the census) but are not specified according to the migrant's origin. Hence, we have information on the migrants who settled in an urban area (based on how this specific area was classified in 1980) but we cannot easily distinguish whether the origin area was rural or urban since this information was not ascertained during enumeration. The 1980 Census provides migration information by comparing place of residence in 1975 and 1980 as "another city/municipality, same province" or "another province". Another constraint is that socio-economic characteristics of migrants refer to their characteristics at the time of the 1980 Census, rather than at the time of the move.

This study also uses data from the 1983 National Demographic Survey (NDS) to obtain more information on the employment outlook of migrants upon arrival. This specific source, however, gives information only on the first rural-urban move. While the 1983 NDS provides substantial data on migrants, one is limited by the sample size in analyzing the data at the regional level. But the 1983 NDS data give migrant characteristics at the time of move as well as human resource concerns like employment upon arrival in the migrant's first rural-urban move.

II. THE REGIONAL SOCIO-ECONOMIC ENVIRONMENT

The characteristics of the various regions serve as the background against which migration flows proceed. They also form part of the new setting in which migrants adjust. The discussion below gives insights on the differences or similarities across regions in terms of their urban areas.

TABLE 1
Urbanization Indicators, 1980

REGION	URBAN DEFINITION CRITERIA				NUMBER OF DESIGNATED URBAN AREAS BY POP. SIZE										
					CATEGORY ^b										
	Total Urban Population	Total Pop. in Cities/ Municipalities with Density > 1000/sq. km.	Total Pop. in areas with Density of 500/sq. km.	Total Pop. in areas w/ Density < 500 person per sq. km.	Percentage Dist. of urban criteria ^a								1980 Percent Urban	1975-80 Tempo of Urbanization ^c	
					>1000	500	<500	1	2	3	4				
PHILIPPINES	10,042,045	10,042,602	1,598,975	6,400,468	55.7	8.9	35.5	44	137	1104	273	37.3			3.5
NCR Metro Manila	5,925,884	5,925,884			100.0	-	-								
I. Ilocos	842,413	364,149	197,710	280,554	43.2	23.5	33.3	2	8	110	65	23.8			3.6
II. Cagayan Valley	369,754	-	30,107	339,647	-	8.1	91.9	0	4	81	30	16.7			3.2
III. Central Luzon	2,009,527	1,039,040	330,728	639,759	51.7	16.5	31.8	5	24	88	4	41.8			3.6
IV. Southern Tagalog	2,268,838	992,852	455,067	820,909	43.0	20.1	36.2	5	28	146	39	37.1			7.0
V. Bicol	761,891	90,712	129,182	541,997	11.9	17.0	71.1	0	17	91	7	21.9			4.7
VI. Western Visayas	1,284,755	562,332	119,103	603,320	43.8	9.3	46.9	4	13	92	4	28.4			3.9
VII. Central Visayas	1,216,992	822,143	102,616	292,233	67.6	8.4	24.0	5	10	105	13	32.1			1.7
VIII. Eastern Visayas	611,200	102,523	15,434	493,243	16.8	2.5	60.7	5	4	97	37	21.8			3.0
IX. Western Mindanao	439,649	52,429	2,054	385,166	11.9	0.5	87.6	1	6	79	9	17.4			3.9
X. Northern Mindanao	748,903	36,726	209,219	502,958	4.9	27.9	67.2	2	7	85	26	27.1			3.4
X. Southern Mindanao	1,133,338	-	-	1,133,338	-	-	100.0	2	10	68	4	33.9			3.8
XII. Central Mindanao	428,911	53,812	7,755	367,344	12.6	1.8	85.6	1	6	61	35	18.9			6.9

^aThe row entries under the three categories specified in the urban definition criteria add up to 100 percent

^bCategories of Population Size

- 1 - 100,000 or more population
- 2 - 50,000 - 99,999 population
- 3 - 10,000 - 49,999 population
- 4 - less than 10,000 population

Source: NSO Special Reports

^cTempo of urbanization refers to the difference in urban and rural annual growth rates.

1. Level of Urbanization

Thirty-seven percent of the population of the entire country was urban residents in 1980. Some regions, however, were more urbanized than others, notably Metro Manila which was 100 percent urban even in 1970 and also remains as the country's largest urban entity in terms of population size.

Central Luzon and Southern Tagalog -- the two regions comprising what Pernia, Paderanga, Hermoso, et al. (1981) called the "Metropolitan Periphery" Regions (MPR) owing to their geographic contiguity to Metro Manila -- have the next largest percentages residing in urban areas (Table 1). Although not as urbanized as Metro Manila, the tempo of urbanization in these two regions proceeded even faster than the already rapid tempo of the NCR. Their proximity to the metropolis coupled with their own demographic expansion (as evidenced by rapid urbanization tempos) contributed to the broader geographic sprawl of the metropolis. Metro Manila and the two regions in the metropolitan periphery accounted for 57 percent of the entire urban population of the country in 1980. The highly urban character of these regions can be also observed through the large segments of their inhabitants residing in centers with populations over 100,000 or densities over 1,000 persons per square kilometer of land area.

Among the remaining regions, Southern Mindanao, Central and Western Visayas and Northern Mindanao came out as relatively more urbanized. Between one-fourth to one-third of their total populations resided in urban areas. The urban population of Western Visayas was the largest among these four regions. In terms of urbanization level, however, Western Visayas ranked lower than Central Visayas and Southern Mindanao. Its tempo of urbanization was also not as rapid as those of the three other regions and even ranked the slowest in the entire country.

While most of the remaining regions registered lower urbanization levels attesting to their predominantly rural character, their tempos of urbanization indicate that these rural regions are fast becoming more urban. Nevertheless, their urban areas had smaller population or lower density levels. Although the country appears to be fast urbanizing, Raymundo (1983) qualified that small and large urban places appeared to be growing faster since 1975, although only a handful comprise the large-size categories.

Urban growth is due to natural increase (births minus deaths), migration (in- minus out-migrants) and the reclassification of rural areas as urban once they reach a given density, size or socio-economic criterion. Earlier studies of Pernia (1976 and 1978) showed that previous urban growth in the country was due primarily to reclassification and natural increase. Chan (1987) noted that migration accounted for 31.4 percent of the entire country's urban growth in 1980 compared to a much smaller share during the first half of the seventies, pointing to the increasing role of migration in determining urbanization.

Working along these urbanization indicators, we can come up with the following classification of regions which will be used throughout this paper:

Regions	Level Of Urbanization
Metropolitan Region (NCR)	
NCR Metropolitan Manila	100.0
Metropolitan Periphery Regions (MPR)	
III. Central Luzon	41.8
IV. Southern Tagalog	37.1
Relatively Urbanized Regions (RUR)	
IX. Southern Mindanao	33.9
VII. Central Visayas	32.1
XI. Western Visayas	28.4
X. Northern Mindanao	27.1
Less Urbanized Regions (LUR)	
I. Ilocos	23.8
V. Bicol	21.9
VI. Eastern Visayas	21.8
XII. Central Mindanao	18.9
IX. Western Mindanao	17.4
II. Cagayan Valley	16.7

2. Regional Socio-economic Characteristics

Selected area-level indicators by region are shown in Tables 2 and 3. Very few socio-economic data at the regional level are disaggregated by urban-rural breakdowns. Nevertheless, the available information can give us an idea of the urban and development characteristics among the regions and at the same time suggest the background factors that may have influenced urbanward migration. These data are for years 1975-83 since these are the time environments of the migration being studied in this paper.

Establishment data, for example, can show a region's non-agricultural orientation but establishments, particularly large manufacturing and service firms, are oftentimes located in or close to urban centers. Metro Manila stood out even in the mid-seventies due to the pronounced concentration of establishments in the area (Table 2). The NCR registered more than one-half of the large manufactures in the country, over two-thirds of commercial and

trade establishments, one-fourth of all financial and business institutions, nearly half of all large private service firms, and one fifth of small private services. One can also note that the MPR oftentimes ranked next to Metro-Manila in terms of shares to the total number of establishments by category. This illustrates locational preference for the wider metropolitan area, a phenomenon well-documented by an earlier study (Pernia, Paderanga, Hermoso, et al. 1983). Since the majority of establishments are located in these three regions, the shares of the remaining regions diminish accordingly.

Shares to the total number of establishments by category tended to decline along with the level of urbanization. Metro Manila, Central Luzon and Southern Tagalog combined -- the three most urbanized regions of the country -- accounted for the bulk of the country's large manufactures and private services. The percentages belonging to the relatively urbanized regions do not vary widely although these are oftentimes higher than the corresponding proportions registered by the less urbanized regions.

The 1978 per capita GRDP was highest in Metro Manila followed by Southern Tagalog. The per capita income of Central Luzon residents, however, was even lower than those in Southern Mindanao, Central and Western Visayas, and more closely matched that of Northern Mindanao, the least urbanized among the RUR. Eastern Visayas, Bicol, and the Ilocos registered the lowest GRDP per capita. In a way, one can divide regions in the country according to GRDP per capita. The more urbanized regions (NCR, MPR and RUR) usually have higher levels of GRDP per capita than the less urbanized regions.

Poverty was pervasive even in 1975, with the country as a whole registering a rate of 45.3 percent while the level for urban areas was lower at 40.2 percent. Metro Manila registered the lowest poverty rate among regions. However, the poverty problem of Metro Manila should be seen in terms of the number of families affected. The largest numbers of poor urban families, close to 30 percent of the total urban poor in the country, were found in the NCR in 1975.

The regional poverty profile in 1975 is interesting because poverty levels are not always lower in the urban sector as evidenced by the data for Central Luzon, Southern Mindanao, Ilocos, Central and Western Mindanao and the Cagayan Valley. Northern Mindanao registered the highest rate of total and urban poverty levels in the mid-seventies, although the level for the whole region exceeded the urban rate.

Total urban unemployment rates in 1975 were highest in Western Mindanao and Western Visayas but lowest in the Cagayan Valley, Southern Mindanao and Ilocos. Female unemployment rates across the regions, however, were always higher than total unemployment levels. This pattern was most pronounced for women workers in Western and Northern Mindanao as well as in Metro Manila.

TABLE 2
Selected Regional Indicators in 1975 - 1978

REGION	Percent Distribution of 1978 Establishments						Urban % Unemployed 1978		1975 Poverty Rate				
	1978 GRDP/C	Large Manu- facturing	Trade	Financing and Other Business	Large Private Services	Small Private Services	Total	Female	% Share of Industry to Total GRDP	% Share of Services to Total GRDP	Poverty Rate (%)	Urban Poverty Rate (%)	Number of poor families in urban areas (000)
PHILIPPINES	1,808	100.0	100.0	100.0	100.0	100.0	5.9	7.5	35.8	38.1	45.3	40.2	842.1
National Capital Region (NCR)													
NCR, Metropolitan Manila	4,631	54.3	36.1	25.3	47.9	20.5	7.1	9.2	53.4	46.6	30.9	30.9	237.8
Metropolitan Periphery Regions (MPR)													
III. Central Luzon	1,517	8.5	7.8	12.1	9.5	12.8	5.8	6.4	35.7	36.2	28.9	33.9	62.7
IV. Southern Tagalog	2,060	10.2	9.3	12.0	9.1	13.6	6.3	8.6	39.2	30.3	45.9	43.1	107.3
Relatively Urbanized Regions (RUR)													
XI. Southern Mindanao	1,876	3.5	11.2	7.7	6.7	7.4	2.2	3.7	17.1	34.3	41.5	42.4	49.2
VII. Central Visayas	1,629	6.1	4.9	6.7	4.3	5.9	3.8	4.6	35.9	43.5	59.9	52.5	81.8
VI. Western Visayas	1,612	3.7	5.0	9.0	3.6	7.6	7.1	8.4	26.1	32.3	48.0	43.4	70.4
X. Northern Mindanao	1,509	2.1	4.4	7.1	3.4	5.0	6.3	10.3	21.2	36.7	72.8	61.1	40.9
Less Urbanized Regions (LUR)													
I. Ilocos	878	2.9	5.4	5.5	5.0	6.9	2.3	3.3	24.7	41.3	38.5	42.9	42.1
V. Bicol	823	2.8	4.1	4.4	3.0	5.5	3.6	5.0	14.9	33.3	55.4	50.4	43.9
VIII. Eastern Visayas	770	1.3	2.7	0.7	1.4	2.4	5.2	4.2	15.0	31.8	56.0	56.1	44.9
XII. Central Mindanao	1,237	1.6	4.2	3.1	2.7	3.7	3.3	4.8	15.0	26.5	51.7	49.8	23.4
IX. Western Mindanao	1,104	1.3	2.8	3.3	1.6	4.6	8.7	12.8	9.0	33.8	34.9	46.0	18.6
II. Cagayan Valley	1,106	1.7	2.1	3.1	1.8	4.1	1.0	3.1	23.1	31.0	45.6	50.5	19.2

*The total number of establishments by type are:

9,976 large manufacturers
310,528 wholesale and retail trade (both large and small)
3,717 financial, insurance, real estate and business services
60,565 small private services
16,257 large private services

^bWorld Bank (1980) report based on 1975 PIES of NCSO.

The 1980-83 indicators are shown on Table 3. It is only the relative rankings of regions in terms of small establishments that did not change much by 1983. Changes occurred, however, in the distribution of the large manufacturing establishments as the shares of Metro Manila and Central Luzon declined. In contrast, the proportions accounted for by Southern Tagalog and the RUR increased. Compared to 1978, Metro Manila's proportionate share to total commercial and trade establishments in the country also went down while the MPR posted substantial increases.

The shares of the RUR to total firms in commercial and retail trade declined slightly except for Northern Mindanao. Those of LURs like the Ilocos, Western Mindanao and the Cagayan Valley rose. The percentage of large private services in the country that were found in Metro Manila also declined while those of the MPR and most regions of the country gained. Despite these changes in rankings, Metro Manila's economic primary remains.

Generally the rankings of regions in terms of GRDP per capita did not change between 1978-83. Metro Manila, the MPR and RUR registered higher per capita incomes while the LUR registered the lower values. However, the per capita GRDP worsened in most regions between 1980 and 1983 in the NCR, Central Luzon, Western Visayas, Ilocos, Central and Western Mindanao.

There were no available data on poverty rate 1983 but information for 1985 reveal worsening poverty rate in all regions. The 1985 rate was 59.3 per cent, up from 45.3 per cent in 1975 (NCSO-FIES 1975). Urban poverty also rose from 40.2 per cent in 1975 to 52.1 per cent in 1985 even as the number of poor urban families grew from 842,000 to 1,875,900 during the same period. Poverty rose or remained high in all regions of the country between 1975 and 1985. Except for Central Luzon and the Ilocos, urban poverty in 1985 was lower than the overall regional level, suggesting the sorry plight of many rural residents throughout the country. But the rising incidence of urban poverty between 1975 and 1985 should also be noted. While urban poverty remained hardly unchanged in the Cagayan Valley, all the other regions experienced increasing poverty. The number of urban poor families more than doubled in the NCR, the MPR and in two RUR (Western Visayas and Northern Mindanao). Even the rural regions experienced doublings in the number of urban poor families.

Indicators for the early 1980s simultaneously suggest the structural characteristics that may have partly influenced migration patterns as well as the setting which urban migrants faced after migration in the late seventies and early eighties. There are indications that establishments have started to relocate outside Metro Manila. But the early 1980s, however, did not signal improving conditions across the regions. Things may have even worsened in both rural and urban areas during the early 1980s, the years of the Philippine economic crisis.

TABLE 3
Selected Regional Indicators in 1980-85

REGION	1980 GRP/C	1983 GRP/C	Percent Distribution of 1983 Establishments ^a				Urban Unemployment (1980)		1980	1983	1985 Poverty Incidence	
			Large Manufac- turing	Trade	Financing and Other Business	Large Private Services	Small Private Services	Total	% Share of Industry of Total GRDP	% Share of Industry of Total GRDP	Poverty Incidence (%)	Urban Poverty Incidence (%)
PHILIPPINES	1,927	1,917	100.0	100.0	100.0	100.0	100.0	7.9	30.1	36.2	59.3	52.1
NCR												
Metro Manila	4,963	4,912	48.5	19.0	37.6	33.7	20.7	10.0	52.2	47.8	44.1	44.1
Metropolitan Periphery Regions (MPR)												
III. Central Luzon	1,684	1,614	7.8	13.6	8.1	11.5	12.5	10.5	36.3	35.6	44.4	45.2
IV. Southern Tagalog	2,065	2,100	11.8	18.8	8.8	11.0	14.6	6.6	41.1	30.4	55.9	50.6
Relatively Urbanized Regions (RUR)												
XI. Southern Mindanao	1,774	1,883	4.2	7.8	8.1	6.0	8.8	4.8	18.3	34.6	65.3	61.6
VII. Central Visayas	1,756	1,769	7.8	3.8	6.0	6.5	5.6	7.8	34.7	43.1	68.8	58.9
VI. Western Visayas	1,715	1,682	4.7	3.9	8.0	6.5	5.9	8.0	27.4	32.8	73.1	65.0
X. Northern Mindanao	1,483	1,591	3.3	6.7	5.9	4.4	6.0	6.7	26.0	35.6	66.2	65.7
Less Urbanized Regions (LUR)												
I. Ilocos	1,017	987	2.6	7.2	5.4	7.2	7.9	5.3	25.1	39.1	52.3	56.2
V. Bicol	833	912	2.9	4.1	3.2	3.8	4.0	3.7	14.8	32.2	73.2	62.3
VIII. Eastern Visayas	783	823	1.0	2.9	1.8	1.7	2.1	4.4	13.7	31.0	70.4	70.1
XII. Central Mindanao	1,476	1,306	1.8	3.4	1.8	2.6	3.4	3.8	24.7	26.3	65.2	56.8
IX. Western Mindanao	1,225	1,223	1.6	5.3	3.0	2.7	4.6	2.9	9.5	30.7	65.3	61.6
II. Cagayan Valley	1,080	1,174	2.0	3.5	2.3	2.4	3.9	2.0	25.7	30.1	54.6	40.6

^aRefer to footnote a of Table 2.

^b1985 FIES and Medium-Term Plan 1987-92.

III. URBAN MIGRANTS

1. Volume And Sex Differentials Of Urban Migrants

1.1 Numbers and Relative Size

Urban migrants aged 15 years and above numbered over 1.3 million in 1980 (Table 4). Actually, the numbers of urbanward migrants appeared to be directly related to levels of urbanization. The largest numbers of urban migrants can be found in the Metro Manila. The next largest numbers are found in the next two highly urbanized regions at the metropolitan's periphery (MPR). The urban areas of these three regions combined received 70 percent of all urbanward migrants. Successively smaller numbers of migrants can be found in regions of lower urbanization levels. Very few migrants moved to the urban areas of the predominantly rural regions particularly the Cagayan Valley and Western Mindanao.

One must note that there is some tautology here since these migrants formed part of the 1980 urban population even if migration is only one of three components determining urban growth. The preceding section pointed to an areal pattern of declining socio-economic development in regions with lower levels of urbanization. Migration to the urban areas is partly a response to differentials in socio-economic opportunities, which to a certain extent are manifested by the urban character of these areas.

The volumes of migrants moving to towns and cities can be better appreciated if one considers the proportion of migrants to each area's total population or working-age population (15 years and over). If total population were considered, urban migrants (aged 15+) comprised only a small segment of the total number of urban inhabitants in each region (Table 4). The only exception is Metro Manila. Twelve percent of the total 1980 population of the NCR were intercensal migrants between 1975 and 1980. It can be said, therefore, that migration significantly altered the population size of the metropolis alone.

It is in terms of proportions to the regional working age populations, however, that migrants are significantly large. Metro Manila's migrants registered the largest percentage (18%) while the urban areas of Northern Mindanao (14%), Southern Mindanao (12.3%), Southern Tagalog (11.5%) and Central Mindanao (10%) fall within the category receiving the next largest percentage of working age migrants (10-14%). Migrants comprised less than 10 percent of the urban working-age population in all the remaining regions (range = 6-9%).

Compared to males, female migrants are an even larger segment of each sex's working age population. This is true especially in Metro Manila but also in the urban areas of the other regions except Eastern Visayas.

TABLE 4
1975-80 Migrants of Urban Areas by Region, 1980 Census^a

REGIONS Classified according to Urbanization level)	Urban Migrants 15 years and over (in 000)			Migrants 15+ as % of Urban population aged 15+			Migrants 15+ as % of Total Urban Population			Percentage Distribution of all Urban Migrants		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
PHILIPPINES	1,331	592	740	12.1	11.4	12.8	2.5	2.8	3.1	100.0	100.0	100.0
NCR												
Metro Manila	682	294	387	17.8	16.6	18.9	10.3	11.5	12.6	51.2	49.8	52.3
MPR												
III. Central Luzon	93	40	53	7.9	7.1	8.5	1.7	1.9	2.2	7.0	6.8	7.2
IV. Southern Tagalog	156	74	83	11.5	11.3	11.7	2.4	2.6	2.7	11.7	12.5	11.1
RUR												
XI. Southern Mindanao	80	39	41	12.3	12.1	12.4	2.3	2.4	2.5	6.0	6.5	5.5
VII. Central Visayas	67	30	37	9.1	8.6	9.6	1.6	1.8	2.0	5.1	5.1	5.1
VI. Western Visayas	53	22	31	6.7	6.0	7.4	1.0	1.2	1.4	3.9	3.7	4.2
X. Northern Mindanao	61	29	32	14.1	13.7	14.4	2.0	2.2	2.4	4.6	4.8	4.4
LUR												
I. Ilocos	29	12	17	5.7	5.2	6.3	0.9	0.7	2.2	2.1		2.3
V. Bicol	30	14	16	7.0	6.6	7.3	0.8	0.9	1.0	2.3	2.3	2.2
VIII. Eastern Visayas	22	11	11	6.1	6.2	5.9	0.8	0.8	0.8	1.6	1.8	1.5
XII. Central Mindanao	24	11	13	10.0	9.7	10.2	1.0	1.0	1.1	1.8	1.9	1.7
IX. Western Mindanao	19	9	10	7.8	7.7	7.8	0.7	0.8	0.8	1.5	1.6	1.4
II. Cagayan Valley	15	7	8	7.3	6.7	7.9	0.6	0.7	0.8	1.1	1.1	1.1

^aBased on 5% subsample of the 1980 Census.
 Totals do not always add up due to rounding.

1.2 Sex Ratio

The towns and cities of the country at the start of the eighties can be said to be predominantly inhabited by women. The large inflow of females to urban areas appears to be a recent phenomenon. High pre-war sex ratios in Philippine cities were noted by Eviota and Smith (1984) but patterns after 1960 showed sharp declines in sex ratios, as larger numbers of urban female migrants were registered at succeeding censuses.

Table 5 reveals that females dominated both urban migrants and non migrants at the start of the eighties. There were 80 male migrants for every 100 female migrants in 1980. Viewed differently, fifty-six percent of the 1.3 million urban migrants 15 years or older was women. Female migrants outnumbered men in the urban areas across the regions regardless of urbanization levels. Close to sixty percent of migrants to Metro Manila was females. These findings indicate the persisting attraction that urban centers especially Metro Manila have among women in the Philippines (Smith 1977, Eviota and Smith 1984). Urban migrants are even more female-dominated than the non migrants. Only the urban areas of Eastern Visayas differed with its sex ratio among non migrants (93) lower than the level among migrants (98).

Of the 1.3 million migrants who crossed municipal boundaries and headed towards urban areas in the 1975-1980 period, 56 per cent was females while 44 percent were males (Table 4). Female migration however was not entirely migration to Metro Manila. Eviota and Smith (1984) noted that only one-third of the urbanward total was found in Metro Manila in 1970. The 1980 figure of 387,000 female migrants in Metro Manila also approximated one-third of all migrants. Nevertheless, Metro Manila was the leading urban destination among female migrants in the country.

About half of all female urban migrants was found in Metro-Manila. Seventy percent of all urbanward female migrants was enumerated in the NCR and the MPR in 1980. One can also note a closer congruence between the volume of migration and the level of urbanization when one observes numbers of migrants among females compared to the pattern for males. This is again another indication that women are more attracted to urban features - be these economic opportunities or new lifestyles.

2. Demographic Differentials Among Migrants

2.1 Age

Tables 6A and 6B show the numbers of urban migrants in each age and sex group across the regions. Young women dominate urbanward migration in the country. Comparing the sexes in each region, the numbers of female migrants belonging to ages 15-29 are always larger than

corresponding numbers among males (except ages 20-29 in Eastern Visayas). Thirteen percent of all urban migrants was women belonging to the very young ages of 15-19 years; about one-fourth (or close to a quarter of a million) was women 20-29 years old.

TABLE 5
Percent Female and Sex Ratios Among Urban Migrants and
Non-Migrants 15 Years and Over: 1980

REGION	Sex Ratio ^a		Percent Female	
	Migrants	Non-Migrants	Migrant	Non-Migrant
PHILIPPINES	80	91	55.6	52.3
NCR Metropolitan Manila	76	89	56.2	52.9
MPR				
II. Central Luzon	76	93	57.0	51.9
IV. Southern Tagalog	90	93	53.2	51.8
RUR				
XI. Southern Mindanao	94	97	51.2	50.7
VII. Central Visayas	80	91	55.2	52.4
VI. Western Visayas	71	89	58.5	53.0
X. Northern Mindanao	88	94	52.5	51.4
LUR				
I. Ilocos	75	88	58.6	53.3
V. Bicol	83	92	53.3	52.0
VIII. Eastern Visayas	98	93	50.0	51.7
XII. Central Mindanao	88	93	54.2	51.8
IX. Western Mindanao	90	92	52.6	52.1
II. Cagayan Valley	80	95	53.3	51.4

^aSex ratio: the number of males per 100 females.

Source: NSO, 1980 Census of Population, unpublished tabulation

TABLE 6a

Relative Frequency of Urban Male Migrants by Age Group and Sex, 1980 Census

R E G I O N	Population (000)				Migrants (000)				Percentage of Migrants in Each Age Group			
	15-19	20-29	30-39	40 +	15-19	20-29	30-39	60 +	15-19	20-29	30-39	40 +
PHILIPPINES	940	1636	1081	1531	87	237	142	126	9.2	14.5	13.1	8.2
MR												
NCR Metro Manila	293	632	391	459	44	125	68	57	15.2	19.8	17.5	12.3
MPR												
III. Central Luzon	106	175	117	169	6	16	10	7	6.0	8.9	8.3	5.1
IV. Southern Tagalog	118	196	138	200	11	28	19	17	9.2	14.0	13.8	8.4
RUR												
XI. Southern Mindanao	57	105	68	90	5	16	9	9	8.8	14.9	12.9	10.4
VII. Central Visayas	65	102	72	112	4	12	8	6	6.7	11.6	10.5	5.6
VI. Western Visayas	70	101	73	120	4	8	5	5	5.0	7.7	7.5	4.2
X. Northern Mindanao	40	64	42	64	4	11	7	6	10.7	16.9	17.3	9.9
LUR												
I. Ilocos	47	64	45	84	2	5	4	3	3.4	7.1	8.0	3.4
V. Bicol	43	53	39	72	2	5	3	4	6.6	8.8	8.2	5.4
VIII. Eastern Visayas	35	45	31	63	2	4	2	3	4.6	8.4	7.9	4.8
XII. Central Mindanao	22	35	24	32	1	4	3	2	6.2	12.3	11.8	7.7
IX. Western Mindanao	23	37	25	34	1	3	2	3	4.0	9.1	8.4	8.2
II. Cagayan Valley	20	27	19	33	1	2	2	2	3.5	9.1	9.6	5.0

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 6b
Relative Frequency of Urban Female Migrants by Age Group and Sex, 1980 Census

R E G I O N	Population (000)				Migrants (000)				Percentage of Migrants in Each Age Group			
	15-19	20-29	30-39	40 +	15-19	20-29	30-39	60 +	15-19	20-29	30-39	40 +
PHILIPPINES	1,129	1,871	1,097	1,686	171	317	125	126	15.2	17.0	11.4	7.5
MR												
NCR Metro Manila	400	751	397	503	92	172	62	62	23.0	22.9	15.5	12.3
MPR												
III. Central Luzon	116	194	119	192	12	24	9	8	10.3	12.4	7.2	4.4
IV. Southern Tagalog	132	213	137	221	17	32	17	16	12.8	15.3	12.3	7.3
RUR												
XI. Southern Mindanao	70	115	64	81	9	17	7	8	12.3	15.0	11.3	9.7
VII. Central Visayas	73	119	72	127	9	16	6	6	12.4	13.6	8.6	4.8
VI. Western Visayas	79	118	76	143	8	12	5	6	9.5	10.2	6.9	4.2
X. Northern Mindanao	50	71	42	61	8	13	6	5	16.7	18.7	13.3	8.4
LUR												
I. Ilocos	49	71	50	106	4	7	3	3	7.6	9.1	6.9	2.9
V. Bicol	47	59	41	80	4	6	3	3	8.7	10.4	7.1	4.2
VIII. Eastern Visayas	37	46	32	71	3	4	2	3	7.4	7.9	6.3	3.8
IX. Western Mindanao	28	43	25	34	2	4	2	2	7.1	10.4	7.9	5.3
II. Cagayan Valley	20	31	19	36	2	3	1	2	9.2	11.7	7.2	4.3

Source: NSO, 1980 Census of Population, unpublished tabulations.

The opposite pattern is true at the older ages (30-39) where males dominate in numbers. Actually this same pattern can be noted in all regions for ages 40+ except for Metro Manila where older female migrants dominate.

Thus, urban female migrants of the country were generally young, registering the largest segments belonging to the teenage groups (15-19) and the twenties (20-29 years). These young female migrants in aggregate amounted to two-thirds of all intercensal female migrants of the entire country in 1980 (Table 6C).

Female migrants in Metro Manila were dominated by those aged 15-19 (23.7%) and in their twenties (44.4%). The combined total of metropolitan female migrants in these young age groups (63%) was the highest among the regions. Urban female migrants in the rest of the regions, however, were also very young, indicating the pervasiveness of youth selectivity among female migrants. Male migrants were slightly older than female migrants. Males who moved to Metro Manila, however, included a sizeable segment who were in their twenties. The metropolis, therefore, can be said to strongly attract young adult males and females.

The distribution of female non migrants across the regions resembles the pattern among male non migrants: around 20 percent was in ages 15-19, 30 percent was in their twenties, 20 percent was between 30-39 years, while the remaining older ages registered about 30 percent.

2.2 Marital Status

Generally, the largest segment of the male and female population aged 15 years and above in urban areas was married, whether these were migrants or non migrants (Table 7). This is not surprising given the age group we are studying and the near universality of marriage in the country (de Guzman 1984). However, the numbers of single (309,000) and married (387,000) urban female migrants are not very far apart considering that these are figures for those aged 15 years and over. Moreover, female migrants stand out with substantial proportions who were single. Metro-Manila, Western and Central Visayas and Northern Mindanao led all other regions in this aspect. More specifically, single female migrants who moved to the NCR during the 1975-80 period ($n = 180,440$) comprised close to 15 percent of all intercensal migrants.

In contrast, married female migrants dominated female migration to the urban areas of Southern Tagalog and Central Luzon (MPR) as well as most of the more rural regions, particularly Eastern Visayas. The pattern for the two metropolitan periphery regions reflects in part the mushrooming of subdivisions in areas close to the metropolis.

TABLE 6c
Distribution of Urban Migrants and Non-migrants by Sex and Age, 1980 Census

RE G I O N	M A L E S						F E M A L E S					
	M I G R A N T S			N O N - M I G R A N T S			M I G R A N T S			N O N - M I G R A N T S		
	15-19	20-29	30-39	40 +	15-19	20-29	30-39	40 +	15-19	20-29	30-39	40 +
PHILIPPINES	14.7	40.1	24.0	21.1	18.6	30.4	20.4	30.6	23.2	42.9	16.9	17.0
NR												
NCR Metro Manila	15.1	42.5	23.2	19.2	16.8	34.2	21.8	27.2	23.7	44.4	15.9	16.0
NPR												
III. Central Luzon	15.7	38.8	24.0	21.5	18.9	30.3	20.3	30.4	22.4	45.4	16.3	15.8
IV. Southern Tagalog	14.6	37.2	25.6	22.6	18.6	29.2	20.5	31.7	20.5	39.5	20.5	19.6
RUR												
XI. Southern Mindanao	13.0	40.3	22.5	24.2	18.6	31.8	21.0	28.6	21.2	42.1	17.6	19.1
VII. Central Visayas	14.4	39.5	25.2	20.9	18.8	28.2	20.0	33.0	24.2	43.1	16.6	16.1
VI. Western Visayas	16.3	35.8	24.9	23.0	19.5	27.3	19.6	33.5	24.4	39.1	17.1	19.4
X. Northern Mindanao	15.1	37.6	25.1	22.3	19.9	29.2	19.1	31.8	25.9	41.0	17.1	15.9
LUR												
I. Ilocos	12.8	35.9	28.5	22.8	20.2	26.0	18.1	35.7	22.1	38.9	20.5	18.6
V. Bicol	13.8	34.1	23.3	28.8	21.3	25.1	18.4	35.2	24.9	36.9	17.6	20.6
VIII. Eastern Visayas	14.9	34.8	22.5	27.8	20.6	25.4	17.5	36.5	24.9	32.9	18.1	24.1
XII. Central Mindanao	12.2	39.4	26.1	22.3	19.8	30.3	21.1	28.8	21.3	46.1	16.5	16.1
IX. Western Mindanao	10.2	36.6	22.5	30.7	20.3	30.6	20.5	28.6	19.3	43.4	19.5	17.8
II. Cagayan Valley	10.5	37.1	27.9	24.6	20.8	26.7	18.8	33.8	22.2	42.9	16.3	18.6

Source: NSO, 1980 Census of Population, unpublished tabulation.

*All row entries by migrant status category add up to 100%.

TABLE 7
Percentage Distribution of Urban Migrants and Non-Migrants
by Sex and Marital Status: 1980 Census

REGION	MALES						FEMALES					
	MIGRANTS			NON-MIGRANTS			MIGRANTS			NON-MIGRANTS		
	Single	Married	Widow Separated	Single	Married	Widow Separated	Single	Married	Widow Separated	Single	Married	Widow Separated
PHILIPPINES	34.4	63.8	1.8	37.8	59.7	2.5	41.9	52.5	5.6	36.1	55.8	8.1
NCR Metro Manila	37.8	60.7	1.5	38.3	59.8	1.9	46.7	48.0	5.3	38.6	54.3	7.1
NPR												
III. Central Luzon	30.7	67.0	2.3	37.2	60.4	2.4	36.1	57.7	6.3	33.8	57.6	8.6
IV. Southern Tagalog	29.8	68.6	1.7	36.2	60.9	2.9	31.1	62.8	6.1	32.9	57.8	9.3
RUR												
XI. Southern Mindanao	33.2	65.2	1.6	37.6	60.4	2.0	34.5	59.3	6.2	34.9	59.7	5.4
VII. Central Visayas	33.6	64.1	2.3	36.8	60.1	3.1	43.8	51.3	4.9	35.6	55.9	8.5
VI. Western Visayas	32.6	65.5	1.8	39.7	57.4	2.9	43.6	49.7	6.6	38.2	52.3	9.5
X. Northern Mindanao	34.5	63.5	2.0	38.2	59.5	2.3	40.4	55.1	4.5	36.4	57.0	6.6
LUR												
I. Ilocos	28.2	68.9	2.9	6.1	89.5	4.4	38.5	56.4	5.1	37.1	52.6	10.3
V. Bicol	28.4	68.1	3.4	37.9	59.1	3.0	37.8	55.5	6.7	35.0	55.7	9.3
VIII. Eastern Visayas	31.1	65.8	3.1	37.7	58.7	3.6	31.1	62.3	6.6	32.2	56.9	9.9
XII. Central Mindanao	31.1	67.3	1.6	36.4	61.4	2.2	35.5	59.5	5.0	34.2	58.4	7.4
IX. Western Mindanao	22.4	74.5	3.1	36.8	60.8	2.4	34.1	58.6	7.3	34.2	57.8	8.0
II. Cagayan Valley	25.6	72.6	1.8	38.1	59.4	2.5	35.0	58.7	6.2	33.0	57.6	9.4

* All row entries by category add up to 100%

Source: NSO, 1980 Census of Population, unpublished tabulations.

There were usually more female non migrants in the urban areas who were married, widowed or separated. Both migrants and non migrants among urban males in the various regions were dominated by those currently married. What is striking in the male pattern is that there were larger proportions of urban migrants to the cities who were married compared to non migrants. The only exception is the Ilocos.

2.3 Education

When the education data for the entire urban sector of the Philippines are considered, one finds that males appear to have a pronounced advantage over women. A large proportion of male migrants and non migrants has some or completed high school education (Table 8). In contrast, the largest proportions of female migrants and non-migrants were found to have had only an elementary education.

While the overall pattern is clear, the distribution across the regions is not as uniform. Male migrants in Metro Manila appeared highly educated, being concentrated in the high school and college categories. They even bested their non migrant counterparts where those with only high school education constituted the most sizeable group.

Relatively less educated than their male counterparts, female migrants of Metro Manila registered nearly equal proportions in the three broad educational categories. But non migrant females of the metropolis can be said to have slightly better educational backgrounds than migrant women. While they can be said to be at an disadvantage compared to female non migrants and more so compared to males of the metropolis, female migrants of the NCR, however, tended to have relatively higher educational attainments than most urban female migrants of the other regions. But it seems that the more urban destinations do not necessarily receive highly educated female migrants. Compared to the rest of the regions, women with college education who moved to the MPR comprised the smallest segment among its movers.

It has been hypothesized that migration in the early stages of development may be resource-pushed and oriented towards the large urban centers (Zelinsky 1971, Brown and Sanders 1976). Resource-pushed migrants are likely to contain many low-skilled or low educated ones. This seems to be more the case among female migrants in the Philippines, particularly among those who headed towards urban centers at the metropolitan periphery.

Non migrant females oftentimes registered larger proportions with college education compared to migrant women when one considers the more urbanized regions. But some of the least urbanized regions - the Cagayan Valley and Ilocos appeared more likely to have female migrants with high school or college education compared to non migrants.

TABLE 8
Distribution of Urban Migrants and Non-migrants by Sex and Education, 1980 Census*

REGION	MALES					FEMALES	
	MIGRANTS Elemen- tary	High School	College	NON-MIGRANTS Elemen- tary	High School	MIGRANTS	NON-MIGRANTS
PHILIPPINES	27.1	38.2	34.7	32.6	38.3	36.1	35.1 28.8 38.5 32.5 29.0
NCR Metro Manila	20.4	40.4	39.6	20.7	42.9	32.8	36.0 31.2 29.2 36.9 33.8
NPR							
III. Central Luzon	35.5	39.6	25.0	40.1	37.3	40.9	39.6 19.5 50.4 28.6 21.0
IV. Southern Tagalog	32.9	39.8	27.3	38.8	38.3	41.7	35.9 22.4 46.2 29.8 24.0
RUR							
XI. Southern Mindanao	36.3	35.6	28.1	36.6	38.2	36.7	35.8 27.5 37.4 35.8 26.8
VII. Central Visayas	34.7	30.8	34.5	40.1	30.7	44.3	25.5 30.2 44.5 26.3 29.2
VI. Western Visayas	32.7	30.8	34.5	40.1	30.7	44.3	25.5 30.2 44.5 26.3 29.2
X. Northern Mindanao	37.5	36.4	26.1	37.8	36.4	36.2	38.5 25.3 37.4 33.5 29.1
LUR							
I. Ilocos	19.7	34.7	45.6	31.6	38.5	30.2	31.8 38.0 39.3 29.6 31.1
V. Bicol	34.4	34.2	31.5	40.2	35.7	38.1	32.9 29.0 45.5 28.8 25.8
VIII. Eastern Visayas	38.4	30.8	30.8	44.2	32.0	45.5	29.4 25.1 43.4 29.5 27.1
XII. Central Mindanao	30.6	36.2	33.2	33.0	37.2	31.2	37.9 30.9 33.1 35.6 31.3
II. Cagayan Valley	24.4	34.1	41.5	36.5	35.6	32.4	26.1 41.5 41.6 29.4 29.0

* All entries by migrant status category add up to 100%

To emphasize, urban areas in the more developed regions appear to attract more of the less educated female migrants while the reverse tends to be the case in the less urbanized regions. It is quite possible that the pattern for the less developed regions may be partly due to the need among some female migrants to be at a competitive level vis-a-vis other groups, although more research needs to be done on this topic.

2.4 Sex Ratios By Demographic Sub-groups

Sex ratios allow us to compare the relative size of females and males in any given characteristic. As shown above, period non migrants who were the more sizeable segment of the urban population were largely composed of females. Urban migrants were also generally female-dominated (Table 5). An age pattern, however, can be noted (Table 9). Very low sex ratios prevailed among migrants in the very young ages (15-19) across all regions. The lowest sex ratios among the youngest urban migrants were found in Western Visayas, the Ilocos and Bicol which ranked among the most disadvantaged in terms of per capita GRDP or poverty. Two areas containing the country's leading metro-centers -- Central Visayas and Metro Manila -- also registered very low sex ratios in the ages 15-19. Thus, while females comprised the more substantial segment of the flow to the towns and cities, their demographic dominance over males is most concentrated in the young ages. As shown above, migrants aged 15-29 years practically made up two-thirds of all female migrants to the urban areas of the various regions.

Compared to the ages 15-19, sex ratios among migrants are much higher at the 20-29 age group although females still outnumber males. It is only in Eastern Visayas where this rise even resulted in a sex ratio over 100 among migrants (Table 9). All regions displayed sex ratios over 100 among older urban migrants (ages 30 + years). However, it is at the ages 30-39 that this is most pronounced. Older migrants tended to have more males except in the NCR, Western Visayas and the Ilocos. These findings suggest that most females who migrated to urban areas did so at the initial stages of their adult lives. In contrast, male migrants of urban areas were older and, therefore, likely to be in more established social or economic positions.

Another interesting pattern is manifested by sex ratios according to marital status (Table 10). There seems to be no relationship between sex ratios according to marital status and urbanization levels. Single female migrants outnumbered male migrants in all regions with the sex ratios ranging between 53-91.

But the lopsidedness in favor of single females pales in comparison to what can be noted among widowed and separated. The high imbalance may be the result of a number of factors, including not only the possible preference of women who have no more spouses to reside in urban areas, but also differential mortality favoring women. In contrast, the sex ratios across the regions among the currently married non migrants clustered within a narrow but higher range (96-99).

TABLE 9
Sex Ratios by Age

REGIONS	All Ages		15-19		20-29		30-39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
PHILIPPINES	80	91	51	89	75	90	113	97	100	90
NCR										
Metropolitan Manila	76	89	48	81	73	87	111	96	91	91
MPR										
III. Central Luzon	76	93	53	96	65	94	112	97	103	87
IV. Southern Tagalog	90	93	64	93	85	93	112	99	103	89
RUR										
XI. Southern Mindanao	94	97	58	85	90	91	121	105	119	110
VII. Central Visayas	80	91	48	94	73	88	122	98	104	88
VI. Western Visayas	71	89	47	93	65	88	103	95	84	84
X. Northern Mindanao	88	94	52	86	81	92	129	95	124	103
LUR										
I. Ilocos	75	88	44	102	69	91	104	88	92	79
V. Bicol	83	92	46	95	77	93	110	95	117	89
VIII. Eastern Visayas	98	93	59	98	104	97	122	95	113	88
XII. Central Mindanao	88	93	50	83	75	87	139	99	122	104
IX. Western Mindanao	90	92	48	86	76	88	104	98	155	97
II. Cagayan Valley	80	95	37	105	69	91	136	99	105	90

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 10
Sex Ratios by Marital Status

REGIONS	Total		Single		Married		Widow/Divorced/ Separated	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
PHILIPPINES	80	91	66	95	97	98	25	28
NCR								
Metro Manila	76	89	62	88	96	98	21	24
(MPR)								
III. Central Luzon	76	93	65	102	88	97	27	26
IV. Southern Tagalog	90	93	86	103	98	97	24	29
(RUR)								
XI. Southern Mindanao	94	97	91	105	104	98	24	36
VII. Central Visayas	80	91	62	94	100	98	38	33
VI. Western Visayas	71	89	53	92	94	97	20	27
X. Northern Mindanao	88	94	76	99	102	99	39	32
(LUR)								
I. Ilocos	75	88	54	93	91	96	43	24
V. Bicol	83	92	63	100	102	98	43	30
VIII. Eastern Visayas	98	93	98	106	103	96	45	34
XII. Central Mindanao	88	93	78	99	100	98	27	28
IX. Western Mindanao	90	92	59	99	115	97	39	29
II. Cagayan Valley	80	95	58	109	98	98	23	26

Source: NSO, 1980 Census of Population, unpublished tabulations.

The pattern among married migrants varied with most regions showing either even sex ratios or more males. The NCR, Central Luzon, Western Visayas and the Ilocos differed with lower sex ratios among married migrants (along the range 88-96). While different sex ratios prevailed among married migrants, non-migrants who were married at the time of the 1980 census were generally composed of more females than males.

Sex ratios by educational level (Table 11) indicate that females with no schooling or have only elementary education outnumber men especially among migrants. The greatest imbalance was in Metro Manila. But even the sex ratio among non migrants with only elementary education in the Metropolis also ranked the lowest across the regions. This pattern for the leading urban center for the country may reflect the low educational backgrounds even of earlier migrants. As stated above, migrants in this paper refer only to those who moved between 1975-80 while the earlier influx to the Metropolis very likely included those with low education or migrants already classified as non-migrants for the given intercensal period.

Sex ratios at times increase at higher educational levels and may even exceed 100 among those in the college level. Ratios over 100 among migrants with college background emerged in Southern Tagalog, Eastern Visayas and Central Mindanao. One can note however that in 10 regions, females outnumber male migrants with some or completed college education. The same pattern of more females with college education can also be noted among non migrants except for Central Luzon and Southern Mindanao.

To summarize, the tendency for urban women migrants to outnumber their male counterparts was manifested even across broad age, marital status or education groups in 1980. This was the case in most regions of the country.

IV. WORK PARTICIPATION RATES

Of the 28 million population 15 years old and over in the country in 1980, 14 million or 51 percent reported gainful occupations, almost 11 million of whom were men while over 3.3 million were women. Work participation rates (WPR) refer to that proportion of the population 15 years old and over who reported gainful employment most of the year or if unemployed at the time of enumeration, the kind of work he used to do most of the year. The census considered a person as usually working most of the year if he worked for at least 10 hours a week for 26 weeks; either for pay or in kind, for profit in own farm, profession or business establishment, or as unpaid family work in a family farm or enterprise. A person who was housekeeping or schooling but also working in a gainful activity was to be reported as gainfully employed if he satisfied the time criterion even if he spent more time housekeeping or studying during the year.

TABLE 11
Sex Ratios by Educational Attainment

REGION	All Ages		No Schooling & Elementary		High School		College	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
PHILIPPINES	80	91	61	78	88	109	97	93
NCR Metro Manila	76	89	48	63	86	104	98	97
MPR								
III. Central Luzon	76	93	66	75	76	123	97	102
IV. Southern Tagalog	90	93	72	80	101	122	111	91
RUR								
XI. Southern Mindanao	94	97	94	96	94	105	97	102
VII. Central Visayas	80	91	64	84	98	108	93	93
VI. Western Visayas	71	89	56	86	81	99	86	85
X. Northern Mindanao	88	94	92	96	84	103	92	84
LUR								
I. Ilocos	75	88	49	73	83	118	91	87
V. Bicol	83	92	77	83	88	116	92	88
VIII. Eastern Visayas	98	93	81	96	101	102	118	83
XII. Central Mindanao	88	93	91	99	89	104	100	95
IX. Western Mindanao	90	92	81	90	108	108	91	92
II. Cagayan Valley	80	95	62	85	107	117	82	93

Source: NSO, 1980 Census of Population, unpublished tabulation.

Critics of the gainful occupation approach oftentimes point out that even with the last provision marginal or occasional workers particularly women are missed. Thus, the data may underestimate particularly women in the rural sector but also the economic activities of females in the informal sector of the urban economy. It can be argued that the work participation rates derived from the gainful approach reflect one's usual activities or status of somewhat longer duration rather than the "in-out" status of some women, particularly the ones who do seasonal or intermittent work. The 1980 census for example was held in May, a summer month where some of those who usually go to school may have worked on a temporary basis. The author joins other critics who argue that the gainful approach does not adequately capture women's involvement in economic activities. Women have manifold activities along with their other domestic chores. Womanpower remains a valuable resource in the economic activities of less developed countries. But we have to make do with the existing data at the moment in order to have some idea of female migration and occupational distribution across the regions, given the dearth of knowledge on this topic.

The urban population 15 years old and above across the regions is shown on Table 12. The urban working age population numbered about 11 million in 1980, or approximately 40 percent of the entire country's 28 million working-age residents. A little over half of the 11 million, representing about 5.7 million, is gainfully occupied. The largest urban work force was found in Metro Manila with 2 million workers, compared to 680,000 in Southern Tagalog and 577,000 in Central Luzon. Together, the metropolitan and the two regions at the metropolitan's periphery accounted for 3.2 million gainfully employed or 60 percent of the entire country's urban work force.

Urban migrants as a rule exhibited higher inclination to join the work force compared to urban non migrants. This was generally true of urban areas across all regions regardless of urbanization level (Table 12). It can be noted that the highest WPR was registered by the NCR, where the largest number of urban workers was also found. High work participation rates among urban migrants appeared to prevail in the regions which were more urbanized and drawing more migrants.

1. Male/Female Differentials in Work Participation

Of the 14 million who reported gainful occupations in the country in 1980, close to 11 million were men while over 3 million were women. In the urban areas alone, the aggregate work force reached 5.7 million, 3.8 million of whom were males while 1.9 million were females. Thus, almost one-third of urban women belonging to the working ages was usually working. The NCR male work force was counted at 1.28 million while that of females reached 783,000. If combined, the female work force of the NCR and the MPR would approximate almost two-thirds of the entire country's female urban work force. The comparable figure for the urban male work force would only be 57 percent.

TABLE 12
Urban Work Force Indicators According to Migrant and Non-Migrant Status
by Region, 1980 Census

REGION	Total 15+ (000)	Gainfully Occupied (000)	Not- Gainfully Occupied (000)	Work Participa- tion Rate (WPR)	Number Gainfully Occupied Migrants (000)	Non- Migrant (000)	Work Participation Rates (WPR in %) Migrants Non- Migrants
PHILIPPINES	10,973	5,652	5,321	51.5	767	4,885	57.6 50.7
NCR							
Metro Manila	3,827	2,059	1,767	53.8	403	1,656	59.1 52.7
MPR							
III. Central Luzon	1,189	603	586	50.7	54	549	58.1 50.1
IV. Southern Luzon	1,354	696	659	51.4	88	416	56.4 34.7
RUR							
XI. Southern Mindanao	650	337	313	51.8	45	293	56.2 51.4
VII. Central Visayas	741	396	345	53.4	40	355	59.7 52.7
VI. Western Visayas	779	389	390	49.9	29	360	54.7 49.5
X. Northern Mindanao	434	218	216	50.2	33	184	54.1 49.3
LUR							
I. Ilocos	515	237	278	46.0	15	222	51.7 45.7
V. Bicol	434	208	227	47.9	16	192	53.3 47.5
VIII. Eastern Visayas	360	176	184	48.9	12	164	54.5 48.5
XII. Central Mindanao	237	112	124	47.3	12	100	50.0 46.9
IX. Western Mindanao	249	120	129	48.2	10	110	52.6 47.8
II. Cagayan Valley	204	105	104	51.5	8	92	57.1 48.7

Source: NSO, 1980 Census of Population, unpublished tabulation.

Comparing the sexes by migrant status, work participation rates among males are consistently higher among migrants than non migrants (Table 12a). Trend analysis of 1975 and 1980 census data also indicated that female migrants of urban areas during the seventies were more likely to work compared to non migrant women. These patterns follow what was noted in earlier studies of female migration to the urban centers of Southeast and East Asia (Shan and Smith 1984; Khoo 1984), and specifically on the Philippines (Engracia and Herrin 1984).

Without any regional exception, women who migrated to the towns and cities across the regions appeared more likely to join the work force than their non migrant sisters. However, the differences between the WPRs of male migrants and non migrants are not as pronounced as those among women (Table 12b).

Higher migrant male and female participation rates can be noted in most of the more urbanized regions. If the WPRs of urban migrant women were ranked, the highest levels can be found in Metro Manila (46.5%), Central Visayas (45.9%) and Central Luzon (41.5%). It should be noted that Central Visayas has large centers like Metro-Cebu and the Iloilo-Bacolod area, while Central Luzon contains large urban areas like the Angeles City - San Fernando section of Pampanga and Olongapo City in Zambales, which are close to large American military bases, and the other bustling towns of Bulacan, Tarlac, Nueva Ecija and Bataan.

It can be seen from the data above and from Table 5 that female migrants registered high economic activity rates especially in areas where women migrants substantially outnumbered males. It should also be noted that oftentimes the highly female-dominant sex ratios occurred in the most urbanized regions which drew in the largest numbers of migrants. The correlation between the female migrants' WPR and the sex ratio among migrants in 1980 was high (0.73). While relatively lower WPRs emerged among urban migrant women in the LURs, such may be partly due to the lack of employment opportunities particularly in the more depressed regions or to greater male competition given the high sex ratios. This topic, however, needs further study.

In summary, males always exhibited higher proportions gainfully occupied compared to females. But both male and female migrants were more likely to be economically active than non migrants. The latter is not surprising since many migrants moved to urban areas to seek or take up employment.

2. Demographic Differential In Female participation

While women generally showed lower participation in economic activities than men, there are further variations in levels when specific groups of women are considered. These can be observed using unpublished data from the 1980 census according to age (Table 13), marital status (Table 14) and educational attainment (Table 15).

TABLE 12a
Male Urban Work Force Indicators According to Migrant and Non-Migrant Status by Region, 1980 Census

REGION	Total 15 + (000)	Gainfully Occupied (000)	Not- Gainfully Occupied (000)	Work Participation Rate (WPR)	Number Gainfully Occupied Migrants (000)	Non- Migrants (1000)	Work Participation Rate (WPR in %) Migrants Non- Migrants
PHILIPPINES	5,189	3,764	1,425	72.5	459	3,305	77.5 71.9
NCR							
Metro manila	1,775	1,276	498	71.9	223	1,053	75.8 71.1
MPR							
III. Central Luzon	567	416	151	73.4	32	303	80.0 72.7
IV. Southern Tagalog	652	474	178	72.7	58	416	78.4 72.0
RUR							
XI. Southern Mindanao	330	248	72	77.5	32	217	82.0 77.2
VII. Central Visayas	350	261	89	74.6	24	237	80.0 74.1
VI. Western Visayas	363	260	103	71.6	17	244	77.3 71.3
X. Northern Mindanao	210	155	55	73.8	23	132	79.3 72.9
LUR							
I. Ilocos	240	160	80	66.7	9	151	69.2 66.5
V. Bicol	227	62	165	27.3	5	56	31.2 26.7
VIII. Eastern Visayas	186	49	137	26.3	3	46	27.2 26.3
XII. Central Mindanao	123	29	94	23.6	4	25	30.8 22.7
IX. Western Mindanao	130	34	96	26.2	3	31	30.0 26.0
II. Cagayan Valley	106	30	76	28.3	3	27	37.5 27.8

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 12b
Female Urban Work Force Indicators According to Migrant and
Non-Migrant Status by Region, 1980 Census

REGION	Total 15 + (000)	Gainfully Occupied (000)	Not- Gainfully Occupied (000)	Work Participation Rate (WPR)	Number Gainfully		Work Participation Rate (WPR in %)	
					Migrants (000)	Non- Migrants (1000)	Migrants	Non- Migrants
PHILIPPINES	5,784	1,888	3,896	32.6	308	1,580	41.6	31.1
NCR								
Metro Manila	2,052	783	1,269	38.2	180	603	46.5	36.2
MPR								
III. Central Luzon	622	188	434	30.2	22	165	41.5	29.0
IV. Southern Tagalog	703	222	481	31.6	29	193	35.4	31.1
RUR								
XI. Southern Mindanao	330	88	242	26.7	13	76	31.7	26.3
VII. Central Visayas	390	135	255	34.6	17	118	45.9	33.4
VI. Western Visayas	416	129	287	31.0	12	117	38.7	30.4
X. Northern Mindanao	224	63	161	28.1	11	52	34.4	27.1
LUR								
I. Ilocos	275	77	198	28.0	6	71	35.3	27.4
V. Bicol	227	62	165	27.3	5	56	31.2	26.7
VIII. Eastern Visayas	186	49	137	26.3	3	46	27.2	26.3
XII. Central Mindanao	123	29	94	23.6	4	25	30.8	22.7
IX. Western Mindanao	130	34	96	26.2	3	31	30.0	26.0
II. Cagayan Valley	106	30	76	28.3	3	27	37.5	27.8

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 13
Work Participation Rates of Urban Female Migrants and Non-Migrants
by Region and Age, 1980 Census

REGIONS	15-19 Migrant	15-19 Non- Migrant	20-29 Migrant	20-29 Non- Migrant	30-39 Migrant	30-39 Non- Migrant	40 Migrant	40 Non- Migrant
PHILIPPINES	47.5	18.4	43.3	36.7	41.4	39.3	30.0	29.0
NCR								
Metro Manila	50.6	20.4	49.4	43.8	46.9	44.0	32.0	31.4
MPR								
III. Central Luzon	53.9	17.8	42.2	35.9	36.9	35.2	29.3	25.5
IV. Southern Tagalog	41.7	17.4	35.7	35.1	37.6	40.4	26.9	29.5
RUR								
XI Southern Mindanao	36.0	18.8	31.6	29.3	31.5	30.6	21.9	25.0
VII. Central Visayas	54.5	23.3	40.7	34.8	46.3	40.2	35.7	34.3
VI. Western Visayas	50.4	17.8	40.0	33.4	35.1	40.3	33.7	29.2
X. Northern Mindanao	35.0	16.3	32.7	29.6	30.9	35.0	28.5	27.8
LUR								
I. Ilocos	37.2	12.2	35.5	32.2	37.5	38.5	29.7	26.5
V. Bicol	39.8	16.1	28.3	28.7	39.3	37.7	27.9	26.0
VIII. Eastern Visayas	44.8	17.0	27.1	28.7	33.5	32.4	21.1	26.5
XII. Central Mindanao	37.8	11.2	30.9	24.6	30.3	29.0	23.4	24.4
IX. Western Mindanao	37.6	16.6	29.3	25.5	23.0	32.3	32.3	28.0
II. Cagayan Valley	35.4	15.6	40.6	31.8	38.8	35.7	25.6	27.1

Source: NS), 1980 Census of Population, unpublished tabulations.

TABLE 14
Work Participation Rates of Urban Female Migrants
by Region and Marital Status, 1980 Census

REGIONS	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
PHILIPPINES	62.7	39.8	25.5	25.4	37.6	34.3
NCR						
Metro Manila	66.0	46.6	28.6	28.6	36.9	37.5
MPR						
III. Central Luzon	71.5	40.2	23.6	22.4	38.2	30.1
IV. Southern Tagalog	59.0	37.1	23.9	27.0	37.1	34.5
RUR						
XI. Southern Mindanao	51.0	35.8	17.6	19.5	41.5	38.2
VII. Central Visayas	64.6	41.5	27.1	27.5	40.4	39.3
VI. Western Visayas	60.9	37.9	23.1	24.1	38.1	33.8
X. Northern Mindanao	49.5	31.0	18.6	23.7	46.3	36.3
LUR						
I. Ilocos	52.4	32.6	24.6	24.7	25.8	24.3
V. Bicol	47.7	31.3	21.2	23.5	45.8	28.5
VIII. Eastern Visayas	49.4	32.8	22.7	21.1	25.5	33.0
XII. Central Mindanao	49.2	25.8	20.1	19.0	32.7	33.3
IX. Western Mindanao	50.1	29.4	17.9	21.7	36.6	37.0
II. Cagayan Valley	49.2	33.0	29.0	24.3	32.8	30.2

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 15
Work Participation Rates of Urban Female Migrants and Non-Migrants
by Region and Education, 1980 Census

REGIONS	No Schooling & Elementary		High School		College	
	Migrant	Non- Migrant	Migrant	Non- Migrant	Migrant	Non- Migrant
PHILIPPINES	43.6	26.8	35.9	23.1	48.3	48.3
NCR						
Metro Manila	50.9	32.8	40.7	27.7	50.1	49.1
MPR						
III. Central Luzon	38.3	25.7	43.2	23.4	48.5	47.5
IV. Southern Tagalog	34.1	27.1	27.6	23.2	52.4	50.1
RUR						
XI. Southern Mindanao	26.7	20.3	26.5	20.5	43.8	44.4
VII. Central Visayas	52.4	31.1	32.3	22.8	44.3	48.1
VI. Western Visayas	47.4	26.5	29.4	19.8	43.9	47.7
X. Northern Mindanao	28.6	21.5	29.2	18.2	43.3	45.6
LUR						
I. Ilocos	34.7	22.8	29.1	18.7	41.8	45.5
V. Bicol	38.7	20.8	20.8	15.9	42.5	51.2
VII. Eastern Visayas	32.6	19.8	20.9	16.2	42.7	49.7
VIII. Eastern Visayas	32.6	19.8	20.9	16.2	42.7	49.7
XII. Central Mindanao	30.1	16.6	26.6	13.2	43.0	46.1
IX. Western Mindanao	29.3	21.1	22.1	15.9	44.8	45.5
II. Cagayan Valley	36.8	21.5	25.0	16.3	45.7	49.2

Source: NSO, 1980 Census of Population, unpublished tabulations.

2.1 Age

The pattern for the entire country is one where the youngest of female migrants (ages 15-19) registered the highest propensity to be work force members (47.5%) while succeeding lower participation rates are found at the next older age groups (Table 13). This inverse pattern also holds in most regions of the country particularly among the highly or more urbanized regions. Different patterns can be observed of the less urbanized regions with the Ilocos and Cagayan Valley manifesting nearly equal participation rates among urban female migrants in the three groups encompassing ages 15-39, but lower participation in the oldest category.

Female non migrants showed an inverted-U pattern. Less than one-fifth (18.4%) was economically active among those aged 15-19 while the middle age groups (either 20-29 or 30-39) registered the peak rates, declining once again at the oldest age group. For the country and most regions, the WPRs of female non migrants 40 years and above were even higher than those of female non-migrants 15-19 years old. The NCR and metropolitan periphery regions as well as the more urbanized regions (RUR) manifested relatively higher participation rates among young "native" women (within a broad range of 16 - 23%) compared to the less urbanized regions (ranging between 11-17%).

It seems that many young female migrants are in urban areas to work. The need to join the work force does not appear to be pronounced among young female non migrants.

2.2 Marital Status

As stated above, migrant women have higher participation rates than non migrants. However this pattern was most pronounced only among single female migrants in all regions. In a way, the same pattern can be noted of widowed/separated women in most regions. The very high levels of the participation rates among single migrant women oftentimes set them off from other women. Single female migrants of the NCR and MPR registered WPRs of about 60 percent or higher; the RURs were within the range of 50-65 percent; the LURs fell within the lower range of 48-52 percent.

The levels of participation among single female migrants were so high that at times rates even came close to the WPRs of urban males. This can be said of the NCR and Central Luzon. Based on rankings of participation rates among female migrants, the levels registered by the widowed and separated ones follow. Married migrants and non-migrants showed the lowest propensity to join the work force; their WPRs were uniformly low for the country as a whole and for most regions in the country including the NCR. Some regions like Southern Tagalog, Southern Mindanao, Northern Mindanao, Bicol and Western Mindanao even showed relatively higher participation rates among married non migrant women compared to their migrant counterparts.

2.3 Education

Female migrants surpassed non migrants in economic participation among those with elementary and high-school education. This is true in all regions without exception. The highest participation rates among urban female migrants with the lowest educational attainments were found in Metro Manila and Central Visayas where more than half were economically active. On the other hand, Metro Manila and Central Luzon were the regions registering the highest WPRs among migrants with high school education.

No clear differential emerged between female urban migrants and non migrants with college education. The WPRs by region for these two groups differentiated by migrant status were uniformly high. In most regions, women with college education regardless of migrant status showed the highest propensity to work. However, female migrants with high school and elementary education in the highly urbanized regions particularly the NCR and Central Luzon and certain more urbanized regions - Central and Western Visayas - registered equal or even higher participation rates compared to female migrants with college background. In contrast, migrant women with college education were the ones more likely to work in the LURs.

3. The Urban Occupational Structure

The occupational distribution of urban areas in the country is characterized by the largest category claimed by production process workers, craftsmen and laborers. The next dominant occupational groups were clerical/sales workers followed by nearly equal proportions of workers in the service, agricultural/fishing and the professional/ administrative occupations (Table 16).

Going to specific regions, the NCR stands out with much higher percentages of workers who were production on crafts workers and laborers, clerical/sales and service workers. This distribution captures the metropolitan region's distinctive role as center of administration, industry and services. Manufacturers, trade, financial establishments, large and small private service enterprises are heavily concentrated in the NCR (Tables 2 and 3). Interestingly, the urban areas of the MPR contained even larger percentages who were craftsmen/laborers but also very large segments reporting agriculture or other extractive occupations. This pattern indicates the gradual industrial transition of urban areas even as much of its "ruralness" remains. This is likely to occur in varying degrees in various urban areas of a less developed country like the Philippines. Such rural character is manifested even in urban areas at the fringes of the wider metropolitan periphery.

TABLE 16
Urban Population 15 Years Old and Over by Usual Occupation: 1980 (in 000)

REGIONS	Total with Gainful Occupation N (000) %		P E R C E N T D I S T R I B U T I O N					
			Prof. & Adm.	Clerical & Sales	Craftsmen & Laborer	Services	Agriculture	Others
BOTH SEXES								
PHILIPPINES	5,651	100.0	13.0	22.1	31.7	14.7	14.6	3.9
NCR Metro Manila	2,059	100.0	14.3	25.4	35.8	18.3	1.6	4.6
MPR								
III. Central Luzon	603	100.0	9.6	19.4	37.5	13.0	15.3	5.2
IV. Southern Tagalog	696	100.0	11.3	19.7	36.5	10.9	18.0	3.6
RUR								
XI. Southern Mindanao	338	100.0	10.7	20.4	26.3	11.8	28.7	2.1
VII. Central Visayas	395	100.0	12.9	22.2	30.3	13.9	17.2	3.5
X. Northern Mindanao	217	100.0	12.4	20.6	24.8	12.4	27.5	2.3
VI. Western Visayas	389	100.0	13.0	21.5	25.1	16.1	19.7	4.6
LUR								
I. Ilocos	237	100.0	15.5	20.6	28.6	11.8	19.7	3.8
V. Bicol	208	100.0	15.3	19.6	22.0	12.9	27.3	2.9
VIII. Eastern Visayas	176	100.0	14.8	16.5	19.9	12.5	33.5	2.8
IX. Western Mindanao	120	100.0	13.3	21.7	19.1	11.7	31.7	2.5
XII. Central Mindanao	112	100.0	14.6	21.8	19.1	10.0	33.6	0.9
II. Cagayan Valley	100	100.0	15.9	19.8	19.8	11.8	31.7	1.0

Source: NSO, 1980 Census of Population, unpublished tabulations.

But even "more rural" were the economic activities of the population in the LURs, particularly those with the lowest levels of urbanization, considering that around a third of their entire work force were usually engaged in farming, fishing, forestry or hunting. Very few of the workers of the LURs were craftsmen. The LURs however registered substantially large proportions who were professional/administrative workers.

There appear to be specific occupational configurations between the sexes. Production workers/craftsmen comprised the largest group in the urban male occupational structure of the entire country (Table 16a-b). Two out of every five working males were craftsmen, production/processing workers or laborers. But one out of every five was an agricultural/fishing worker. There emerged a direct relationship between the level of urbanization and the percentage of males in crafts/processing occupations. Nearly half of Metro Manila males was in the production category in 1980 compared to around one-fourth in the LURs. Conversely, the proportion of urban males in agricultural/fishing occupations declined at areas of higher urbanization levels. Over two out of every five male workers of the LURs worked in extractive occupations compared to much lower proportions in most RURs and the two MPRs and a very low level in the NCR.

The female urban occupational structure of the country was dominated by two large groups: the clerical/sales (31.8%) and service (27.3%) workers. The third largest category was composed of production/processing workers and laborers (14.9%). This pattern does not hold however in all regions. Production/processing workers in Southern Tagalog comprised the second largest category rather than service workers. There were nearly equal proportions of service (30.5%) and clerical/sales workers in Western Visayas. Female service workers claimed sizeably large percentages in the LURs, particularly in the Bicol and Eastern Visayan regions, which as shown earlier were areas of very low income levels (please refer to Tables 2 and 3).

Tables 17-22 show the distributions of the population 15 years old and over, distinguished by migrant status. Usually, occupational distributions are computed using the working or employed population of the group being studied as base (see Table 16). This paper uses a different way of presenting occupational distributions. The percentages given in the tables below always refer to the total population 15 years old and over of a given group, rather than just the population gainfully occupied. This mode of presentation is adopted from Engracia and Herrin (1984) since it allows one to have an idea of how all migrants in the group being studied fared during a given reference period, whether they became professors, secretaries, clerks, service workers or they did not work at all.

TABLE 16a
Urban Population 15 Years Old and Over by Usual Occupation: 1980 (in 000)

REGIONS	Total with Gainful Occupation		P E R C E N T D I S T R I B U T I O N						
	N (000)	%	Prof. & Adm	Clerical Sales	Craftsmen & Laborer	Services	Agri-culture	Others	
MALE									
PHILIPPINES	3,764	100.0	9.2	17.3	40.1	8.4	20.5	4.5	
NCR Metro Manila	1,276	100.0	12.5	21.2	47.3	10.8	2.5	5.7	
MPR									
III. Central Luzon	416	100.0	6.2	13.7	45.7	7.2	21.2	6.0	
IV. Southern Tagalog	474	100.0	7.2	13.9	43.0	6.8	224.9	4.2	
RUR									
XI. Southern Mindanao	249	100.0	6.4	15.3	32.9	6.4	37.0	2.0	
VII. Central Visayas	261	100.0	9.2	16.8	39.1	7.7	22.6	4.6	
X. Northern Mindanao	155	100.0	7.1	15.5	32.3	6.4	36.1	2.6	
VI. Western Visayas	260	100.0	7.3	17.7	33.8	8.9	26.9	5.4	
LUR									
I. Ilocos	160	100.0	9.4	14.4	37.5	6.9	27.5	4.3	
V. Bicol	146	100.0	8.1	16.2	27.0	7.4	37.2	4.1	
VIII. Eastern Visayas	126	100.0	7.9	12.7	24.6	6.4	44.4	4.0	
IX. Western Mindanao	86	100.0	8.1	18.6	23.3	5.8	41.9	2.3	
XII. Central Mindanao	83	100.0	8.4	19.3	22.9	6.0	42.2	1.2	
II. Cagayan Valley	70	100.0	10.0	14.3	25.7	5.7	42.9	1.4	

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 16b
Urban Population 15 Years Old and Over By Usual Occupation: 1980 (in 000)

REGIONS	Total with Gainful Occupation N (000) %		P E R C E N T D I S T R I B U T I O N					
			Prof. & Adm.	Clerical & Sales	Craftsmen & Laborer	Services	Agri-culture	Others
FEMALE								
PHILIPPINES	1,887	100.0	20.6	31.8	14.9	27.3	2.8	2.6
NCR Metro Manila	783	100.0	17.1	32.2	17.0	30.5	0.3	2.9
MPR								
III. Central Luzon	187	100.0	17.2	32.3	19.3	25.8	2.2	3.2
IV. Southern Tagalog	222	100.0	20.2	32.3	22.4	19.7	3.1	2.3
RUR								
XI. Southern Mindanao	89	100.0	22.5	34.8	7.9	27.0	5.6	2.2
VII. Central Visayas	134	100.0	20.0	32.6	13.3	25.9	6.7	1.5
X. Northern Mindanao	62	100.0	25.4	33.3	6.3	27.0	6.4	1.6
VI. Western Visayas	129	100.0	24.4	29.0	7.6	30.5	5.4	3.1
LUR								
I. Ilocos	77	100.0	28.2	33.3	10.3	21.8	3.8	2.6
V. Bicol	62	100.0	32.8	27.9	9.8	26.2	3.3	0.0
VIII. Eastern Visayas	50	100.0	32.0	26.0	8.0	28.0	6.0	0.0
IX. Western Mindanao	34	100.0	26.5	29.4	8.8	26.5	5.9	2.9
XII. Central Mindanao	29	100.0	33.3	29.6	7.4	22.2	7.5	0.0
II. Cagayan Valley	30	100.0	29.0	32.2	6.5	25.8	6.5	0.0

Source: NSO, 1980 Census of Population, unpublished tabulations.

Table 17 gives the occupational distributions of migrants and non-migrants by region. Migrants were dominated by craftsmen/ production workers followed by those in service occupations, with the clerical category ranking third for the entire urban areas of the country. This pattern also prevailed in the NCR and the MPR. Of the RURs, Western Visayas emerged with the service sector ranking first. The two relatively urbanized regions of Southern and Northern Mindanao had the clerical/sales category ranked next to production workers while service workers came out third.

Non-migrants, on the other hand, were also composed largely of craftsmen and production workers, but the clerical and sales category ranked second and the agricultural/fishing workers came third. Those in the NCR were dominated by 37 percent who were craftsmen/production workers followed by the group of clerical/sales workers and then the service workers. The largest occupational categories among non-migrants in the MPRs were also the production and the clerical/sales workers but the agricultural/extractive occupations oftentimes ranked as the largest occupational category among urban non-migrants in Southern and Northern Mindanao and in almost all the LUR regions, or one of the third largest categories in the other regions.

Male workers were dominated by craftsmen/production process workers and laborers among both migrants and non-migrants. Taking the Philippines in aggregate, more migrant male workers in urban areas were found in this manufacturing-oriented category than among non-migrant men (Table 18). The dominance of craftsmen/production process workers and laborers among both male migrants and non-migrants persisted even across the regions, but was very pronounced in the NCR and MPR. The clerical/sales workers and agriculture/extractive workers are the next two dominant occupations among males, the latter particularly in the LUR.

It has been noted that female migrants of urban areas in the Philippines during the seventies were more likely to work compared to non-migrant women. But similar to what was noted earlier using 1970n data (Eviota and Smith 1984) and 1975 data (Engracia and Herrin 1984) the professional and clerical/sales occupations employed relatively large segments of native urban women who were working.

In 1980, urban female migrants who worked can be seen as concentrated in the service occupations (Table 19). Two-fifths of all female migrants aged 15 years and over in 1980 were working in service occupations; close to 10 percent composed either the professional/administrative or craftsmen/production workers. If this percentage in service occupations was assessed against the participation rate, about half of all female migrants who worked were in service occupations. In contrast, among the very few female non-migrants who worked, the largest segment was of clerical/sales workers (amounting to one-third of all working female non-migrants) while almost one-fourth was either service workers or in the professional/administrative category.

TABLE 17
Percentage Distribution of Migrants and Non-Migrants 15 Years Old and Over in
Urban Areas, by Sex and Broad Occupation

REGIONS	Total with Gainful Occupation (000)	Prof. & Admin.	MIGRANTS				NON-MIGRANTS							Agriculture	Others	
			Percent of Total 15+ Clerical & Sales & Laborers	Services	Agriculture	Others	Total with Gainful Occupation (000)	Prof. & Admin.	Percent of Total 15+ Clerical & Sales & Laborers	Services						
BOTH SEXES																
PHILIPPINES	767	57.6	7.1	11.6	18.2	15.0	3.9	1.7	4,864	50.6	6.6	11.4	16.0	6.5	8.0	2.0
NCR Metro Manila	403	58.0	7.8	12.5	19.0	17.3	0.6	2.0	1,656	52.7	7.6	13.9	19.3	8.2	1.0	2.6
MPR																
III. Central Luzon	54	58.1	4.8	9.9	22.6	15.1	3.2	2.2	549	50.1	4.9	9.8	18.7	5.9	8.1	2.6
IV. Southern Tagalog	88	56.4	6.2	9.6	22.6	10.9	5.1	1.9	608	50.7	5.8	10.2	18.3	4.9	9.8	1.8
RUR																
IX. Western Mindanao	45	52.6	6.8	13.5	9.7	9.4	10.5	2.1	293	47.7	6.7	10.1	9.0	5.3	15.6	1.3
VII. Central Visayas	40	59.7	6.9	11.6	10.6	17.8	3.0	1.5	355	52.7	6.8	11.8	16.0	6.4	9.8	1.9
X. Northern Mindanao	29	54.1	5.7	10.9	14.4	10.2	13.1	1.6	360	48.9	6.2	10.3	12.1	5.6	13.9	0.5
VI. Western Visayas	33	54.7	6.8	10.5	13.0	18.0	5.7	1.9	184	49.5	6.4	10.8	12.5	7.5	10.2	2.3
LUR																
I. Ilocos	15	15.7	9.2	11.6	12.8	12.5	5.4	1.4	222	45.7	7.1	9.4	13.1	4.9	9.5	1.8
V. Bicol	16	53.3	8.5	12.3	13.0	13.0	6.7	1.3	192	47.5	7.1	9.3	10.3	5.7	13.6	1.5
VIII. Eastern Visayas	12	54.6	7.5	9.9	12.1	12.5	9.1	1.8	164	48.5	7.1	8.0	9.4	5.5	16.9	1.5
XI. Southern Mindanao	12	56.2	5.9	11.3	15.0	9.1	13.7	1.2	100	51.4	5.4	10.5	13.5	5.8	15.1	1.0
XII. Central Mindanao	10	50.0	8.0	10.2	9.3	10.6	12.5	1.7	110	47.4	6.7	10.6	9.0	4.2	16.0	0.5
II. Cagayan Valley	8	53.3	10.5	13.8	10.8	11.7	6.7	2.7	92	48.7	7.4	9.3	9.6	5.1	16.4	0.5

Total with Gainful Occupation includes all gainful occupations only 4 broad categories are known. The remainder comprises of agriculture/fishing workers and those with occupations not elsewhere classified.
Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 18
Percentage Distribution of Migrants and Non-Migrant 15 Years Old and Over in Urban Areas,
by Sex and Broad Occupation

REGIONS	Total with Gainful Occupation (000)	Prof. & Admin.	MIGRANTS				Agriculture	Others	Total with Gainful Occupation (000)	%	Prof. & Admin.	NON-MIGRANTS				Agriculture	Others
			Percent of Total 15+ Clerical & Sales & Laborers	Craftsmen & Laborers	Services							Percent of Total 15+ Clerical & Sales & Laborers	Craftsmen & Laborers	Services			
MALE																	
PHILIPPINES	459	76.6	6.8	14.5	33.8	9.2	8.2	3.0	3,505	1.9	6.4	12.3	28.5	5.6	15.7	3.3	
NCR Metro Manila	225	75.9	10.2	15.3	35.3	10.3	1.3	3.5	1,053	71.1	8.8	15.2	33.8	7.2	1.9	4.2	
MPR																	
III. Central Luzon	32	80.0	5.6	13.0	39.2	9.7	8.3	3.4	383	72.8	4.5	8.9	33.0	5.9	16.2	4.2	
IV. Southern Tagalog	58	78.8	7.3	11.9	39.7	7.4	9.6	2.9	416	71.9	5.0	9.9	30.2	4.6	19.3	3.0	
RUR																	
XI. Southern Mindanao	32	83.4	5.6	14.2	28.8	6.8	26.4	1.6	217	77.1	4.8	11.8	25.1	4.8	29.0	1.6	
VIII. Central Visayas	24	79.1	8.0	14.1	36.2	10.1	7.8	2.9	237	74.0	6.7	12.5	28.5	5.3	17.8	5.2	
X. Northern Mindanao	23	80.2	6.6	12.8	27.7	7.0	24.3	1.8	132	73.0	5.0	11.4	23.0	4.7	27.1	1.8	
VI. Western Visayas	17	76.9	8.2	13.4	29.6	9.2	14.3	2.2	244	71.3	5.1	12.5	24.0	6.2	19.6	3.9	
LUR																	
I. Ilocos	9	72.5	11.0	14.1	27.6	9.5	7.9	2.4	151	66.5	6.0	9.5	24.8	4.3	19.1	2.8	
V. Bicol	11	79.4	10.2	17.5	26.0	10.3	13.3	2.1	135	69.8	5.3	11.1	18.7	4.9	27.3	2.5	
VIII. Eastern Visayas	8	77.0	8.4	14.1	23.5	8.3	20.4	2.3	118	72.4	5.4	9.2	17.5	4.5	33.0	2.8	
XII. Central Mindanao	8	75.6	8.9	13.6	18.9	6.1	27.0	1.1	75	73.2	5.8	13.9	16.6	4.1	31.6	1.2	
IX. Western Mindanao	7	78.7	5.4	18.5	19.7	6.3	26.6	2.2	79	71.7	5.5	12.6	16.9	4.3	30.3	2.1	
II. Cagayan Valley	5	81.4	11.0	17.8	23.6	8.0	20.3	0.7	65	70.6	6.4	8.5	17.8	4.3	31.3	1.3	

Total with Gainful Occupation includes all gainful occupations although only 4 broad categories are shown. The remainder comprises of agriculture/fishing workers and those with occupations not elsewhere classified.
Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 19
Percentage Distribution of Migrants and Non-Migrants 15 Years Old and Over
in Urban Areas, by Sex and Broad Occupation

REGIONS	Total with Gainful Occupation (000)	%	MIGRANTS				NON-MIGRANTS									
			Prof. & Admin.	Percent of Total 15+ Clerical & Sales & Laborers	Services	Agriculture	Others	Total with Gainful Occupation (000)	%	Prof. & Admin.	Percent of Total 15+ Clerical & Sales & Laborers	Services	Agriculture	Others		
FEMALE																
PHILIPPINES	308	41.7	5.8	9.3	5.7	19.7	0.4	0.8	1,580	31.3	6.9	10.6	4.7	7.3	1.0	0.9
NCR Metro Manila	180	47.9	5.9	10.4	6.6	22.5	0.1	0.9	603	36.2	6.7	12.8	6.4	9.0	0.1	1.2
MPR																
III. Central Luzon	22	41.7	4.2	6.9	10.1	19.3	0.3	0.8	165	29.1	5.4	9.8	5.4	6.6	0.7	1.2
IV. Southern Tagalog	29	35.6	5.8	7.7	7.2	14.1	0.5	0.8	193	31.1	0.4	10.6	7.2	5.1	0.9	0.8
RUR																
XI. Southern Mindanao	13	30.4	6.2	8.5	2.1	11.3	2.3	0.3	76	20.2	6.0	9.5	2.1	6.7	1.8	0.3
VII. Central Visayas	17	44.2	6.9	9.5	4.5	23.9	0.1	0.2	118	33.6	7.1	11.2	4.7	7.5	2.5	0.6
X. Northern Mindanao	11	32.3	4.9	9.3	2.7	13.0	1.7	0.6	52	27.2	7.3	9.5	1.4	6.8	1.7	0.5
VI. Western Visaya	12	40.5	5.8	8.4	1.2	24.2	0.6	0.3	117	30.3	7.5	9.1	2.3	8.7	1.8	0.9
LUR																
I. Ilocos	6	35.2	8.0	9.8	1.6	14.8	0.4	0.6	71	27.6	8.1	9.2	2.9	5.6	0.9	0.9
V. Bicol	5	33.0	7.0	0.1	2.0	15.2	0.4	0.3	56	26.7	8.7	7.6	2.6	6.4	0.8	0.6
VIII. Eastern Visayas	3	31.2	6.7	5.8	0.8	16.4	1.0	0.5	46	26.2	8.7	7.1	1.7	6.5	1.8	0.4
XII. Central Mindanao	4	31.0	7.3	7.3	0.9	14.2	1.1	0.2	31	25.5	7.8	7.7	1.7	6.2	1.8	0.3
IX. Western Mindanao	3	30.2	8.1	9.0	0.7	12.2	0.0	0.2	31	25.5	7.6	7.7	1.7	6.2	1.8	0.3
II. Cagayan Valley	3	36.4	10.2	10.7	1.7	5	14.7	0.3	0.0	27	27.8	8.5	9.1	5.8	2.5	0.2

Total with Gainful Occupation includes all gainful occupations although only 4 broad categories are shown. The remainder comprises of agriculture/fishing workers and those with occupations not elsewhere classified.
Source: NSO, 1980 Census of Population, unpublished tabulations.

The largest concentration of service workers among female migrants occurred in Western and Central Visayas and the NCR, involving close to one fourth of *all* women migrants. The service workers in the other regions cluster around 13-15 percent among all female migrants. Female migrants who belonged to upper white-collar occupations as professionals or administrative workers were within the range of 4-10 percent of all female migrants in each region. The largest percentage can be noted among migrant women in the urban areas of Cagayan Valley while lower levels were noted of the NCR and MPR.

3.1 Occupational Structure by Age

As discussed earlier, young women comprised a very large segment of the migration to urban areas. Moreover, these young migrant women showed very high propensity to join the work force. However, much of the economic activity of young migrant women to urban areas in the country is due to their participation as service worker (Table 20). Forty percent of all urban female migrants aged 15-19 was service workers in 1980. In contrast, very few young non-migrants were in services. Although the proportion of young urban female migrants in services in 1980 was high, this figure was only slightly lower than the corresponding level in 1975. Entry into the service sector is relatively easy and the sector appears to recruit especially very young women. Declining economic activity among migrants can be noted at older ages, and along with such, their employment as service workers.

Seventeen percent of all urban migrant women aged 20-29 was service workers in 1980 while 11 percent performed clerical/sales workers among the few non-migrant women who worked. The ages 30-39 claimed larger percentages of female migrants and non-migrants who worked as professional/administrative or clerical/sales workers. But one in every five of female migrants in their thirties still worked in the service category. Close to the same percentage belonged to the same occupational category among those 40 years old and over.

Examining the regions (Tables 20a - 20m), one finds a repetition of the same age patterns: many young (15-19) urban female migrants worked in the service sector as domestic helpers, cooks, maids, laundrywomen or waitresses. The area of pronounced urban female absorption into the service sector was Metro Manila, owing to the large inflow of young female migrants. Of the 92,000 metropolitan female migrants aged 15-19, 42.8 percent (equal to 39,000) was service workers, the figure representing practically 85 percent of all metropolitan female migrants who was gainfully occupied.

The remaining regions registered between 31-48 percent of very young female migrants who became service workers in urban areas. The largest percentages of young female migrants in service employment were found in Western and Central Visayas, two relatively more urbanized regions containing some of the larger cities in the country.

TABLE 20
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

PHILIPPINES	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	2	2	6.1	6.5	11.9	12.8	7.0	7.7
Professors & teachers	.0	.0	1.8	2.4	7.6	9.8	4.2	5.6
All others	2	2	4.3	3.1	4.3	3.0	2.7	2.1
Clerical, sales	3.4	2.7	11.1	13.2	13.2	13.4	8.9	10.9
Clerical & rel. workers	.9	.8	7.3	8.3	7.1	5.7	2.4	2.1
Working prof., traders	2	2	1.1	1.6	3.1	3.7	1.9	3.0
Salesmen & related workers	2.3	1.7	2.7	3.3	3.0	4.0	4.6	5.8
All Others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	4.0	2.9	7.6	6.1	5.5	5.8	3.5	3.8
Tailors, sewers, etc.	1.4	1.0	3.0	2.6	2.8	3.1	2.1	2.3
All others	2.6	1.9	4.6	3.5	2.7	2.7	1.4	1.5
Service, sports	39.3	11.6	16.7	8.1	9.9	5.7	9.1	6.3
Housekeepers, cooks, maids	39.2	11.6	16.7	8.1	9.9	5.7	9.1	6.3
All others	.1	.0	.2	.1	.2	.3	.5	.4
Other Occupation	.6	1.0	1.6	2.7	.8	1.3	1.0	1.9
All Gainful Occupations	47.5	18.4	43.3	36.7	41.5	39.3	30.0	29.0
Non-Gainful Occupations	52.5	81.6	56.7	63.3	58.5	60.7	70.0	71.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	171,384	957,840	317,140	1,553,876	125,188	971,988	126,024	1,560,372

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20a
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

NATIONAL CAPITAL REGION	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.2	0.1	6.3	7.3	11.3	11.2	7.7	7.0
Professors & teachers	0.0	0.0	1.4	1.8	6.1	6.5	4.3	3.8
All others	0.2	0.1	4.9	5.5	5.2	4.7	3.4	3.2
Clerical, sales	3.3	3.2	12.9	16.1	14.7	16.2	9.	12.5
Clerical & rel. workers	1.2	1.4	9.2	11.6	9.5	8.8	3.0	3.9
Working prof., traders	.1	.1	.5	.6	1.1	1.7	1.4	2.6
Salesmen & related workers	2.0	1.7	3.2	3.9	4.1	5.7	4.8	6.2
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	3.8	3.4	9.0	8.4	7.2	8.0	4.0	4.8
Tailors, sewers, etc.	1.0	1.2	3.3	3.3	3.7	4.3	2.4	2.9
All others	2.8	2.2	5.7	5.1	3.5	3.7	1.6	1.9
Service, sports	42.8	13.0	19.6	9.8	12.9	7.8	10.3	6.4
Housekeepers, cooks, maids	42.8	13.0	19.5	9.7	12.7	7.5	9.8	6.0
All others	0.0	0.0	.1	.1	.2	.3	.5	.4
Other Occupation	0.5	0.7	1.6	2.2	.8	.8	0.7	.7
All Gainful Occupations	50.6	20.4	49.4	43.8	46.9	44.0	32.0	31.4
Non-Gainful Occupations	49.4	79.6	50.6	56.2	53.1	56.0	68.0	68.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	91,892	307,932	171,744	579,468	61,696	335,632	61,876	441,552

Source: NSO, 1980 Census of Population, unpublished tabulations

TABLE 20b
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

ILOCOS	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.7	0.0	9.4	6.8	11.8	17.0	9.6	8.2
Professors & teachers	0.0	0.0	4.4	2.8	5.1	14.5	9.0	6.7
All others	0.7	0.0	5.0	4.0	6.7	2.5	.6	1.5
Clerical, sales	3.9	2.2	9.6	12.0	16.1	11.2	9.7	9.9
Clerical & rel. workers	1.2	.5	5.0	6.7	5.0	3.9	1.4	1.5
Working prop., traders	0.0	.2	.3	1.0	3.8	1.7	2.5	1.9
Salesmen & related workers	2.7	1.5	4.3	4.2	7.3	5.6	5.8	6.5
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	0.7	1.1	0.5	3.1	5.0	3.7	1.6	3.4
Tailors, sewers, etc.	0.0	.1	.3	1.1	1.9	1.7	.8	1.3
All others	.7	1.0	.2	2.0	3.1	2.0	.8	2.1
Service, sports	32.0	8.3	13.8	7.1	3.5	4.9	8.9	3.5
Housekeepers, cooks, maids	32.0	8.3	13.8	7.1	3.5	4.8	8.9	3.4
All others	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Other Occupation	0.1	0.6	2.2	3.2	1.1	1.7	0.0	1.6
All Gainful Occupations	37.2	12.2	35.5	32.2	37.5	38.5	29.7	26.5
Non-Gainful Occupations	62.8	87.8	64.5	67.8	62.5	61.5	70.3	73.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	3,692	64,944	6,504	64,672	3,434	46,396	3,108	102,596

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20d
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

CENTRAL LUZON	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.2	0.2	4.2	5.6	10.2	9.4	3.3	5.4
Professors & teachers	0.0	0.0	2.0	2.4	8.4	7.7	1.8	3.8
All others	0.2	0.2	2.2	3.2	1.8	1.7	1.5	1.6
Clerical, sales	5.0	2.9	6.6	11.2	10.9	12.0	6.9	11.2
Clerical & rel. workers	1.1	0.5	4.0	5.9	3.4	3.2	1.3	1.0
Working prop., traders	.5	.3	.8	1.4	3.3	3.3	2.7	3.8
Salesmen & related workers	3.4	2.1	1.8	3.9	4.2	5.5	2.9	6.4
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	11.4	4.9	14.3	7.1	3.6	6.2	3.2	3.5
Tailors, sewers, etc.	8.3	3.3	11.0	5.2	2.8	5.0	1.7	2.7
All others	3.1	1.6	3.3	1.9	0.8	1.2	1.5	0.8
Service, sports	37.2	8.9	15.4	8.3	11.1	6.1	13.2	4.1
Housekeepers, cooks, maids	37.2	8.9	15.3	8.2	10.9	6.0	13.2	3.9
All others	0.0	0.0	0.1	0.1	0.2	0.1	-	.2
Other Occupation	0.1	0.9	1.7	3.7	1.1	1.5	1.7	1.3
All Gainful Occupations	53.9	17.8	42.2	35.9	36.9	35.2	28.3	25.5
Non-Gainful Occupations	46.1	82.2	57.8	64.1	63.1	64.8	71.7	74.5
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	11,896	104,024	24,152	169,808	8,656	110,676	8,436	184,044

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20e
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

SOUTHERN TAGALOG	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.4	0.1	4.8	5.9	11.3	13.4	5.0	1.8
Professors & teachers	0.0	0.0	1.7	2.6	6.6	11.2	2.4	0.3
All others	0.4	0.1	3.1	3.3	4.7	2.2	2.6	1.5
Clerical, sales	2.2	2.5	7.8	11.8	10.7	13.4	0.8	12.2
Clerical & rel. workers	0.4	0.6	4.8	6.8	6.3	4.5	3.1	1.4
Working prop., traders	0.1	0.2	0.9	1.3	1.6	3.0	2.5	4.0
Salesmen & related workers	1.7	1.7	2.1	3.7	2.8	5.9	4.2	6.8
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	6.9	5.5	8.9	9.8	8.0	7.9	3.6	5.3
Tailors, sewers, etc.	3.9	3.0	4.8	5.4	5.0	5.4	2.2	3.4
All others	3.0	2.5	4.1	4.4	3.0	2.5	1.4	1.9
Service, sports	31.3	8.4	12.2	5.1	7.0	4.3	7.1	3.9
Housekeepers, cooks, maids	31.3	8.4	12.0	5.0	6.9	4.1	6.8	3.7
All others	0.0	0.0	0.2	0.1	0.1	0.2	0.3	0.2
Other Occupation	0.9	0.9	2.0	2.5	0.6	1.4	1.4	6.4
All Gainful Occupations	41.7	17.4	35.7	35.1	37.6	40.4	26.9	29.6
Non-Gainful Occupations	58.3	82.6	64.3	64.9	62.4	59.6	73.1	70.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	16,880	115,200	32,540	180,656	16,868	119,948	16,164	204,708

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20f
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

BICOL	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.5	0.2	6.5	6.7	14.8	19.5	10.2	9.7
Professors & teachers	0.0	0.0	2.1	3.5	9.0	16.6	5.2	8.2
All others	.5	0.2	4.4	3.2	5.8	2.9	5.0	1.5
Clerical, sales	2.4	1.3	9.0	10.7	15.1	9.9	7.4	8.1
Clerical & rel. workers	0.0	0.4	4.4	5.7	5.2	3.3	2.5	1.5
Working prop., traders	0.0	.1	.7	1.0	6.2	2.1	1.3	2.6
Salesmen & related workers	2.4	.8	3.9	4.0	3.7	4.5	3.6	4.0
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	1.6	1.5	1.7	3.1	2.2	3.2	3.1	2.3
Tailors, sewers, etc.	.5	.3	1.4	1.5	.8	1.9	1.9	1.4
All others	1.1	1.2	.3	1.6	1.4	1.3	1.2	0.9
Service, sports	35.3	12.4	10.3	6.0	6.5	4.3	7.1	4.4
Housekeepers, cooks, maids	35.3	12.4	10.3	6.0	5.8	4.0	6.5	3.9
All others	.0	.0	.0	.0	.7	.3	.6	.5
Other Occupation	0.0	.7	.8	2.2	.7	.8	0.1	1.5
All Gainful Occupations	39.8	16.1	28.3	28.7	39.3	37.7	27.9	26.0
Non-Gainful Occupations	60.2	83.9	7.7	71.3	60.7	62.3	72.1	74.0
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	4,112	43,296	6,084	52,444	2,904	37,728	3,384	76,964

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20g
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

WESTERN VISAYAS	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.0	0.0	6.1	6.1	11.6	15.2	7.3	8.7
Professors & teachers	0.0	0.0	3.2	2.6	10.0	13.1	6.4	6.9
All others	0.0	0.0	2.9	3.5	1.6	2.1	0.9	1.8
Clerical, sales	1.9	1.8	10.8	11.7	12.3	12.4	8.4	9.6
Clerical & rel. workers	0.3	0.3	6.6	6.9	5.3	4.8	1.7	1.5
Working prop., traders	0.5	0.1	1.3	1.0	2.6	2.7	1.3	3.1
Salesmen & related workers	1.1	1.4	2.9	3.8	4.4	4.9	5.4	5.0
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	0.6	0.4	0.8	2.1	1.4	3.1	2.5	2.9
Tailors, sewers, etc.	.3	.1	.6	1.3	1.4	2.2	1.9	2.0
All others	.3	.3	.2	.8	0.0	.9	0.6	0.9
Service, sports	47.3	14.0	21.4	9.7	9.2	7.7	14.3	5.5
Housekeepers, cooks, maids	47.3	14.0	21.4	9.6	9.2	7.3	13.6	5.0
All others	0.0	0.0	0.0	0.1	0.0	0.4	.7	.5
Other Occupation	0.7	1.6	0.9	3.9	0.6	2.0	1.2	2.5
All Gainful Occupations	50.5	17.8	40.0	33.5	35.1	40.4	33.7	29.2
Non-Gainful Occupations	49.5	82.2	60.0	66.5	64.9	59.6	66.3	70.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	7,524	71,960	12,036	105,548	5,260	70,724	5,976	136,772

TABLE 20h
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

CENTRAL VISAYAS	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.3	0.2	5.0	5.1	14.3	13.6	8.5	8.7
Professors & teachers	0.0	0.1	1.4	2.0	11.1	10.1	5.0	6.7
All others	.3	.1	3.6	3.1	3.2	3.5	3.5	2.0
Clerical, sales	2.8	3.7	10.1	13.1	17.7	13.4	9.9	12.2
Clerical & rel. workers	0.4	0.6	5.8	6.5	6.2	4.5	2.2	1.9
Working prop., traders	0.0	0.1	1.1	1.0	2.7	2.0	2.1	3.1
Salesmen & related workers	2.4	3.0	3.2	5.6	8.8	6.9	5.6	7.2
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	3.6	4.7	5.4	4.7	3.5	6.0	4.8	3.9
Tailors, sewers, etc.	0.0	0.6	0.9	1.1	1.4	2.4	1.9	1.7
All others	3.6	4.1	4.5	3.6	2.1	3.6	2.9	2.2
Service, sports	47.6	13.0	19.9	8.5	10.4	5.3	12.6	4.9
Housekeepers, cooks, maids	47.6	13.0	19.8	8.3	9.7	4.9	11.9	4.6
All others	0.0	0.0	0.1	0.2	0.7	0.4	.7	0.3
Other Occupation	.2	1.7	.4	3.4	0.4	1.9	1.0	4.6
All Gainful Occupations	54.5	23.3	40.8	34.8	46.3	40.2	35.7	34.3
Non-Gainful Occupations	45.5	76.7	59.2	65.2	53.7	59.8	64.3	65.7
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	9,072	63,916	16,156	102,620	6,212	65,840	6,032	120,616

Source: NSO, 1980 Census of Population, unpublished tabulations

TABLE 20i
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation And by Age: 1980

EASTERN VISAYAS	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.0	0.2	7.9	7.6	13.4	17.3	6.6	9.8
Professors & teachers	0.0	0.0	2.6	3.8	11.0	15.1	5.8	8.7
All others	0.0	0.2	5.3	3.8	2.4	2.2	.8	1.1
Clerical, sales	2.0	2.3	6.6	10.0	8.4	8.0	6.9	7.3
Clerical & rel. workers	.7	.2	4.0	6.0	3.2	3.0	1.5	1.4
Working prop., traders	0.0	.1	0.0	.7	2.0	1.9	-	2.9
Salesmen & related workers	1.3	2.0	2.6	3.3	3.2	3.1	5.4	3.0
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	1.4	0.3	0.0	1.3	0.0	2.1	1.5	2.5
Tailors, sewers, etc.	1.4	0.3	0.0	1.0	0.0	1.0	1.5	1.1
All others	41.3	13.4	10.8	7.6	8.8	3.7	4.5	3.5
Service, sports								

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20j
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

WESTERN MINDANAO	15 to 19		20 to 29		30 to 39		40+	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.0	0.2	8.5	6.1	10.1	14.9	13.7	10.8
Professors & teachers	0.0	0.1	2.6	3.3	10.1	13.0	10.4	9.5
All others	0.0	0.1	5.9	2.8	0.0	1.9	3.3	1.3
Clerical, sales	4.5	2.0	10.7	8.5	7.6	10.3	11.3	9.5
Clerical & rel. workers	0.0	0.5	2.7	4.2	1.2	3.3	0.0	1.3
Working prop., traders	0.0	0.1	1.6	0.8	2.8	3.3	1.3	3.1
Salesmen & related workers	4.5	1.4	6.4	3.5	3.6	3.7	10.0	5.1
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	1.8	1.0	0.7	1.7	0.0	2.4	0.0	2.0
Tailor, sewers, etc.	1.0	0.3	0.0	0.8	0.0	1.4	0.0	1.2
All others	0.8	0.7	0.7	0.9	0.0	1.0	0.0	0.8
Service, sports	31.3	12.0	8.9	7.1	5.3	3.1	7.3	2.8
Housekeepers, cooks, maids	31.3	12.0	8.3	6.8	5.3	2.5	7.3	2.8
All others	0.0	0.0	0.6	0.3	0.0	0.6	0.0	0.4
Other Occupation	0.0	1.4	.6	2.1	0.0	1.6	0.0	3.0
All Gainful Occupations	37.6	16.6	29.4	25.5	23.0	32.3	32.3	28.1
Non-Gainful Occupations	62.4	83.4	70.6	74.5	77.0	67.7	67.7	71.9
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	1,968	25,916	4,416	38,168	1,984	23,084	1,808	32,356

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 20k
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1960

NORTHERN MINDANAO	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.6	0.1	4.8	6.3	10.4	14.7	7.0	8.8
Professors & teachers	0.0	0.0	1.7	3.3	8.5	12.3	5.7	7.0
All others	0.6	0.1	3.1	3.0	1.9	2.4	1.3	1.8
Clerical, sales	6.6	2.3	11.0	11.5	11.0	12.4	7.6	10.2
Clerical & rel. workers	1.0	0.4	5.7	6.6	4.5	4.8	0.8	0.9
Working prop., traders	0.0	0.1	0.8	1.6	2.2	3.0	2.4	3.7
Salesmen & related workers	5.6	1.8	4.5	3.5	4.3	4.6	4.4	5.6
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	0.9	0.6	3.6	1.4	2.3	3.1	3.7	2.3
Tailors, sewers, etc.	0.0	0.0	1.4	0.4	2.3	1.8	2.5	1.3
All others	0.9	0.6	2.2	1.0	0.0	1.3	1.2	1.0
Service, sports	25.1	12.1	10.9	8.1	5.0	3.6	7.2	2.9
Housekeepers, cooks, maids	25.1	12.1	10.9	7.9	5.0	3.4	6.5	2.7
All other	0.0	0.0	0.0	0.2	0.0	0.2	.7	.2
Other Occupation	1.6	1.2	2.4	2.3	2.2	1.2	3.0	3.6
All Gainful Occupations	35.0	16.3	32.7	29.6	30.9	35.0	28.5	27.8
Non-Gainful Occupations	65.0	83.7	67.3	70.4	69.1	65.0	71.5	72.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	8,400	41,948	13,280	57,664	5,552	36,280	5,444	55,816

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 201
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

SOUTHERN MINDANAO	15 to 19 Migrant	15 to 19 Non- Migrant	20 to 29 Migrant	20 to 29 Non- Migrant	30 to 39 Migrant	30 to 39 Non- Migrant	40 + Migrant	40 + Non- Migrant
Professional and technical, administrative	0.2	0.1	6.4	4.7	13.1	12.1	5.7	7.9
Professors & teachers	0.0	0.0	2.6	2.2	11.5	10.0	4.0	6.5
All others	0.2	0.1	3.8	2.5	1.6	2.1	1.7	1.4
Clerical, sales	4.4	2.8	10.4	12.1	9.7	11.3	7.9	9.5
Clerical & rel. workers	0.8	0.4	5.5	7.0	3.6	4.3	1.3	1.4
Working prop., traders	0.2	0.2	1.3	1.3	1.5	3.0	2.6	3.2
Salesmen & related workers	3.4	2.2	3.6	3.8	4.6	4.0	4.0	4.9
All others	-	-	-	-	-	-	-	-
Craftsmen, production process and related labour	1.3	0.6	2.8	2.8	1.5	2.6	1.5	2.2
Tailors, sewers, etc.	0.0	0.1	0.3	0.9	0.9	1.6	1.0	1.6
All others	1.3	0.5	2.5	1.9	0.6	1.0	.5	.6
Service, sports	27.4	13.8	9.0	7.0	5.1	3.5	4.6	2.9
Housekeepers, cooks, maids	27.4	13.8	8.9	6.9	4.8	3.2	4.3	2.4
All others	0.0	0.0	0.1	0.1	0.3	0.3	.3	.5
Other Occupation	2.7	1.5	3.0	2.7	2.1	1.1	2.2	2.5
All Gainful Occupations	36.0	18.8	31.6	29.3	31.5	30.6	21.9	25.0
Non-Gainful Occupations	64.0	81.2	68.4	70.7	68.5	69.4	78.1	75.0
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	8,680	61,708	17,248	97,768	7,196	56,376	7,864	73,540

Source: NSO, 1980 Census of Population, unpublished tabulations

TABLE 20m
Distribution of Urban Female Migrants and Non-Migrants
by Usual Occupation and by Age: 1980

CENTRAL MINDANAO	15 to 19		20 to 29		30 to 39		40 +	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	0.0	0.2	7.1	7.4	15.5	13.7	9.3	9.2
Professors & teachers	0.0	0.0	2.8	5.2	11.8	11.7	6.2	7.6
All others	0.0	0.2	4.3	2.2	3.7	2.0	3.2	1.6
Clerical, sales	3.9	2.0	10.0	9.7	5.8	8.2	5.6	8.7
Clerical & rel. workers	0.6	0.4	5.7	5.6	0.0	2.6	0.0	1.4
Working prop., traders	1.1	0.3	0.8	1.3	2.9	2.5	3.6	4.4
Salesmen & related workers	2.2	1.3	3.5	2.8	2.9	3.1	2.0	2.9
All others	-	-	-	-	-	-	-	-
Craftsmen, production processes and related labour	0.0	0.7	1.7	1.1	1.0	3.8	0.0	2.4
Tailors, sewers, etc.	0.0	0.1	0.4	0.4	1.0	1.6	0.0	1.6
All others	0.0	0.6	1.3	0.7	0.0	2.2	0.0	0.8
Service, sports	33.3	7.3	11.4	5.1	6.2	2.3	5.5	2.3
Housekeepers, cooks, maids	33.3	7.3	11.4	4.9	6.2	2.3	4.1	1.8
All others	0.0	0.0	0.0	0.2	0.0	0.0	1.4	.5
Other Occupation	0.6	1.0	0.4	0.8	2.4	1.1	3.0	1.8
All Gainful Occupations	37.8	11.2	30.6	24.1	30.9	29.1	23.4	24.4
Non-Gainful Occupations	62.2	88.8	69.4	75.9	69.1	70.9	76.6	75.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	2,668	24,432	5,776	35,584	2,072	21,924	2,020	28,560

Source: NSO, 1980 Census of Population, unpublished tabulations.

The proportion of all female migrants aged 20-29 who were in the service occupations ranged from 8-21 percent, with the NCR, Western and Central Visayas once more leading all other regions. In fact, an examination of the data for ages 30-39 and 40 + points to these three regions known for their prominent cities as the same areas where female migrants ended up as service workers.

Thus, the bulk of very young female urban female migrants were working in the service sector. But the service sector was also a major source of employment even among migrants in their twenties and remained dominant as a major employer albeit to a lesser degree of older female migrants.

In contrast, greater proportions of non-migrant women were in the white-collar categories, either as clerical/sales or as professional/ administrative workers. There were a few instances, however, where the professional/sector was more open to female migrants. The percentage of female migrants aged 30+ in Metro Manila who were registered in the broad category of professional/technical/administrative nearly matched the corresponding level among all non-migrants. Urban female migrants in their thirties in certain regions (Cagayan Valley, Central Luzon, Central Visayas as and Southern Mindanao) and older female migrants (ages 40+) of the NCR and in some regions (like the more urbanized Central Visayas and Southern Tagalog, and Western Mindanao which is an LUR region) appeared to be relatively successful as they landed jobs as professors or teachers.

3.2 Occupational Structure by Marital Status

Table 21 examines the occupational distribution of single, married and widowed/divorced/separated women across the regions. It is clear that the high work participation rates of single urban female migrants in the country were mostly due to the large segments who were service workers. Tables 21a - 21m indicate that it is in Metro Manila, as well as in the more urbanized regions of Central Luzon, Western and Central Visayas and to a certain extent in Eastern Visayas where at least 41 percent of all single female migrants worked in the personal services category. Once again, the NCR deserves mention because of the large numbers of migrants involved. Of the 180,000 single female migrants in the 1980, over 42 percent were service/sports workers, most of which are the "low" personal service categories as domestic helpers or in the other service categories. Although their female migrants pale in comparison to those of the NCR's, Western and Central Visayas came out with close to half of all single female migrants in the same occupational category. But we should not also ignore the fact that in the remaining eight regions between 28-37 percent of single female migrants also belonged to the service sector, levels considerably higher than what migrant women in the other marital status categories registered in the same occupational group.

TABLE 21
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status, 1980

PHILIPPINES	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional & technical, administrative	4.4	5.9	7.2	8.0	3.1	3.7
Professor & teachers	1.3	2.9	4.1	5.6	1.4	2.6
All others	3.1	3.0	3.1	2.4	1.7	1.1
Clerical, sales	8.8	10.6	9.6	10.2	10.4	12.5
Clerical workers	5.2	6.0	5.1	3.8	2.0	1.6
Working proprietors, traders	.6	1.4	2.1	3.2	3.9	5.4
Salesmen and related workers	3.0	3.2	2.4	3.2	4.5	5.5
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	7.2	5.8	4.6	4.0	4.1	5.2
Tailors, sewers, etc.	2.9	2.5	2.1	2.1	2.1	3.0
All others	4.3	3.3	2.5	1.9	2.0	2.2
Service, sports	40.2	14.2	3.4	2.3	17.0	8.6
Housekeepers, cooks, maids	40.0	14.2	3.4	2.3	17.0	8.6
All others	.2	.1	.2	.0	.0	.0
Other Occupations	2.1	3.3	.6	.9	3.0	4.3
ALL GAINFUL OCCUPATIONS	62.7	39.8	25.4	25.4	37.6	34.3
NON-GAINFUL OCCUPATIONS	37.3	60.2	74.6	74.6	62.4	65.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	308,732	1,819,524	387,280	2,810,848	41,160	409,792

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21a

**Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980**

NATIONAL CAPITAL REGION	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional & technical, administrative	4.5	6.8	7.4	6.9	4.0	3.5
Professor & teachers	1.1	2.3	3.5	3.6	1.5	1.6
All others	3.4	4.5	3.9	3.3	2.5	1.9
Clerical, sales	9.5	13.1	11.4	12.4	9.6	14.1
Clerical workers	6.2	9.1	7.1	6.2	2.0	3.1
Working proprietors, traders	.3	.5	.9	1.5	2.2	2.7
Salesmen and related workers	3.0	3.5	3.4	4.7	5.4	8.3
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	7.8	7.4	5.8	5.6	4.8	6.9
Tailors, sewers, etc.	2.8	2.9	2.6	2.9	2.6	4.3
All others	5.0	4.5	3.2	2.7	2.2	2.6
Service, sports	42.4	16.6	3.7	3.4	17.7	11.8
Housekeepers, cooks, maids	42.3	16.5	3.5	3.2	17.2	11.3
All others	.1	.1	.2	.2	.5	.5
Other Occupations	1.8	2.7	.3	.3	.8	1.2
ALL GAINFUL OCCUPATIONS	66.0	46.6	28.6	28.6	36.9	37.5
NON-GAINFUL OCCUPATIONS	34.0	53.4	71.4	71.4	63.1	62.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	180,440	642,676	185,100	902,784	20,448	118,036

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21b
Distribution of Urban Female Migrants and Non-Migrant
by Occupation and by Marital Status: 1980

ILOCOS	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional & technical, administrative	5.3	7.0	10.5	9.4	2.4	4.0
Professor & teachers	1.9	4.6	6.4	7.5	2.4	3.1
All others	3.4	2.4	4.1	1.9	.0	.9
Clerical, sales	7.8	9.1	10.8	9.4	12.4	9.3
Clerical workers	3.2	4.2	3.8	2.7	2.4	.5
Working proprietors, traders	1.0	.9	1.5	1.6	2.4	1.7
Salesmen and related workers	3.6	4.0	5.5	5.1	7.6	7.1
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	1.3	2.9	1.6	2.7	5.8	4.6
Tailors, sewers, etc.	.6	.7	.5	1.2	2.9	2.3
All others	.7	2.2	1.1	1.5	2.9	2.3
Service, sports	35.7	10.7	1.5	2.1	2.9	2.3
Housekeeper, cooks, maids	35.7	10.6	1.5	2.0	5.2	4.1
All others	0.0	.1	0.0	.1	0.0	.1
Other Occupations	2.3	2.9	0.2	1.1	0.0	2.2
ALL GAINFUL OCCUPATIONS	52.4	32.6	24.6	24.7	25.8	25.3
NON-GAINFUL OCCUPATIONS	47.6	67.4	75.4	75.3	74.2	75.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	6,416	95,720	9,396	136,020	836	26,708

Source: NSO, 1980 Census of Population, unpublished tabulation.

TABLE 21c

**Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980**

CAGAYAN VALLEY	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	6.5	6.3	13.3	10.3	3.9	3.9
Professor & teachers	3.9	3.1	9.2	8.4	3.9	2.6
All others	2.6	3.2	4.1	1.9	0.0	1.3
Clerical, sales	10.1	9.1	11.0	9.1	7.8	8.5
Clerical workers	5.7	4.0	4.1	3.1	3.9	0.4
Working proprietors, traders	0.0	.9	3.9	2.1	0.0	3.2
Salesmen and related workers	4.4	4.2	3.0	3.9	3.9	4.9
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	0.0	2.0	.8	1.6	0.0	2.3
Tailors, sewers, etc.	0.0	1.3	.0	.8	0.0	1.1
All others						
Service, sports	32.6	12.0	3.4	1.7	21.1	9.7
All others	0.0	0.0	.4	.4	12.5	0.4
Other Occupations	0.0	3.6	.5	1.6	0.0	5.8
ALL GAINFUL OCCUPATIONS	49.2	33.0	29.0	24.3	32.8	30.2
NON-GAINFUL OCCUPATIONS	50.8	67.0	71.0	75.7	67.2	69.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	2,892	32,116	4,848	56,028	512	9,156

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21d

Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980

CENTRAL LUZON	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional & technical, administrative	3.0	6.9	5.0	5.9	1.3	2.2
Professor & teachers	1.5	2.5	3.4	4.3	.7	1.6
All others	1.5	2.4	1.6	1.6	.6	.6
Clerical, sales	6.9	9.9	6.8	9.4	8.5	12.4
Clerical workers	3.3	4.6	2.6	2.0	2.1	.9
Working proprietors, traders	.7	1.2	1.9	2.7	1.3	4.2
Salesmen and related workers	2.9	4.1	2.3	4.7	5.1	7.3
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	18.7	8.4	5.7	3.8	2.6	4.2
Tailors, sewers, etc.	14.6	6.1	3.9	2.9	1.9	3.2
All others	4.1	2.3	1.8	.9	0.7	1.0
Service, sports	40.2	12.7	5.6	2.6	24.0	8.5
Housekeeper, cooks, maids	40.2	12.7	5.6	2.6	24.0	8.5
All others	0.0	0.1	0.1	0.1	—	0.3
Other Occupations	2.7	4.2	0.4	0.6	1.8	2.5
ALL GAINFUL OCCUPATIONS	71.5	40.2	23.6	22.4	38.2	30.1
NON-GAINFUL OCCUPATIONS	28.5	59.8	76.4	77.6	61.8	69.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	19,108	191,812	30,536	327,356	3,320	48,844

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21e

**Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980**

SOUTHERN TAGALOG	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional & technical, administrative	3.3	5.6	6.5	7.5	2.8	3.0
Professor & teachers	1.3	3.1	3.2	5.9	.9	2.0
All others	2.0	2.5	3.3	1.6	1.9	1.0
Clerical, sales	6.8	9.6	7.7	10.5	10.8	13.4
Clerical workers	3.9	4.8	4.0	3.0	2.5	1.0
Working proprietors, traders	.9	1.3	1.1	2.6	3.4	4.2
Salesmen and related workers	2.0	3.5	2.6	4.9	4.9	8.2
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	11.4	9.4	5.5	6.0	5.6	6.7
Tailors, sewers, etc.	6.2	5.0	3.3	3.8	2.8	4.8
All others	5.3	4.4	2.2	2.2	2.8	1.9
Service, sports	34.6	9.4	3.7	2.2	16.0	8.3
Housekeeper, cooks, maids	34.5	9.3	3.5	2.1	15.5	8.0
All others	.1	.1	.2	.1	.5	.3
Other Occupations	2.9	3.1	.5	.8	1.9	3.1
ALL GAINFUL OCCUPATIONS	59.0	37.1	23.9	27.0	37.1	34.5
NON-GAINFUL OCCUPATIONS	41.0	62.9	76.1	73.0	62.9	65.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	25,504	204,156	51,600	358,420	74,264	57,576

Source: NSO, 1980 Census of Population, unpublished tabulations.

Table 21f
Distribution of Urban Female Migrants And Non-Migrants by Occupation
And by Marital Status: 1980

BICOL	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	4.8	6.6	9.1	10.8	0.0	4.0
Professor & teachers	1.1	4.3	5.4	8.9	0.0	3.8
All others	3.7	2.3	3.7	1.9	0.0	.2
Clerical, sales	7.9	7.8	7.0	7.4	18.7	9.0
Clerical workers	2.8	4.0	2.9	2.1	5.9	0.8
Working proprietors, traders	.3	.9	1.8	1.9	7.7	2.5
Salesmen and related workers	4.8	2.9	2.3	3.4	5.1	5.7
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	2.1	2.6	1.9	2.5	2.2	3.1
Tailors, sewers, etc.	.7	1.0	1.2	1.5	2.2	1.3
All others	1.4	1.6	.7	1.0	0.0	1.8
Service, sports	32.6	12.3	2.2	2.1	22.7	7.8
Housekeeper, cooks, maids	32.3	12.3	2.2	2.1	22.7	7.8
All others	.3	0.0	.2	.3	0.0	0.6
Other Occupations	0.3	2.1	.8	.5	2.2	4.0
ALL GAINFUL OCCUPATIONS	47.7	31.4	31.2	23.6	45.8	28.5
NON-GAINFUL OCCUPATIONS	52.3	68.6	78.8	76.4	54.2	71.5
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	6,200	73,604	9,108	117,224	1,092	19,460

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21g

**Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980**

WESTERN VISAYAS	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	3.7	6.6	8.2	8.9	1.0	4.0
Professor & teachers	2.3	4.2	6.3	7.1	1.0	2.6
All others	1.4	2.4	1.9	1.8	0.0	1.4
Clerical, sales	8.8	9.0	8.5	9.0	6.1	11.3
Clerical workers	4.7	4.3	3.8	3.1	0.0	0.9
Working proprietors, traders	1.3	1.1	1.5	2.1	0.8	4.0
Salesmen and related workers	2.8	3.6	3.2	3.8	5.3	6.4
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	.9	2.4	1.2	2.1	2.6	3.4
Tailors, sewers, etc.	.6	1.5	1.0	1.5	2.6	1.8
All others	.3	.9	.2	.6	0.0	1.6
Service, sports	46.4	15.8	4.8	3.0	25.8	9.8
Housekeeper, cooks, maids	46.4	15.8	4.5	2.6	25.8	9.4
All others	0.0	.1	.3	.4	0.0	.4
Other Occupations	1.1	4.0	.4	1.0	2.6	5.3
ALL GAINFUL OCCUPATIONS	60.9	37.9	23.1	24.0	38.1	33.8
NON-GAINFUL OCCUPATIONS	39.1	62.1	76.9	76.0	61.9	66.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	13,340	146,788	15,200	201,240	2,028	36,416

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21h

**Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980**

CENTRAL VISAYAS	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	3.9	5.1	8.0	8.6	3.7	5.0
Professor & teachers	1.2	2.8	5.2	6.2	1.3	3.5
All others	2.7	2.3	2.8	2.4	2.4	1.5
Clerical, sales	8.2	11.0	10.3	10.8	11.7	13.7
Clerical workers	4.0	4.5	4.2	3.3	2.2	1.0
Working proprietors, traders	.7	1.1	1.9	1.9	0.0	3.7
Salesmen and related workers	3.5	5.6	4.2	5.6	9.5	9.0
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	4.4	5.9	4.8	3.8	3.6	4.8
Tailors, sewers, etc.	.3	1.4	1.6	1.5	0.0	1.5
All others	4.1	4.5	3.2	2.3	3.6	3.3
Service, sports	47.6	15.4	3.9	2.3	21.4	8.5
Housekeeper, cooks, maids	47.6	15.4	3.3	2.0	21.4	7.8
All others	0.0	0.0	0.6	0.3	0.0	0.7
Other Occupations	0.5	4.1	0.1	2.0	0.0	7.3
ALL GAINFUL OCCUPATIONS	64.6	41.5	27.1	27.5	40.4	39.3
NON-GAINFUL OCCUPATIONS	35.4	58.5	72.9	72.5	59.6	60.7
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	16,328	125,528	19,144	196,976	1,812	30,140

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21i
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980

EASTERN VISAYAS	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	3.6	6.6	8.5	10.6	2.7	4.8
Professor & teachers	1.2	4.1	6.0	9.0	2.7	4.2
All others	2.4	2.5	2.5	1.6	0.0	0.6
Clerical, sales	3.4	8.2	7.2	6.1	2.7	8.4
Clerical workers	0.6	4.4	3.3	2.2	2.7	0.6
Working proprietors, traders	0.0	0.7	0.6	1.7	0.0	4.2
Salesmen and related workers	2.8	3.7	3.3	2.2	0.0	3.6
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	1.2	1.2	0.0	1.7	5.4	3.3
Tailors, sewers, etc.	0.0	0.5	0.0	0.7	2.7	2.1
All others	1.2	0.7	0.0	1.0	2.7	1.2
Service, sports	40.7	14.3	5.0	1.8	12.0	7.7
Housekeepers, cooks, maids	40.7	14.2	5.0	1.6	12.0	7.2
All others	0.0	0.1	0.0	0.2	0.0	0.5
Other Occupations	0.5	2.6	2.0	0.9	2.7	8.8
ALL GAINFUL OCCUPATIONS	49.4	32.9	22.7	21.1	25.5	33.0
NON-GAINFUL OCCUPATIONS	50.6	67.1	77.3	78.9	74.5	67.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	3,424	57,948	6,864	99,472	736	17,300

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21j
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980

WESTERN MINDANAO	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	7.3	4.6	9.6	10.0	0.0	5.6
Professor & teachers	1.2	2.6	7.8	8.4	0.0	5.2
All others	6.1	2.0	1.8	1.6	0.0	0.4
Clerical, sales	9.7	7.1	6.2	7.4	29.0	12.6
Clerical workers	2.4	3.3	1.0	2.1	0.0	1.1
Working proprietors, traders	0.0	0.8	1.7	2.0	7.0	4.4
Salesmen and related workers	7.3	3.0	3.5	3.3	22.0	7.1
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	1.6	1.5	0.0	1.7	1.7	3.7
Tailors, sewers, etc.	0.6	0.5	0.0	1.0	0.0	2.1
All others	1.0	1.0	0.0	0.7	1.7	1.6
Service, sports	31.0	13.8	2.1	1.6	5.9	5.2
Housekeeper, cooks, maids	31.0	13.7	1.7	1.4	5.9	4.5
All others	0.0	0.1	0.4	0.2	0.0	0.7
Other Occupations	0.5	2.4	0.0	1.0	0.0	9.9
All Gainful Occupations	50.1	29.4	17.9	21.7	36.6	37.0
Non-Gainful Occupations	49.9	70.6	82.1	78.3	63.4	63.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	3,472	40,848	5,960	69,096	744	9,496

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21k
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980

NORTHERN MINDANAO	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	3.5	4.8	6.2	9.0	4.1	6.0
Professor & teachers	1.1	2.9	4.5	7.0	3.0	5.1
All others	2.4	1.9	1.7	2.0	1.1	0.9
Clerical, sales	11.6	7.7	7.4	9.7	11.6	13.8
Clerical workers	4.7	3.9	2.8	3.0	1.4	1.7
Working proprietors, traders	.1	.8	1.7	2.5	2.5	5.0
Salesmen and related workers	6.8	3.0	2.9	4.2	7.7	7.1
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	2.7	1.4	2.8	2.0	2.8	2.7
Tailors, sewers, etc.	.8	.4	1.8	1.0	1.4	1.6
All others	1.9	1.0	1.0	1.0	1.4	1.1
Service, sports	28.1	14.5	1.5	1.7	17.4	6.2
Housekeeper, cooks, maids	28.1	14.4	1.4	1.5	16.3	6.1
All others	0.0	0.1	0.1	0.2	1.1	0.1
Other Occupations	3.6	2.6	0.7	1.3	10.4	7.6
All Gainful Occupations	49.5	31.0	18.6	23.7	46.3	36.3
Non-Gainful Occupations	50.5	69.0	81.4	76.3	53.7	63.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	13,060	69,700	17,844	109,164	1,452	12,804

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 211
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980

SOUTHERN MINDANAO	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	5.1	4.7	7.0	6.9	2.6	4.7
Professor & teachers	2.7	2.5	4.8	5.5	1.6	3.4
All others	2.4	2.2	2.2	1.4	1.0	1.3
Clerical, sales	10.1	10.0	7.1	8.4	13.2	13.8
Clerical workers	5.0	5.1	2.6	2.9	1.7	1.6
Working proprietors, traders	0.0	0.6	2.0	2.4	1.7	4.3
Salesmen and related workers	5.1	4.3	2.5	3.1	9.8	7.9
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	3.5	2.7	1.1	1.6	2.5	4.0
Tailors, sewers, etc.	.3	0.9	.6	1.1	.8	1.7
All others	3.2	1.8	.5	0.5	1.7	2.3
Service, sports	27.9	15.3	1.4	1.7	14.4	6.9
Housekeeper, cooks, maids	27.9	15.2	1.3	1.4	12.7	6.4
All others	0.0	.1	.1	.3	1.7	.5
Other Occupations	4.4	3.1	1.0	.9	8.8	8.8
All Gainful Occupations	51.0	35.8	17.6	19.5	41.5	38.2
Non-Gainful Occupations	49.0	64.2	82.4	80.5	58.5	61.8
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	14,128	100,832	24,272	172,592	2,524	15,724

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 21m
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and by Marital Status: 1980

CENTRAL MINDANAO	Single		Married		Widowed	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical, administrative	4.7	4.7	9.2	9.3	1.3	6.0
Professor & teachers	2.5	3.1	5.5	7.7	1.3	5.6
All others	2.2	1.6	3.7	1.6	0.0	0.4
Clerical, sales	5.9	7.5	7.7	6.8	11.5	11.7
Clerical workers	2.7	3.7	3.0	2.4	0.0	1.3
Working proprietors, traders	0.6	0.9	1.7	2.5	8.3	4.7
Salesmen and related workers	2.6	2.9	3.0	1.9	3.2	5.7
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	0.8	1.8	0.8	1.4	3.2	5.9
Tailors, sewers, etc.	0.0	0.7	0.5	0.6	0.0	3.7
All others	0.8	1.1	0.3	0.8	3.2	2.2
Service, sports	37.3	9.8	1.9	1.0	0.0	4.2
Housekeeper, cooks, maids	37.3	9.6	1.5	0.8	0.0	3.9
All others	0.0	0.2	0.4	0.2	0.0	0.3
Other Occupations	0.5	2.0	0.5	0.5	16.7	5.5
All Gainful Occupations	49.2	25.8	20.1	19.0	32.7	33.3
Non-Gainful Occupations	50.8	74.2	79.9	81.0	67.3	66.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	4,420	37,796	7,408	64,476	624	8,132

Source: NSO, 1980 Census of Population, unpublished tabulations

The regional data on Tables 21a - 21m indicate that relatively large proportions of widowed migrant urban women were service workers except in Ilocos and Central Mindanao. One can conjecture on the age-mix of widows in the Ilocos and the ethnic configuration in Central Mindanao as the possible reasons of these divergence but these need more study.

Single female non-migrants who worked were likely to be clerical/sales workers. This broad occupational category was the major employer of non-migrant females across the regions, whether they were single, married or widowed.

3.3 Occupational Structure and Education

The data for urban areas in the entire country in 1980 showed that female migrants with college education had the highest WPRs followed by those with no schooling or only elementary education (Table 22). Those with high school background showed the lowest propensity to work, but it should be remembered that the WPRs of female migrants were much higher than levels registered by the non-migrants.

Regional occupational distributions by education are found in Tables 22a - 22m. Metro Manila, Western and Central Visayas -- three regions earlier identified as having large percentages of young or single women migrating to urban areas and working in service occupations -- also registered very high percentages who were service workers among those with elementary (over 41%) or high school (19-22%) education. Being the major destination area of female migrants, the NCR received 123,000 women who have had no schooling or only elementary education. More than two out of every five of these women ended up in service occupations. On the other hand, of the NCRs 135,000 female migrants with high school background, 22 percent was service workers.

The pattern among those with only elementary education is expected. However, there were regions where a substantially large segment of female migrants with high school education was in the service sector, even much larger than corresponding segments who were production/processing workers and laborers. Those with high school education in the NCR registered 22 percent in services compared to 11 percent in the production category and only 6 percent in clerical/sales occupations. The differences were even more pronounced in Western and Central Visayas where one-fifth of female migrants with high school background was service workers compared to only 8 percent in clerical/sales occupations and roughly around 5 percent who were production workers.

TABLE 22
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

PHILIPPINES	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.2	.4	.3	19.5	23.8
Professors & teachers	0.0	0.0	.0	.0	9.6	15.5
All others	0.0	0.2	.4	.3	9.9	8.3
Clerical, sales	4.2	7.6	6.6	7.9	19.2	18.3
Clerical & rel. workers	0.3	0.1	1.6	1.6	15.0	13.9
Working prop., traders	1.3	3.1	1.5	2.6	2.0	2.5
Salesmen & related workers	2.6	4.4	3.5	3.7	2.2	1.9
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	4.4	5.5	9.4	6.5	3.3	2.0
Tailors, sewers, etc.	2.2	2.9	4.3	3.2	.8	.8
All others	2.2	2.6	5.1	3.3	2.5	1.3
Service, sports	33.9	11.5	18.5	7.1	3.2	1.6
Housekeeper, cooks, maids	33.7	11.3	18.5	7.1	3.2	1.6
All others	0.2	.2	.2	.2	.2	.3
Other Occupations	1.2	2.0	.8	1.1	2.9	2.3
All Gainful Occupations	43.7	26.8	35.9	23.1	48.3	48.3
Non-Gainful Occupations	56.3	73.2	64.1	76.9	51.7	51.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	256,644	1,852,568	250,120	1,562,812	205,152	1,393,584

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22a
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

NATIONAL CAPITAL REGION	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.1	0.5	0.4	18.7	19.5
Professors & teachers	0.0	0.0	0.0	0.1	7.5	8.8
All others	0.0	0.1	0.5	0.3	11.2	10.7
Clerical, sales	3.7	7.2	6.4	8.4	22.3	22.8
Clerical & rel. workers	.3	.2	2.1	2.5	18.1	18.5
Working prop., traders	.5	1.3	.7	1.1	.8	1.3
Salesmen & related workers	2.9	5.7	3.6	4.8	3.4	3.0
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	4.8	7.0	11.1	9.4	4.0	3.1
Tailors, sewers, etc.	2.7	4.0	4.5	4.3	.8	.9
All others	2.1	3.0	6.6	5.2	3.2	2.2
Service, sports	41.6	17.6	22.1	8.6	3.3	1.8
Housekeepers, cooks, maids	41.1	17.4	21.8	8.3	3.1	1.6
All others	.2	.2	.3	.3	.2	.2
Other Occupations	0.8	.9	0.6	.9	1.8	1.9
All Gainful Occupations	50.9	32.8	40.7	27.7	50.1	49.1
Non-Gainful Occupations	49.1	67.2	59.3	72.3	49.9	50.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	123,020	475,796	134,796	601,060	117,212	550,220

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22b
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

ILOCOS	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.5	0.1	1.3	0.3	20.2	27.1
Professors & teachers	0.0	0.0	0.0	0.0	11.9	20.5
All others	0.5	0.1	1.3	0.3	8.3	6.6
Clerical, sales	5.1	8.5	10.5	7.3	13.9	13.4
Clerical & rel. workers	0.0	0.1	0.0	0.8	9.7	9.5
Working prop., traders	1.4	1.6	2.0	1.3	1.0	1.3
Salesmen & related workers	3.7	6.9	8.5	5.2	3.2	2.6
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	1.4	4.3	2.3	3.4	1.2	1.3
Tailors, sewers, etc.	0.0	1.3	1.1	1.9	.5	.5
All others	1.4	3.0	1.2	1.5	.7	.8
Service, sports	26.9	8.0	13.7	6.2	5.4	1.7
Housekeepers, cooks, maids	26.9	8.0	13.7	6.1	5.4	1.5
All others	0.0	0.0	0.0	0.1	0.0	0.2
Other Occupations	0.8	1.9	1.3	1.5	1.1	2.0
All Gainful Occupations	34.7	22.8	29.1	18.7	41.8	45.5
Non-Gainful Occupations	65.3	77.2	70.9	81.3	58.2	54.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	4,848	94,588	5,100	71,240	6,092	74,708

Source: NSO, 1989 Census of Population, unpublished tabulations.

TABLE 22c
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

CAGAYAN VALLEY	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.2	1.0	0.4	25.2	29.4
Professors & teachers	0.0	0.0	0.0	0.0	17.8	21.7
All others	0.0	0.2	1.0	0.4	7.4	7.7
Clerical, sales	9.2	6.7	3.0	6.8	18.5	15.8
Clerical & rel. workers	0.0	0.0	0.0	0.6	11.9	10.6
Working prop., traders	3.3	2.0	1.0	1.7	2.6	1.7
Salesmen & related workers	5.9	4.7	2.0	4.5	4.0	3.5
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	0.8	2.1	1.0	2.3	0.0	1.2
Tailors, sewers, etc.	.8	.6	1.0	1.5	0.0	.6
All others	0.0	1.5	0.0	0.8	0.0	.6
Service, sports	26.8	9.2	20.0	5.4	1.3	1.5
Housekeepers, cooks, maids	26.0	9.0	19.0	5.2	0.7	1.1
All others	.8	.2	1.0	0.2	0.6	0.4
Other Occupations	0.0	3.3	0.0	1.4	.7	1.3
All Gainful Occupations	36.8	21.5	25.0	16.3	45.7	49.2
Non-Gainful Occupations	63.2	78.5	75.0	83.7	54.3	50.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	2,524	38,548	2,036	27,236	3,240	26,808

Source: NSO, 1980 Census of Population, unpublished tabulations

TABLE 22d
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

CENTRAL LUZON	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Migrant	Non-Migrant	
Professional and technical administrative	.6	0.2	0.2	0.3	20.3	25.5
Professors & teachers	.2	0.0	0.0	0.0	13.2	17.1
All others	.4	0.2	0.2	0.3	7.1	8.4
Clerical, sales						
Clerical & rel. workers	.2	.1	1.8	1.4	10.8	11.6
Working prop., traders	1.6	2.7	1.1	2.0	2.0	2.1
Salesmen & related workers	2.2	5.8	3.7	4.2	2.4	2.8
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	5.4	6.6	17.7	6.5	6.4	1.5
Tailors, sewers, etc.	4.0	5.3	14.2	4.4	2.8	0.8
All others	1.4	1.3	3.5	2.1	3.6	0.7
Service, sports	26.9	8.4	17.6	7.4	5.1	1.5
Housekeepers, cooks, maids	26.8	8.2	17.5	7.2	5.1	1.4
All others	0.1	0.2	0.1	0.2	0.0	0.1
Other Occupations	1.3	1.9	1.1	1.6	1.5	2.6
All Gainful Occupations	38.2	25.7	43.2	23.4	48.5	47.6
Non-Gainful Occupations	61.8	74.3	56.8	76.6	51.5	52.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	21,028	274,376	20,340	155,456	10,040	114,172

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22e
Distribution of Urban Female Migrants and Non-Migrants
by Occupation And Education: 1980

SOUTHERN TAGALOG	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.2	0.3	0.3	23.8	27.4
Professors & teachers	0.0	0.0	0.0	0.0	11.5	20.0
All others	0.0	0.2	0.3	0.3	12.3	7.4
Clerical, sales	4.3	9.5	4.5	7.6	19.7	17.2
Clerical & rel. workers	.2	.1	1.0	1.5	16.0	13.0
Working prop., traders	1.1	2.9	1.3	2.1	1.3	1.7
Salesmen & related workers	3.0	6.5	2.2	4.0	2.4	2.5
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	6.6	8.6	10.7	9.2	4.0	2.1
Tailors, sewers, etc.	4.5	5.7	5.8	5.1	1.4	0.9
All others	2.1	2.9	4.9	4.1	2.6	1.2
Service, sports	22.0	7.1	11.0	4.8	3.4	1.3
Housekeepers, cooks, maids	21.9	7.0	10.8	4.6	3.0	1.1
All others	.1	.1	.2	.2	.4	.2
Other Occupations	1.2	1.7	1.1	1.4	1.5	2.1
All Gainful Occupations	34.1	27.1	27.6	23.3	52.4	50.1
Non-Gainful Occupations	65.9	72.9	72.4	76.7	47.6	49.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	33,168	273,584	28,548	176,224	17,816	142,288

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22f
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

BICOL	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.1	1.2	0.2	23.5	34.9
Professors & teachers	0.0	0.0	0.0	0.0	12.4	27.7
All others	0.0	0.1	1.2	.2	11.1	7.2
Clerical, sales	4.9	5.6	4.6	7.0	17.5	12.7
Clerical & rel. workers	.3	0.0	0.0	0.8	10.6	9.7
Working prop., traders	.4	1.6	2.3	2.1	2.6	1.1
Salesmen & related workers	4.2	4.0	2.3	4.1	4.3	1.9
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	2.1	3.6	4.1	2.5	0.0	0.8
Tailors, sewers, etc.	.7	1.8	2.9	1.7	0.0	0.3
All others	1.4	1.8	1.2	.8	0.0	0.5
Service, sports	31.4	9.9	10.5	5.4	0.9	1.1
Housekeepers, cooks, maids	31.0	9.5	10.5	5.2	0.4	1.0
All others	.4	.4	0.0	.2	0.5	.1
Other Occupations	.3	1.6	0.4	.8	.6	1.7
All Gainful Occupations	38.7	20.8	20.8	15.9	42.5	51.2
Non-Gainful Occupations	61.3	79.2	79.2	84.1	57.5	48.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	6,000	91,252	5,176	57,768	4,560	51,740

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22g
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

WESTERN VISAYAS	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.1	0.1	0.7	0.2	21.2	26.6
Professors & teachers	0.0	0.0	0.0	0.0	16.1	19.9
All others	0.1	0.1	0.7	0.2	5.1	6.7
Clerical, sales	3.3	7.0	7.7	7.0	17.6	15.4
Clerical & rel. workers	0.0	0.1	0.7	0.8	14.0	11.0
Working prop., traders	1.2	2.2	1.8	1.9	1.2	1.6
Salesmen & related workers	2.1	4.7	5.2	4.3	2.4	2.8
All others	-	-	-	-	-	-
Craftsmen, production process and related labour	1.4	2.6	1.7	2.9	0.3	1.3
Tailors, sewers, etc.	1.1	1.6	1.4	2.3	0.3	0.8
All others	0.3	1.0	0.3	0.6	0.0	0.5
Service, sports	41.9	13.4	19.1	8.4	3.3	1.9
Housekeepers, cooks, maids	41.6	13.1	18.9	8.1	3.3	1.7
All others	0.3	0.3	0.2	0.3	0.0	0.2
Other Occupations	0.6	3.4	0.2	1.3	1.6	2.5
All Gainful Occupations	47.3	26.5	29.4	19.8	44.0	47.7
Non-Gainful Occupations	52.7	73.5	70.6	80.2	56.0	52.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	12,316	144,404	9,080	115,368	7,992	107,736

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22h
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

CENTRAL VISAYAS	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.1	0.0	0.3	20.6	25.2
Professors & teachers	0.0	0.0	0.0	0.1	11.2	17.5
All others	0.0	0.1	0.0	0.2	9.4	7.7
Clerical, sales	4.9	8.7	8.2	9.5	17.9	17.6
Clerical & rel. workers	0.1	0.1	1.4	1.0	12.5	11.8
Working prop., traders	0.9	1.9	2.3	1.6	1.1	1.6
Salesmen & related workers	3.9	6.7	4.5	6.9	4.3	4.2
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	5.9	6.7	4.9	5.1	2.6	1.6
Tailors, sewers, etc.	0.1	1.8	1.7	2.5	1.7	0.4
All others	5.8	4.9	3.2	2.6	0.8	1.2
Service, sports	41.6	11.8	19.2	6.7	2.3	1.7
Housekeepers, cooks, maids	41.2	11.6	19.2	6.5	1.9	1.4
All others	0.4	0.2	0.0	0.2	0.4	0.3
Other Occupations	0.0	38	0.0	1.2	0.9	2.0
All Gainful Occupations	52.4	31.1	32.3	22.8	44.3	48.1
Non-Gainful Occupations	47.6	68.9	67.7	77.2	55.7	51.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	15,864	145,836	9,152	86,184	10,808	95,388

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22i
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

EASTERN VISAYAS	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.3	0.8	0.1	25.7	33.3
Professors & teachers	0.0	0.0	0.0	0.0	17.7	27.0
All others	0.0	0.3	0.8	0.1	8.0	6.3
Clerical, sales	3.4	4.5	5.6	6.8	11.5	12.6
Clerical & rel. workers	0.0	0.1	0.6	0.7	9.3	9.3
Working prop., traders	0.4	1.6	0.0	2.4	0.7	1.1
Salesmen & related workers	3.0	2.8	5.0	3.7	1.5	2.2
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	1.6	2.2	0.0	2.0	0.0	0.6
Tailors, sewers, etc.	0.4	1.0	0.0	1.1	0.0	0.3
All others	1.2	1.2	0.0	0.9	0.0	0.3
Service, sports	25.3	10.2	13.7	5.6	4.9	1.7
Housekeepers, cooks, maids	25.3	10.1	13.7	5.3	4.9	1.5
All others	0.0	0.1	0.0	0.3	0.0	0.2
Other Occupations	2.3	2.2	0.6	1.3	0.6	1.5
All Gainful Occupations	32.6	19.8	20.9	16.2	42.7	49.7
Non-Gainful Occupations	67.4	80.2	79.1	83.8	57.3	50.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	4,836	71,140	3,120	48,420	2,672	44,368

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22j
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

WESTERN MINDANAO	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.1	0.0	0.2	30.9	30.2
Professors & teachers	0.0	0.0	0.0	0.1	18.9	24.1
All others	0.0	0.1	0.0	0.1	12.0	6.1
Clerical, sales	6.4	6.9	11.9	6.2	10.5	12.2
Clerical & rel. workers	0.0	0.1	0.8	0.6	4.6	8.8
Working prop., traders	1.7	2.6	2.6	1.6	0.7	1.4
Salesmen & related workers	4.7	4.2	8.5	4.0	5.2	2.0
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	0.0	1.3	1.7	1.9	0.0	0.9
Tailors, sewers, etc.	0.0	0.9	0.8	1.5	0.0	0.6
All others	0.0	0.4	0.9	0.4	0.0	0.3
Service, sports	22.4	10.5	8.5	6.7	3.4	1.7
Housekeepers, cooks, maids	22.4	10.2	8.5	6.4	2.5	1.3
All others	0.0	0.3	0.0	0.3	0.9	0.4
Other Occupations	.5	2.3	0.0	0.9	0.0	0.5
All Gainful Occupations	29.3	21.1	22.1	15.9	44.8	45.5
Non-Gainful Occupations	70.7	78.9	77.9	84.1	55.2	54.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	3,940	41,112	2,448	31,072	2,672	30,308

Source: NSO, 1980 Census of Populations, unpublished tabulations.

TABLE 22k
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

NORTHERN MINDANAO	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.0	0.2	0.4	0.1	19.5	25.2
Professors & teachers	0.0	0.0	0.2	0.0	12.0	19.0
All others	0.0	0.2	0.2	0.1	7.5	6.2
Clerical, sales	6.3	6.9	7.5	7.5	17.5	14.8
Clerical & rel. workers	0.2	0.1	1.1	0.8	12.6	10.3
Working prop., traders	0.9	2.0	0.8	2.2	1.8	2.2
Salesmen & related workers	5.2	4.8	5.6	4.5	3.1	2.3
All others	5.2	4.8	5.6	4.5	3.1	2.3
Craftsmen, production process and related labour	3.5	2.1	2.6	2.2	1.2	1.0
Tailors, sewers, etc.	1.8	1.0	1.2	1.1	0.8	0.4
All others	1.7	1.1	1.4	1.1	0.4	0.6
Service, sports	16.4	9.2	17.1	7.5	2.3	2.9
Housekeepers, cooks, maids	16.2	9.0	17.1	7.3	2.3	2.7
All others	0.2	0.2	0.3	0.2	0.0	0.2
Other Occupations	2.4	3.1	1.3	0.9	2.8	1.7
All Gainful Occupations	28.6	21.5	29.2	18.2	43.3	45.6
Non-Gainful Occupations	71.4	78.5	70.8	81.8	56.7	54.4
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	11,272	69,232	11,980	62,080	7,864	53,960

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 221
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

SOUTHERN MINDANAO	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.2	0.0	0.2	0.2	22.6	22.5
Professors & teachers	0.0	0.0	0.1	0.0	14.5	16.9
All others	0.2	0.0	0.1	0.2	8.1	5.6
Clerical, sales	3.7	6.4	8.4	7.3	16.0	17.2
Clerical & rel. workers	0.0	0.2	1.0	0.9	11.2	12.7
Working prop., traders	0.9	1.9	1.7	1.9	1.7	2.0
Salesmen & related workers	2.8	4.3	5.7	4.5	3.1	2.5
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	1.0	1.7	3.7	3.5	1.6	1.1
Tailors, sewers, etc.	.3	.8	1.2	1.9	0.0	0.4
All others	.7	.9	2.5	1.6	1.6	.7
Service, sports	17.5	9.6	12.6	7.7	2.2	2.1
Housekeepers, cooks, maids	17.2	9.4	12.5	7.3	2.2	1.8
All others	.3	.2	.1	.4	0.0	.3
Other Occupations	4.3	2.6	1.6	1.8	1.4	.5
All Gainful Occupations	26.7	20.3	26.5	20.5	43.8	43.4
Non-Gainful Occupations	73.3	79.7	73.5	79.5	56.2	56.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	16,880	115,200	32,540	180,656	16,868	119,948

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 22m
Distribution of Urban Female Migrants and Non-Migrants
by Occupation and Education: 1980

CENTRAL MINDANAO	Elementary		High School		College or more	
	Migrant	Non-Migrant	Migrant	Non-Migrant	Migrant	Non-Migrant
Professional and technical administrative	0.7	0.3	0.0	0.1	26.5	29.2
Professors & teachers	0.7	0.0	0.0	0.0	15.3	23.4
All others	0.0	0.3	0.0	0.1	11.2	5.8
Clerical, sales	3.3	5.3	8.0	6.1	12.8	14.3
Clerical & rel. workers	0.7	0.1	0.9	0.5	8.6	10.4
Working prop., traders	0.8	3.0	2.1	2.0	1.2	2.1
Salesmen & related workers	1.8	2.2	5.0	3.6	3.0	1.8
All others	—	—	—	—	—	—
Craftsmen, production process and related labour	1.3	1.9	0.5	1.9	0.0	0.4
Tailors, sewers, etc.	0.6	1.2	0.5	1.2	0.0	0.2
All others	0.7	0.7	0.0	0.7	0.0	0.2
Service, sports	24.1	7.3	17.8	4.6	2.4	1.4
Housekeepers, cooks, maids	24.1	7.0	17.8	4.5	2.4	1.3
All others	0.0	0.3	0.0	0.1	0.0	0.1
Other Occupations	.7	1.6	.3	.5	1.3	.8
All Gainful Occupations	30.1	16.6	26.6	13.2	43.0	46.1
Non-Gainful Occupations	69.9	83.4	73.4	86.8	57.0	53.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	3,324	29,436	4,032	31,688	3,292	27,820

Source: NSO, 1980 Census of Population, unpublished tabulations.

It is expected that women with college education, whether they are migrants or non-migrants, have greater chances of having white collar occupations. Throughout the regions, one finds that the largest occupational category among women with college education is the professional/administrative sector. This holds for both migrant and non-migrant women in the educational category although the percentages registered by non-migrant women in this white collar category were oftentimes higher in most regions. But there were still substantially more migrant women with college education who ended up in service occupations, even more than double the corresponding low levels registered by non-migrant women. This was the case in the NCR, Central Luzon and Southern Tagalog, Western and Eastern Visayas and Western Mindanao.

V. EMPLOYMENT OUTLOOK IN THE MIGRANT'S FIRST RURAL-URBAN MOVE

Changing one's residence usually involves adjustments, and a migrant's first rural-urban (RU) move usually represents a substantial break from the rural setting and initiation into a different social milieu. This can be true even in towns and cities of the Third World because there would be relatively more people, industries and services. There would be at least minimal shifts in lifestyles, although substantial adjustments are required in the highly urbanized areas. But settling down and finding a job are likely to be very difficult for a first-time rural-urban migrant.

The 1983 National Demographic Survey has employment-related data on the first RU move. These data can reveal the year such move occurred, particularly relevant in the context of the Philippine economic crisis at the start of the 1980s. Information on characteristics at the time of move and initial adjustment problems related to employment are also available. The number of cases in the sample survey, however, limited the amount of crosstabulations that could be made. Regional breakdowns by region were especially difficult to obtain. The data refer to the first rural-urban move made after age 15. This focuses the study on migrations where the mover played a major decision-making role. The information refers only to respondents who were ages 15-49.

From the survey data, there were 1928 respondents belonging to the age group 15-49 who reported having made their first rural-urban move sometime before interview data. Of this number, two-thirds was females, reflecting once again the dominance of female movers to urban areas. A little over half moved before 1975. About two-thirds of the male migrants did so before 1975; close to one-fourth migrated between 1975 and a little over 10 percent moved sometime between 1980 and 1983. Less than half of the female respondents moved before 1975 as one-fourth shifted residence to urban areas during the 1975-1979 period and 27 percent moved between 1980 to 1983.

1. Basic Demographic Characteristics

The first rural-urban move of most migrants occurred when they were only in their teens (Table 23). Women were particularly more prone to make their first rural-urban moves when they were young given that over two-thirds did so when they were at ages 15-19 compared to about one-fifth who moved at ages 20-24. There is some evidence of a slight shift in the 1980-83 period, with more moving when they were in their early twenties, suggesting that the first rural-urban change of residence among most women is commonly done in one's youth or early adult years but rarely in the older ages. Around half of males was likely to move at younger ages, although a larger percentage moved when they were in their early or late twenties (24% moved at ages 20-24 compared to 11% at ages 25-29 among movers in 1980-83).

A high-school background appeared to be common among many first-time urban movers from rural areas (Table 24). This is the case for both men and women. But it seems that there were even more women who arrived already with same years of college education compared to men in the more recent years (1975-79 and 1980-83). The data further suggest that there were definitely fewer women who arrived at their first urban-destinations without schooling or with just elementary education during the 1980-83 period compared to the pattern in the preceding years.

While comparison groups are not provided (e.g., the rural population or urban natives), the data suggest some level of educational preparation especially on the part of female migrants. But they seemed relatively more prepared education-wise during the 1980-83 period. This partly indicates either some level of migration selectivity occurring during the initial years of the Philippine economic crisis or that during those difficult years only those relatively well-off from the rural areas could afford to move into an urban milieu.

Most first-time urban migrants arrived unmarried (Table 25). But this is most pronounced among women. Nine out of every 10 women who arrived in urban areas during the recent years was single. Only around two-thirds were in the same category among males as a relatively large segment was already married upon arrival in the towns and cities.

2. Employment Prospects

Did rural out-migrants find work easily upon arrival in their first urban place? On the whole, it was easier for a male migrant to find employment just within a month of arrival at the first urban destination (Table 26). Around 70 percent of males reported job-seeking as relatively easy. Prospects did not appear as easy among women, particularly during the latter part of the 1970s.

TABLE 23
Age at First Urban-Rural Move: NDS 1983

AGE	SEX AND YEAR OF MOVE						
	BOTH SEXES		MALE		FEMALE		
	Total	<1975	1975-79	1980-83	Total	<1975	1975-79 1980-83
15-19	65.2	63.9	58.3	63.5	49.9	53.6	40.0 48.7 68.8 71.1 66.6 66.7
20-24	24.0	22.8	27.4	23.1	30.2	28.3	38.6 24.3 20.9 19.0 22.3 22.8
25-29	7.9	8.1	8.3	7.3	10.9	10.2	13.1 10.8 6.5 6.6 6.2 6.5
30 +	5.6	5.2	6.0	6.1	9.0	7.9	8.3 16.2 3.8 3.3 5.0 4.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0 100.0 100.0 100.0 100.0 100.0
Sample size	1924	1031	468	425	638	420	145 73 1284 610 323 351

TABLE 24
Education at Time of First Rural-Urban Move: 1983 NDS

EDUCATION	SEX AND YEAR OF MOVE						
	BOTH SEXES		MALE		FEMALE		
	Total	<1975	1975-79	1980-83	Total	<1975	1975-79 1980-83
15-19	65.2	63.9	58.3	63.5	49.9	53.6	40.0 48.7 68.8 71.1 66.6 66.7
20-24	24.0	22.8	27.4	23.1	30.2	28.3	38.6 24.3 20.9 19.0 22.3 22.8
25-29	7.9	8.1	8.3	7.3	10.9	10.2	13.1 10.8 6.5 6.6 6.2 6.5
30 +	5.6	5.2	6.0	6.1	9.0	7.9	8.3 16.2 3.8 3.3 5.0 4.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0 100.0 100.0 100.0 100.0 100.0
Sample size	1924	1031	468	425	638	420	145 73 1284 610 323 351

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 25

MARITAL STATUS	SEX AND YEAR OF MOVE						
	BOTH SEXES		MALE		FEMALE		
	Total	< 1975	1975-79	1980-83	Total	< 1975	1975-79 1980-83
Never Married	82.0	80.9	81.0	85.7	76.8	80.0	73.3 65.3 84.6 81.5 84.5 90.1
Married	17.3	18.4	18.8	13.1	22.7	19.5	26.7 33.3 14.6 17.7 15.2 8.8
Widow/Divorced/ Separated	0.7	0.7	0.2	1.2	0.5	0.5	0.0 1.4 0.8 0.8 0.3 1.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0 100.0 100.0 100.0 100.0 100.0
Sample size	1928	1031	469	428	642	421	146 75 1286 610 323 353

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 26
Able to Find Work in a Month's Time from Date of Arrival in First Urban Place: 1983 NDS

ABLE TO FIND WORK?	SEX AND YEAR OF MOVE											
	BOTH SEXES				MALE			FEMALE				
	Total	<1975	1975-79	1980-83	Total	<1975	1975-79	1980-83	Total	<1975	1975-79	1980-83
Yes	58.3	60.8	54.7	56.0	70.3	70.3	71.2	68.8	52.6	54.5	47.8	53.6
No	10.1	10.2	8.3	12.0	10.9	11.5	8.3	12.5	9.7	9.3	8.2	11.9
Didn't work	31.6	29.0	37.0	32.0	18.8	18.2	20.5	18.7	37.7	36.2	44.0	34.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample Size	1858	1001	448	409	597	401	132	64	1261	600	316	345

Source: NSO, 1980 Census of Population, unpublished tabulations.

Over half of first-time female migrants did find employment within a month's time of arrival at their first urban destinations between 1980-83. Moreover, there were as expected usually more among women who reported themselves as not working upon arrival if the three periods were considered. But the data for the 1980-83 period is interesting because the percentage of female migrants who reported themselves as non-work force participants was much less than levels in the previous periods. There was also a slight increase in the percentage reporting themselves as unemployed or unable to find work in their urban destinations within one month of arrival. All these suggest that during the first three years of the 1980s many women migrants into the urban areas did so to seek employment. A large segment appear to have found employment immediately, although one does not have information on whether this was the case because they took on any type of available employment.

On the whole, the number of months spent unemployed by those who did not immediately find employment appeared to be only slightly longer among women than men (Table 27). The data by periods for males proved to be a problem due to the very few cases involved. The data for women involves more cases, and these indicate that the waiting time for finding a job was less than 3 months for about 30 percent of the unemployed among female migrants of the 1975-79 and 1980-83 periods. Two out of every five, however, had to wait between 3-6 months. But 32 percent of women who moved between 1980-83 had to wait for over a year before finding employment.

Resident kin and friends appeared to be the major sources of information about a migrant's first urban job (Table 28). This goes for both males and females. What deserves more study is the noticeable rise during 1980-83 in the percentage of males who relied very heavily on information from resident relatives and friends for the first jobs they actually obtained in their first urban destinations. One must note that the numbers of male movers in 1980-83 were few while the corresponding numbers among women were much larger. This may suggest that the few males who made their first rural-urban move during the crisis years did so with greater certainty of their urban prospects. It is not surprising, therefore, that employment came relatively easy for them. But not so for women, some of whom even had to rely on non-resident relatives and friends.

TABLE 27
Number of Months Unemployed in First Urban Place: 1983 NDS

NUMBER OF MONTHS	SEX AND YEAR OF MOVE											
	BOTH SEXES				MALE			FEMALE				
	Total	<1975	1975-79	1980-83	Total	<1975	1975-79	1980-83	Total	<1975	1975-79	1980-83
<3 months	33.1	36.5	22.9	34.1	34.4	37.8	0.0	66.7	32.5	35.3	32.0	28.9
3-6 months	37.2	34.3	45.7	36.4	37.7	35.6	60.0	16.7	36.8	33.3	40.0	39.5
7-11 months	3.4	4.2	5.7	0.0	3.3	4.4	0.0	0.0	3.5	3.9	8.0	0.0
12 over	26.3	25.0	25.7	29.5	24.6	22.2	40.0	16.6	27.2	27.5	20.0	31.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample Size	175	96	35	44	61	45	10	6	1154	51	25	38

Source: NSO, 1980 Census of Population, unpublished tabulations.

TABLE 28
Learn Your First Job in First Urban Place

SOURCES	SEX AND YEAR											
	BOTH SEXES			MALE			FEMALE					
	Total	<1975	1975-79	1980-83	Total	<1975	1975-79	1980-83	Total	<1975	1975-79	1980-83
Resident relatives/ friends	71.7	74.7	66.2	69.4	72.7	72.3	62.0	97.9	71.1	76.8	68.7	63.34
Relatives/friends living elsewhere	16.0	11.6	19.5	24.0	13.4	12.0	23.0	2.1	17.7	11.2	17.5	28.6
Radio/TV/Newspaper	1.3	1.3	2.6	0.0	1.9	1.8	3.0	0.0	0.9	0.8	2.4	0.0
Private employment agency	2.3	2.7	1.9	1.5	1.7	2.5	0.0	0.0	2.6	3.0	3.0	1.8
Government employ- ment agency	1.4	1.7	1.9	0.0	2.5	2.8	3.0	0.0	0.7	0.8	1.2	0.0
Others	7.3	8.0	7.9	5.1	7.8	8.6	9.0	0.0	7.0	7.4	7.2	6.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample Size	1229	692	266	271	472	325	100	47	757	367	166	224

Source: NSO, 1980 Census of Population, unpublished tabulations.

VI. SUMMARY AND CONCLUSIONS

Migration in the Philippines from 1960 up to 1980 had been predominantly urbanward and, given the direction of the flow, highly selective of females. Of the 1.3 million migrants who crossed municipal boundaries and headed towards urban areas in the 1975-80 period, 56 percent were females. One-third of all these urbanward migrants were women who proceeded to Metro-Manila. Females also exceeded urbanward migrants in all regions of the country. Given the historical trend and recent patterns, it is not surprising, therefore, that by 1980 the working age populations of towns and cities across the various regions of the Philippines were female-dominated.

The volume of urbanward migrants in the regions directly varied in accordance with urbanization levels. But this was even more true of female than male migration, attesting to the relative attractiveness of the more urbanized areas among the female sector of the population.

The flow to the towns and cities has been particularly selective of very young women. According to the 1980 census, thirteen percent of all urban migrants were girls 15 - 19 years of age at the time of enumeration, while close to one-fourth were women in their twenties. The 1983 NDS showed that the large majority of female migrants arrived when they were just in their teens.

Comparing across all the regions, the in-migration of women to Metro Manila was the most selective of very young women, although urbanward migrants in all the other regions were also largely composed of young women. It was only in the older ages that males outnumbered females.

Single females were also a dominant group in the migration into urban areas. Unmarried women who moved to the NCR comprised about 15 percent of all intercensal urban migrants in 1980. Single women also figured largely in the flows towards Central and Western Visayas and Northern Mindanao, three relatively urbanized regions with well-known cities. In contrast, the migrations to urban areas of Central Luzon and Southern Tagalog, which are at Metro Manila's periphery, tended to contain relatively larger proportions of married women. This may partly reflect the residential spilling-out from the metropolis into subdivisions and towns located very close to or at a commuting distance from Metro Manila. Married females also dominated the urbanward flows to the more rural regions.

Female urbanward migrants of the country as a whole had lower educational attainments than migrant men who were so highly "selected" that they even registered larger proportions with college background compared to non-migrant males. There appeared to be less of the college-educated among female migrants across the regions; the largest segments of these women had with only elementary education.

Although they did not compare favorably with metropolitan males nor with female non-migrants, female in-migrants of the NCR came out relatively well-educated when compared with female migrants in all the other regions. But the more urban destinations did not always receive well-educated migrants, as women who moved to the metropolitan periphery regions registered the smallest percentage with college education. Another topic for further research could be the possible "shuttling out" of less educated migrants to the periphery, particularly those who could not be absorbed in the metropolis. The flow to Cavite and Laguna in the Southern Tagalog region for example includes relocated slum dwellers. If such is the case, what do such patterns imply for the destination regions and the migrants themselves? Are there enough skills upgrading centers in these regions?

On the other hand, some of the least urbanized regions like the Cagayan Valley and Ilocos received relatively more well-educated migrants. There is also a need to study whether the latter pattern is due to the need among some female migrants to proceed to areas where they are at a more competitive standing with other groups, or more of a socio-cultural dimension of the migration of specific ethnic groups, say, the Ilocanos.

Thus, women in most regions of the country often migrated to urban areas at the initial stages of their adult lives, when they were still in their teens or when they were still single. It is not surprising therefore that many of these women have had only elementary education, although this flow very likely included those who moved to further their schooling.

Employment appears to be one of the major reasons why females move to the towns and cities. High levels of female work participation can be noted especially among women who moved into the more urbanized regions, which as stressed above, drew in more migrants particularly women. Female migrants who showed the highest propensity to work were the very young and single migrants, who in turn made up very large segments of the female migrant population of urban areas. Economic activity also tended to be high among women from two extreme education groups - those with elementary and college education. The former most likely came from poor families and, therefore, needed to work to survive. Finding a job in the urban milieu appeared relatively easy for male migrants in general but not so for female movers. The latter tend to be more well-trained and many of whom work to pursue their careers.

What was the occupational structure in urban areas? Male migrants and non-migrants were mostly working, and were concentrated in the craftsmen/production category, particularly in the NCR and metropolitan periphery regions. But the 1980 data reveal that female migrants who worked were usually in the service sector, a broad category that includes the various personal service workers: domestic helpers and laundry women, cooks and waitresses of large restaurants and small eating places or counters. The large numbers employed in this sector actually explain the very high participation rates of migrant women in urban areas.

Fewer female non-migrants worked, and those who did were mainly in the professional/administrative and clerical/sales category. Hence, one finds some form of labor segmentation between female migrants and non-migrants. And such a pattern was most pronounced especially in Metro Manila and in Central and Western Visayas.

Entry into the service sector is relatively easy, particularly so in domestic employment, an occupation in high demand in urban areas. The service sector recruited primarily the very young and the unattached among female migrants. Two out of every 5 among all intercensal (or recent) female migrants who were single or belonging to ages 15-19 years were enumerated as service workers in 1980.

This highly selective process has also a regional pattern. Young, single female migrants had the highest propensity to join the service sector in Metro Manila, Western Visayas and Central Visayas. The pattern for Metro Manila should be viewed in terms of the large absolute numbers involved together with their heavy concentration on service occupations. Not as many female migrants moved to the cities of Western and Central Visayas, but the largest segment of female migrants who did proceed to these Visayan centers also ended as service workers. NSO data showed that these two regions did not have substantially large shares in large and small service establishments, suggesting that the service employment of female migrants into these Visayan centers often involved informal or even self-employment. There should be local studies on the urban areas of these regions to determine where these service workers come from particularly given the decline of the sugar industry in Western Visayas and the economic boom of Cebu in Central Visayas. What kind of services do the female migrants in these areas really undertake? What are the recruitment modes employed?

The patterns just presented indicate that there is compartmentalization even among migrants themselves. The segmentation is partly determined by the age, marital status and education of migrants. This may even be most pronounced in the highly urbanized cities of the country.

This study stresses the service employment of female migrants. The pattern is cause for concern from the perspective of human welfare because (a) *demographically*, the numbers involved are large, (b) *economically*, the sector involves low earnings, and (c) *socially*, workers are likely to be exploited. But the increasing flow of women to the cities is also one consequence emanating from the failure of macro-policies to stimulate growth all over the country and to remove the urban bias in development (refer to Pernia, Paderanga, and Hermoso 1983). The lack of employment opportunities in the less developed areas pushes many men and women out. Women bear some of the high social costs involved given the tight employment situation in the urban and rural areas.

But one can look at the pattern as part of the process of transition. There is a pronounced demand for female services in the urban areas. The lack of adequate employment opportunities in the rural sector and even in the modern urban sector predisposes new urban labor force entrants who are likely to include mostly young female migrants to take on whatever jobs are available, and the service sector is the one most open to young women. Many of them in turn do valuable domestic services attending to housekeeping and childrearing, thereby freeing mothers to help augment family income.

Urbanward migration thus serves as one of women's adaptive mechanisms to the lack of social and economic opportunities in the countryside. Service employment may be just the initial step to a woman's integration into the city. But the process may be a long and arduous one given the tense competition from men or from the more qualified among women. More studies are needed in identifying whether and who among migrants belonging to low-level occupations manage to move upward socially. Another related topic deals with inherited servanthood as a mother who was previously a servant recruits her own daughter to be the household helper of her past employers.

Some efforts, however, need to be done to minimize the social costs entailed in female employment in the low-level occupations. Informing the workers concerned, particularly domestic or recreation workers, of their rights may be one step towards reducing some of the exploitation involved. This strategy can harness religious groups and even the educational system. The mass media should also be tapped given that the women being focused on here are located in the cities and the potentials of newsbriefs or drama series in radio or television should be well appreciated.

Finally, *The Philippine Development Plan for Women, 1989-92* which is a companion document to the Medium Term Philippine Development Plan, has among its concerns the identification of special groups among women who are likely to be the most vulnerable or the most disadvantaged. One section deals with women and migration, but this section deals mainly with international and overseas migration. The plight of young single women who move to Philippine cities and become service or recreation workers need to be highlighted too although both international and local patterns may be manifestations of the same problem of inadequate economic opportunities.

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PHILIPPINE DEMOGRAPHIC DEVELOPMENT AND PUBLIC POLICIES: 1970-1985

Alejandro N. Herrin

I. INTRODUCTION

Data on several demographic and socioeconomic indicators during the period 1970-1985 reveal disturbing trends which if not reversed, could have serious implications for future economic and social development. The population growth rate still remained high in 1980 and whatever gains that were achieved in fertility and mortality reduction in the early 1970s could not be sustained in the second half of the decade. Migration patterns in the 1970s became predominantly metropolitanward and increasingly involved the migration of young, unskilled and single women to the cities. On the other hand, the national poverty rate, which was already high in 1971 rose further in 1985. Structural change has been slow and employment expansion could not cope with the rapidly growing labor force. Existing analyses of the impact of past economic policies indicate a strong bias against the agricultural sector where the large majority of the population is found. Moreover, government priorities, as reflected in the pattern of public expenditures, have tended to favor large-scale infrastructure projects at the expense of basic social services. Are these demographic and socioeconomic trends and the nature of public policies and priorities merely coincidental or are they intrinsically related?

The purpose of this paper is to examine the underlying relationships between these demographic and socioeconomic trends and the role played by public policies and programs in influencing these trends. More particularly, this paper reviews some of the major public policies and programs and analyzes their impacts on demographic processes and outcomes. It is hoped that this review will provide a broader perspective for understanding demographic development in the most recent past.

II. CONCEPTUAL FRAMEWORK

A simple framework for analyzing the impact of public policies on demographic development is described in Figure 1. Demographic outcomes (size, structure and spatial distribution) are proximately determined by the demographic processes of fertility, mortality and migration. These in turn are influenced directly by population policies (e.g. fertility control, population redistribution, etc.), as well as indirectly by socio-economic policies. Socioeconomic policies affect socioeconomic processes of consumption, investment, factor utilization and external trade through various markets (product, factors and external markets),

which in turn determine the socioeconomic outcomes (income, employment, health, etc.). In addition socio-economic outcomes are affected directly by public expenditures through the provision of basic social services. Socioeconomic outcomes in turn influence the demographic processes. Conceptually, the role of socioeconomic outcomes in influencing each of the demographic processes is well known and is reviewed in Herrin (1980).

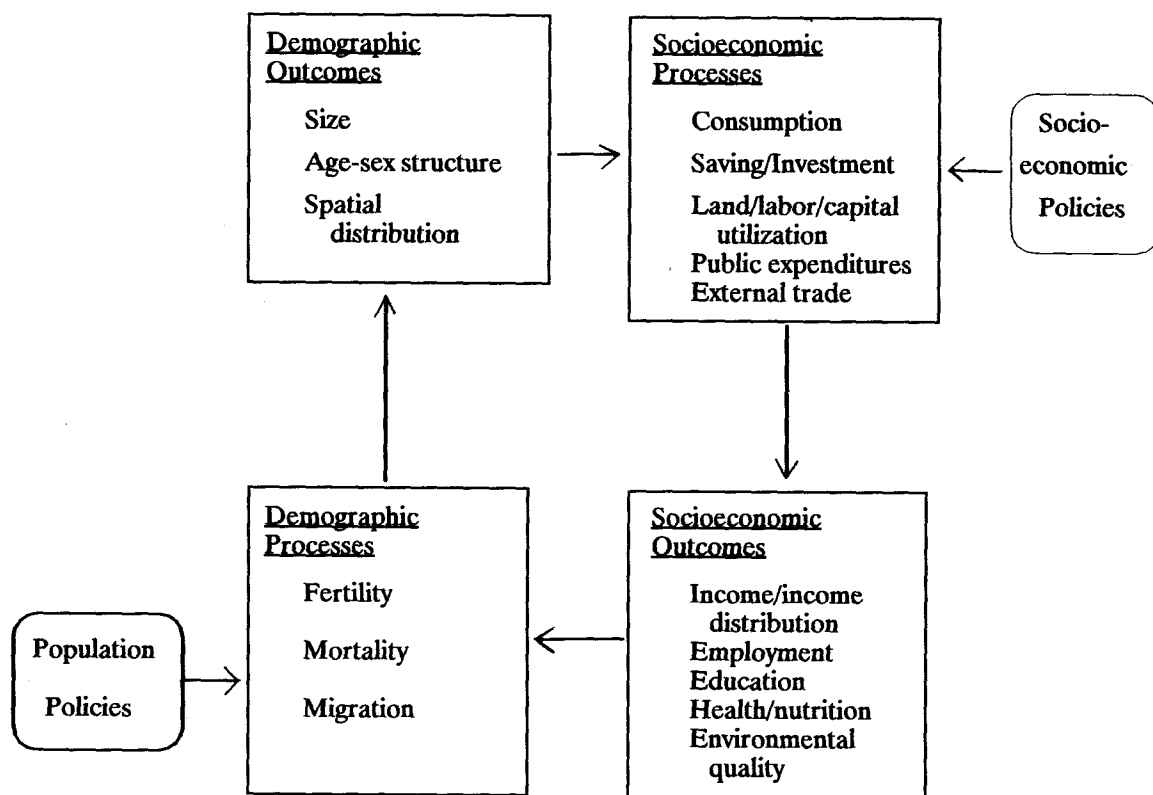


Figure 1: Framework for Analyzing the Impact of Public Policies on Demographic Development

With respect to the role of public policies in demographic development in the 1970-1985 period, the following linkages are hypothesized. The net effect of the various policies to achieve faster growth and development with emphasis on rapid industrialization has been to systematically bias the agricultural sector in favor of modern industry. This bias is in the form of distortions in product and input prices which tended to reduce the growth of incomes in this sector where the bulk of the population is found. This partly explains the continued high rates of poverty among the rural farm population.

The rationale for the rapid industrialization strategy was to raise overall productivity by absorbing the growing labor force from the relatively low productivity agricultural sector to the high productivity modern industrial sector. But the type of modern industry that evolved was predominantly the import-substituting, import-dependent and capital-intensive variety. The high capital intensity of industrial production resulting from policy biases that distorted relative factors prices meant low labor absorptive capacity of modern industry. This partly explains the almost constant share of employment in the industrial sector since the 1950s.

Associated with the limited absorptive capacity of modern industry is the limited occupational mobility of the labor force, i.e., shifts from low productivity agricultural occupations to higher productivity industrial occupations. Employment instead shifted from agricultural activities in the rural areas to the traditional services and informal sectors in both rural and urban areas where productivity is also relatively lower than in modern industry. This implies that for the most part, rural-urban migration merely involved a transfer of the rural poor to the urban areas who then swelled the size of the urban poor.

Modern industry could still have absorbed labor at a faster rate than it did in spite of its highly capital-intensive nature if its growth had been much faster. But its predominantly import-substituting character meant that it had to rely on increased domestic demand for it to grow. With low productivity and incomes in both the rural farm sector and the traditional services and informal urban sectors, such rapid growth could hardly be forthcoming. Exports offered a way to expand the size of the market and to grow but the highly protected industries could not effectively compete in the international market, and in the 1980s, the growth of demand for their products became constrained by the increasingly protectionist tendencies of developed countries.

Public expenditure patterns which reflected public priorities have been increasingly biased in favor of expenditures of doubtful economic value (i.e., overpriced infrastructures and support to failing public corporations) at the expense of social services that had a direct bearing on population welfare, i.e., education, health, nutrition and family planning. The increased budgetary constraints arising from the decline in economic performance in the 1980s meant further reduction in the provision of basic services with adverse impact on the poor.

Moreover, the structure of industry that developed resulted in the concentration of industries in the metropolitan area and in few urban centers. The social and economic infrastructures to facilitate the growth of industry also concentrated in these few areas. As such, the public expenditure patterns for infrastructure also tended to acquire a spatial bias in favor of few urban areas at the expense of the countryside. These partly influenced the direction of population movements and the concentration of the urban population in the metropolitan and few urban centers.

The combined effect of poor economic performance, slow structural transformation, and declining capacity of the public sector to provide for basic services was to slow down the progress toward poverty alleviation and even worsened it, to limit occupational mobility, and to reduce options for geographical mobility. All these had demographic consequences.

Low levels of living in the face of declining capacity of the public sector to provide for basic health services contributed to a slowing down of the progress toward mortality reduction and increasing life expectancies. The slow shift of the population away from the agricultural sector where the social and economic environment favored large family sizes meant continued high fertility. Although the declining real incomes, coupled with expectations of an unfavorable future economic situation, must have changed the fertility plans of many poor households, their limited independent means for obtaining family planning information and services, coupled with the declining capacity of the family planning program to provide for such information and services, meant that these revised fertility plans could not be effectively realized. The overall result is a declining rate of fertility decline in the more recent period. Moreover, the slow occupational mobility and the implied slow increases in income and changes in the patterns of consumption and investment did not favor rapid changes in lifestyles consistent with lower fertility. For a large number of the rural poor, the only viable option for geographic mobility was to move to few urban destinations where livelihood opportunities in the traditional service sectors were found. But this type of mobility could not be expected to lead to changes in lifestyles consistent with smaller family sizes. The economic value of children for both current production and future old age support remained high in both rural and urban poor settings.

The net effect of all these developments has been to slow down the gains in mortality and fertility reduction, and to maintain a relatively high rate of population growth and a highly uneven spatial distribution of the population. In the subsequent sections, we describe the salient features of Philippine demographic and economic development, and then sketch the nature of public policies that influenced these developments.

III. SALIENT FEATURES OF DEMOGRAPHIC AND ECONOMIC DEVELOPMENT

1. Demographic Development

Fertility, Nuptiality and Contraceptive Practice. The population growth rate, averaging around 3.0 per cent during the 1950s and 1960s, declined to 2.6 per cent in 1975, but rose to 2.8 per cent in 1980, and is likely to have remained at around this rate in 1985. The crude birth rate of 46 per 1,000 in 1960 declined to 39 in 1970 and 35 in 1975, but rose slightly to 36 in 1980. (See Table 1).

TABLE 1
Selected Estimates of Fertility in the Philippines, 1960-1980

Year	Levels			Average Annual Change Per 1,000			Average Annual Real Per Capita GNP Growth
	CBR ^a	TFR ^b	TMFR ^c	CBR	TFR	TMFR	(%) ^d
1960	46.0	6.5	9.6	—	—	—	—
1970	39.2	6.3	9.6	0.68	0.02	0.0	2.1
1975	34.8	5.2	8.8	0.88	0.22	0.16	3.6
1980	36.3	5.0	8.3	0.30	0.04	0.10	3.3

^aCBR = Crude Birth Rate

^bTFR = Total Fertility Rate

^cTMFR = Total Marital Fertility Rate

^dGNP = Gross National Product

Sources: Crude birth rates for 1960, 1970 and 1975 are from Concepcion, M.B., 1984, "The Philippine Population: Trends, Prospects, Problems," in *Perspectives for Population and Development Planning*, Manila: National Economic and Development Authority and Commission on Population; for 1980 from Raymundo, C.M., et al., 1985, "An Assessment of the Population, Health and Nutrition Programs: 1978-1985," Demographic Research and Development Foundation, Inc. Total fertility rates and total marital fertility rates for 1960, 1970 and 1975 are from Cabigon, J.V., 1983, "Trends and Differentials in Fertility," in *Population of the Philippines: Current Perspectives and Future Prospects*, M.B. Concepcion, ed., Manila: National Economic and Development Authority; for 1980 from Raymundo, C.M., et al. (*ibid*).

The apparent rise in the crude birth rate in 1980 is related to changes in several proximate determinants, namely the increase in the proportion of women in childbearing ages, a decline in the mean age at marriage, and a decline in the rate of contraceptive use. Between 1975 and 1980, the proportion of women 15-49 years of age to total number of women rose from 47.0 per cent to 48.1 per cent. The mean age at marriage for females, which was steadily increasing since 1948 to reach 23.0 years in 1975, declined to 21.8 years in 1980. The effect of these two factors can be seen in the increase in the proportion of currently married women 15-49 years of age from 55.8 per cent in 1975 to 59.0 per cent in 1980 (UPPI, 1985).

For crude birth rates to decline faster under these conditions, marital fertility must decline significantly. This, however, did not happen. The total marital fertility rate which declined from 9.6 children per women in 1970 to 8.8 in 1975, declined only to 8.3 in 1980. (See Table 1). This slow change in marital fertility in the most recent period is directly related to the decline in contraceptive prevalence rate (the per cent of currently married women of age 15-44 years using any method of contraception). This rate rose from 16 per cent in 1968, to 24 per cent in 1973, and to 37 per cent in 1979, only to decline to 32 per cent in 1983 (UPPI, 1985).

Mortality and Health. The most commonly used summary measures of the health situation in a country are the life expectancy at birth and the infant mortality rate. Data on these measures shown in Table 2 generally reveal that the progress toward increasing life expectancy has slowed down during the 1975-1980 period compared with the period 1970-1975, or to the 20-year period 1950-1970. In 1980, life expectancy was estimated at 62 years. Some progress, however, appears to have been made in infant mortality reduction in the 1970s. This rate (life table measure) declined from 93 per 1,000 births in 1970 to 58 in 1980, although the latter rate is still high by international standards. Infectious and parasitic diseases continue to be major causes of death for both infants and adults (Herrin and Bautista, 1986). Both causes are directly related to low levels of living and inadequate access to public health interventions. Recent information on mortality is unfortunately unavailable, but extreme economic stress in the 1980s arising from the crisis is likely to reduce the rate of mortality reductions (Herrin and Paqueo, 1985).

Migration and Urbanization. Data on interregional migration reveal that prior to 1960, the major migration streams were generally characterized by unidirectional and long distance movements, i.e., across island groups, mainly to the frontiers but significantly also to the metropolitan region. During the 1960-1970 period, however, the major migration streams became predominantly metropolitanward, and even more so from 1975 to 1980 (Herrin 1985).

The increasing predominance of urbanward, specially metropolitanward, migration in the 1970s has been characterized by increasing female migration to the cities (Engracia and Herrin, 1984). Between 1975 and 1980, for example, 56 per cent of total migration was toward

TABLE 2
Selected Estimates of Mortality and Selected Macro-correlates,
Philippines: 1950-1980

Year	Mortality Estimates				Real Per Capita Growth Rate (%)				Average Annual Increments in Real Health Expenditures Per Capita (P)	
	Levels				Average Annual Change					
	CDR ^a	q_o^b	e^{oc}	CDR	q_o	e^o_o	PCE ^d	GNP ^e		
1948-50	21.6	-	42.5	-	-	-	-	-		
1960	12.8	113	52.8	0.80	-	0.93	3.9	3.4		
1970	10.8	93	55.8	0.20	2.0	0.30	1.5	2.1		
1975	8.7	76	59.4	0.42	3.4	0.72	1.6	3.6		
1980	8.8	58	61.8	0.02	3.6	0.48	2.3	3.3		

^aCDR = Crude Death Rate

^b x^a_o = Life table infant mortality probability

^c e^o_o = Life expectancy at birth

^dPCE = Personal Consumption Expenditures

^eGNP = Gross National Product

Sources: Mortality estimates for 1948-50 from Madigan, F.C., 1965 "Some Recent Vital Rates and Trends in the Philippines: Estimates and Evaluation," *Demography*, 2:309-316; for 1960 and 1975 from Flieger, W., M. K. Abenoja and A.C. Lim, 1981, *On the Road to Longevity*, Cebu City: San Carlos Publications; Data on PCE and GNP from NEDA, Philippine Statistical Yearbook, 1985. Data on real health expenditures are from Paqueo, J.B., A.N. Herrin and Associates, 1984, "Population and Development Planning: Modeling Macroeconomic and Demographic Interactions, National Economic and Development Authority.

urban areas, about half of it was toward Metro Manila. Of the total urban migrants, 58 per cent was females, mostly young, unskilled, and unmarried. When one looks at the occupational composition of migrants to the cities, one finds that the female migrants tended to occupy lower paying and lower prestige occupations than male migrants or non-migrant females. Male migrants, on the other hand, tended to occupy higher paying and higher prestige occupations than male non-migrants (Engracia and Herrin, 1984).

The level of urbanization in the Philippines rose from 32 per cent in 1970 to 33 per cent in 1975, and to 37 per cent in 1980. The tempo of urbanization (urban-rural growth difference) which was 1.5 per cent in the 1970-75 period rose dramatically to 3.5 per cent in the 1975-1980 period indicating a much rapid urban growth relative to rural growth in the latter period (Pernia and Paderanga, 1980; Raymundo, 1983). Since fertility in the rural areas has not changed much, this increased tempo can only mean rapid rural-urban migration arising from the deteriorating economic and peace and order conditions in the countryside rather than to the rapidly growing urban economy. In view of the continued heavy migration to the metropolitan area, Philippine urbanization is marked by high primacy. In 1980, the population of Metropolitan Manila, consisting of four chartered cities and 13 municipalities, had four times the population of the next three largest cities: Cebu, Davao and Zamboanga (Pernia and Paderanga, 1980; Raymundo, 1983).

2. Economic Development

Poverty. Estimates of poverty rates indicate an increase from 49.3 per cent of families in 1971 to 59.3 per cent in 1985 (See Table 3). In the rural areas, the poverty rate rose from 55.6 per cent in 1971 to 63.7 per cent in 1985, while in the urban areas, the rates rose faster from 38.4 per cent in 1971 to 56.1 per cent in 1985. Part of this rapid increase in poverty in the urban areas may be traced to the migration of the rural poor to urban centers and to the effects of the economic crisis in the 1980s which hit the urban industrial sector the hardest. Data for 1985 further reveal wide regional disparities in poverty rates. The regions with the highest poverty rates were Bicol (73.2 per cent), Western Visayas (73.1 per cent), Central Visayas (68.8 per cent), and Eastern Visayas (70.4 per cent) (See Table 4).

Economic Growth and Structural Transformation. Economic growth in the postwar period has been uneven (See Table 5). In the 1950s, which was a period of reconstruction and early industrialization, gross national product (GNP) at constant prices grew at 6.4 per cent per annum. During the decade of the 1960s, however, as the import substitution industrialization began to lose steam, economic growth slowed down to an average annual rate of 5.1 per cent. In the 1970s, economic growth accelerated to 6.2 per cent per annum. However, such growth, which was propped up by heavy external debt, could not be sustained in

TABLE 3
Poverty Estimates: 1971 AND 1985^a

Areas	1971	1985		
	Magnitude ^a (000 Families)	Rate ^b (%)	Magnitude (000 Families)	Rate (%)
Philippines	3,173	49.3	5,676	59.3
NCR	175	33.3	551	44.1
Outside NCR	2,998	50.8	5,126	61.6
Urban	533	38.4	1,325	56.1
Rural	2,465	55.6	3,800	63.7

^aRefers to the total number of families below the poverty line. The poverty lines are as follows: P = 2,382 for the Philippines; P = 3,282 for NCR; and P = 2,285 for areas outside of NCR, with different lines for urban and rural areas of P = 2,912 and P = 2,066, respectively.

^bRefers to the proportion of families that fall below the poverty line out of the total number of families.

Sources of basic data: NEDA, FNRI, and NCSO, as reported by NEDA, 1986, **Medium Term Philippine Development Plan, 1987-1992**.

TABLE 4
Regional Poverty Indicators: 1985

REGION	Total Poverty Threshold (In P)*	TOTAL Magnitude of Poverty (000 Families)**	Poverty Rate (In %)**	Total Poverty Threshold (In P)*	URBAN Magnitude of Poverty (000 Families)**	Poverty Rate (In %)**	Total Poverty Threshold	RURAL Magnitude of Poverty (000 Families)	Poverty Rate (In %)**
PHIL.	2,382	5,676.6	49.3	3,021	1,875.9	52.1	2,066	3,800.7	63.7
NCR	3,282	550.5	44.1	3,282	550.5	44.1			
Outs, NCR	2,285	5,126.1	61.6	2,912	1,325.4	56.3	2,066	3,800.7	63.7
I	2,374	364.9	52.3	3,093	89.7	56.2	2,139	275.2	51.1
II	2,194	246.3	54.6	2,897	31.3	48.6	2,092	215.0	55.6
III	2,550	420.0	44.4	3,153	178.5	45.2	2,104	241.5	43.8
IV	2,471	712.2	55.9	3,048	241.7	50.6	2,174	470.5	59.1
V	2,148	464.0	73.2	2,625	81.3	62.3	2,047	382.7	76.0
VI	2,449	632.4	73.1	3,069	154.1	65.0	2,249	478.3	76.2
VII	1,982	530.6	68.8	2,426	142.7	58.9	1,819	387.9	73.4
VIII	2,016	365.4	70.4	2,733	61.9	70.1	1,822	303.5	70.5
IX	2,118	316.5	65.3	2,650	47.2	61.6	2,025	269.3	66.0
X	2,262	355.4	66.2	2,952	91.7	65.7	2,022	263.7	66.3
XI	2,388	426.0	61.7	2,998	143.1	59.6	2,079	282.9	62.8
XII	2,233	272.4	65.2	2,624	42.2	56.8	2,161	230.2	67.0

*The monthly income required to satisfy 100 per cent of nutritional requirements and other needs of a family of 6.

**The total number of families below the poverty line or threshold in 1985.

***Out of the total number of families, the proportion of families that fall below the poverty line in 1985.

Source: Interagency Working Group on Poverty Determination - NEDA, FNRI, NCSO, as reported in NEDA, 1986, Medium-Term Philippine Development Plan 1987-1992.

TABLE 5
Levels and Annual Growth Rates of GNP at 1972 Prices,
Population and Real Per Capita GNP, Philippines, 1950-1984

Indicator	1950	1960	1970	1980	1984
GNP at 1972 prices (billion pesos)	16.3	30.1	50.0	92.6	93.5
Growth rate of GNP at 1972 prices (%)		6.1	5.1	6.2	0.2
Population (million)	20.3	27.3	36.8	48.3	53.4 ^a
Growth rate of population (%)		3.0	3.0	2.7	2.5 ^a
Per capita GNP at 1972 prices (pesos)	806	1,101	1,358	1,917	1,753
Growth rate of per capita GNP (%)		3.1	2.1	3.4	-2.2

^aProjected

Source: National Economic and Development Authority, *Philippine Statistical Yearbook, 1985*, Manila, 1985.

the 1980s. Social, political and economic factors conspired to produce the economic crisis in 1983, so that negative growth rates were obtained in 1984 and 1985 (De Dios, *et al.*, 1984).

Associated with the uneven growth of the economy is the slow structural transformation (See Table 6). In terms of the sectoral distribution of gross domestic product (GDP), the share of agriculture declined from 29 per cent in 1970 to 26 per cent in 1980, and hardly changed in the 1980s; while industry's share rose from 30 per cent in 1970 to 36 per cent in 1980, but declined to 33 per cent in 1984. The services sector's share declined from 42 per cent in 1970 to 38 per cent in 1980, but rose to 49 per cent in 1984. On the other hand, in terms of the industrial distribution of employment, industry's share remained stagnant at around 15 per cent from 1956 to 1984 (See Table 7). Thus the shift in employment has been primarily from agriculture to services rather than to industry.

TABLE 6
Industrial Distribution of Net Domestic Product
or Gross Domestic Product, Philippines, 1950–1984

Industry	Series A ^a			Series B ^b			
	1950	1960	1970	1970	1976	1980	1984
Agriculture, fishery and forestry	38.8	34.4	32.9	28.8	27.0	25.6	26.1
Industrial sector ^c	21.9	23.4	24.8	29.5	34.1	36.1	33.1
Services sector ^d	39.2	42.2	42.3	41.6	38.9	38.3	40.1
All Industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^aIndustrial distribution of net domestic product.

^bIndustrial distribution of gross domestic product.

^cIncludes mining and quarrying, manufacturing, construction, and electricity, gas and water.

^dIncludes transportation, storage and communication; wholesale and retail trade; financing, insurance, real estate and business services; community, social and personal services; and industry not adequately defined or not reported.

Sources: National Economic and Development Authority, *Philippine Statistical Yearbook 1980*, Manila, 1980; and *Philippine Statistical Yearbook 1985*, Manila, 1985.

TABLE 7
Industrial Distribution of Employment, Philippines, 1956-84

Industry	Series A ^a				Series B ^b		
	October 1956	October 1961	November 1971	August 1976	3rd Qtr 1976	3rd Qtr 1980	3rd Qtr. 1984
Agriculture, fishery and forestry	59.5	60.6	50.4	42.7	53.8	51.4	49.5
Industrial sector ^c	15.3	14.4	15.7	14.8	15.2	15.5	14.7
Services sector ^d	25.2	25.0	33.9	32.5	31.0	33.1	35.8
All Industries	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Employed (millions)	7.7	9.1	12.5	15.4	14.2	16.4	19.7

^aBased on household population 10 years old and over with the week as reference period.

^bBased on household population 15 years old and over with the quarter as reference period.

^cSee corresponding note in Table 6.

^dSee corresponding note in Table 6.

Sources: National Economic and Development Authority, **Philippine Statistical Yearbook, 1985**, Manila, 1985; and National Census and Statistics Office, **Labor Force August 1976**, National Sample Survey of Households Bulletin Series No. 47, Manila, 1977.

Employment. Another salient feature of Philippine development is the failure of the economy to fully employ its growing labor force at rising real wages. The unemployment rate which stood at around 5.0 per cent in the 1970s increased to 12.5 per cent in 1985. A more important indicator of labor utilization is the underemployment rate which has always been achieved in reducing this rate in the 1970s, the deteriorating economic condition in the 1980s pushed the rate to 36 per cent in 1984. (See Table 8). Real wages have been declining in the 1970s partly owing to the rapid growth of the labor force relative to employment opportunities, and partly due to the general increase in the inflation rate.

TABLE 8
Labor Force, Employment and Underemployment,
Philippines, 1961-1984

Indicator	Series A ^a			Series B ^b		
	1961	1971	1976	1976	1980	1984
Working age population (millions)	17.4	25.8	31.4	24.8	29.0	32.7
Labor force (millions)	10.0	12.9	16.2	15.0	17.3	20.9
Total employed (millions)	9.2	12.2	15.4	14.2	16.4	19.7
Unemployment rate (%)	7.5	5.2	5.0	5.2	5.0	6.2
Underemployment rate (%)	22.9	15.2	10.6	25.5	20.9	36.2
Invisible ^c	10.9	8.6	5.2	10.2	6.1	24.6
Visible ^d	12.0	6.6	5.4	15.3	14.8	12.6

^aBased on household population 10 years old and over with the week as reference period. Figures are averages of all surveys taken during the year: 1961- May and October; 1971 - March, May, August and November, 1976 - August.

^bBased on household population 15 years old and over with the quarter as reference period. Figures are based on surveys conducted in the third quarter.

^cPer cent of employed persons who worked 40 days or more and wanting additional work.

^dPer cent of employed persons who worked less than 40 days and wanting additional work.

Sources: For Series A and 1976 of Series B: Tidalgo, R.L. and E.F. Esguerra, **Philippine Employment in the Seventies**, Philippine Institute for Development Studies, 1984. For 1980 and 1984 of Series B: National Census and Statistics Office, **Integrated Survey of Household Bulletin Series No. 50-B**, Manila, 1985; National Census and Statistics Office, **Special Release: "Labor Force in the Philippines, Third Quarter, 1984."**

IV. ROLE OF PUBLIC POLICIES AND PROGRAMS

The failure to significantly reduce poverty rates and moderate population growth can be traced to the impacts of public policies and programs through their impacts on income, employment, structural change, the spatial distribution of economic activities, and the provision of social services. We describe the nature of these policies and programs and their impact below. (See also Herrin, 1986).

1. Economic Policies and Public Expenditure Patterns

Agricultural Incomes. Since a large proportion of the rural poor population are engaged in agricultural activities, mainly as crop farmers, a major factor affecting their net income is the structure of prices for agricultural products and inputs. This structure is influenced by macroeconomic and commodity-specific pricing policies designed to achieve several objectives, e.g., food self-sufficiency, low food prices, higher farm incomes, more government revenues, promotion of agricultural processing and rapid industrialization. The net effects of these policies, however, have been found to be unfavorable to the agricultural sector in general, and to poor farm households, in particular (David, 1983; De dios, et al., 1984; NEDA, 1986a).

At the macro-level, the protection of manufacturing through various policy instruments, i.e., tariffs, indirect sales taxes, export taxes, and other trade restrictions resulted in the overvaluation of the currency. The effect of this overvaluation was to effectively lower the peso price of agricultural export crops, specifically sugar and coconuts, upon which a large number of farm families depends for their income.

In the 1970s, commodity-specific interventions were characterized by increasing monopolization of domestic and international trade in such major crops as rice, sugar and coconuts. In addition, export taxes were imposed on sugar and coconut products both as a stabilization measure and as a measure to raise government revenues. Furthermore, in the case of coconut, a levy was imposed since 1973 to protect domestic consumers from the sharp rise in coconut oil prices in the world market. While the levy was finally lifted with the sharp drop in world prices of coconut oil in 1982, this was replaced by a policy of banning copra exports to protect the coconut oil mills.

The net effect of all of the above policies was to lower farm prices for domestic producers relative to world prices as revealed by the declining (and negative) nominal protection rates (percentage difference between domestic and border prices) for rice, corn, copra and sugar. (See David, 1983).

With respect to agricultural inputs, the effect of government policies to encourage their domestic production, i.e., import controls or high tariffs of finished agricultural inputs, tax-free

importation of raw materials and direct subsidies to manufacturers, has been to raise domestic prices relative to world prices. This is revealed by the positive implicit tariff rates for such inputs as irrigation pumps, tractors, chemicals and fertilizers. (See David, 1983).

The combined effect of interventions in the product and input markets is reflected in the effective protection rate (EPR). Comparison of EPRs between selected agricultural products and the average for all manufacturers reveals the direction of income redistribution which is clearly away from the agricultural sector where the majority of the poor households are found. (See David, 1983).

Land Tenure. One characteristic of low-income families is the lack of access or control over productive assets, particularly land. In 1972, a land reform program (Operation Land Transfer) was established by which tenants in rice and corn lands would now be "deemed owners" of the land they were tilling. The program, however, was limited to tenanted rice and corn areas and landowners were allowed to retain seven hectares of their lands. The legal coverage of the program was estimated at 1,423,000 hectares in 1972 covering roughly 400,000 tenant farmers. This coverage was only 22.2 per cent of the total crop area in 1972 and this decreased to 20.6 per cent in 1979 (Ledesma, 1983 as cited by Mangahas and Quisumbing, 1986). This estimate, however, does not consider evasions of the Operation Land Transfer through transfers or sale of the land and conversion of rice/corn areas to other crops or to non-agricultural use. Moreover, as of 1981, only 33 per cent of projected farmer-beneficiaries received emancipation patents. Hence, the impact of the land transfer program on overall rural poverty is not likely to be large.

Employment. A commonly cited effect of public policy to hasten industrialization since the 1950s is the distortion of relative factor prices in favor of capital and at the expense of labor. While export promotion became a policy goal in the 1970s, many of the policies favoring import substitution remained intact in the 1970s. Moreover, the recessions in the developed countries following several oil shocks in the 1970s, the increasing protectionist tendencies in these countries, and the intense competition from the newly industrializing countries limited the impact of the export promotion program. As a result, the main potential absorber of industrial labor still remained the import substituting industries. However, their highly capital-intensive nature precluded rapid labor absorption. With the high rate of growth of the labor force and the low productivity in agriculture, employment shifted instead from agriculture to the traditional services and informal sectors where productivity is not much higher than in agriculture.

Adjustment policies in response to the economic crisis of 1983 included restricting monetary supply, high interest rates, and reduced government expenditures. The restrictive

policies, however, led to the large-scale contraction in industrial production, and hence on employment, thus contributing to the high rates of unemployment and underemployment in 1983 and 1984, the highest observed since 1970.

Wages and Prices. To protect the real incomes of labor, legislated minimum wages were adjusted upward. In spite of this, real wages have deteriorated in the 1970s and even more so in the 1980s. Part of the decline in real incomes was the increase in the inflation rate which reached double digit figures since 1979, and peaked at 50 per cent in 1984. The rapid rise in consumer prices has been traced to several factors, notable among them was the increase in the world price of oil, specially in 1979, as well as to the effect of adjustment policies that followed. An analysis of the inflation rates in 1983 and 1984 revealed that policies such as the series of exchange rate adjustments, the imposition of import duties and specific taxes on petroleum products, the increase in interest rates, the increase in the price ceiling on basic commodities, and the increase in legislated wages all contributed in varying degrees to the inflation rates of 1983 and 1984. Altogether, these factors contributed 32.5 percentage points in the 1984 inflation rate of 50.3 per cent, or roughly two thirds (Mariano, 1984 as reported in Lamberte, *et al.*, 1985).

Public Expenditures and Social Welfare. In spite of the increasingly adverse macroeconomic conditions, the welfare of poor households can be directly improved by timely and well- focused public expenditures toward the provision of health, nutrition, education, housing, social welfare and other services. However, since the late 1970s, the potential contribution of the public sector to the welfare of low-income groups has been severely limited by increasing budgetary constraints, inflation and misplaced priorities. (See Table 9).

In 1978, national defense and general public services, including debt services accounted for 55 per cent of total national government expenditures; economic services including support to public corporations accounted for 31 per cent; while social services accounted for only 14 per cent. In 1984, the percentages for each of these categories were 66, 16 and 18 respectively. Of great interest is that 42 per cent of total outlays in 1984 went into debt service alone.

Since 1979, total real per capita public expenditure has been steadily declining. The sharpest decline occurred in 1984.

2. Population Policies and Programs

The establishment of the Commission on Population (POPCOM) in 1970 marked the formal direct entry of the government into the population field. The Commission was mandated to serve as the central coordinating and policy-making body of the government in matters pertaining to population and family planning. While the Commission's mandate is

broad, its actual operations have focused narrowly on fertility reduction through the family planning program.

In 1978, a comprehensive review of the Philippine Population was undertaken by a Special Committee created by the President of the Philippines. Noting that while some efforts have been taken to link the Philippine Population Program with other economic and social dimensions of development, the Committee found that to a large extent, the Program has remained essentially a family planning program.

TABLE 9
Real Per Capita Actual National Government Expenditures
(Pesos in 1972 Prices) by Sector, 1978-1984

Sector	1978	1979	1980	1981	1982	1983	1984
Total Expenditures	352.09	360.06	299.56	315.90	286.16	309.24	300.46
Economic Services	108.44	114.94	125.52	140.89	85.56	113.80	48.67
Agriculture, Forestry & Fishing	-	28.08	23.67	36.64	21.18	24.43	12.62
Industry, Trade & Tourism	-	11.88	8.69	19.90	5.15	9.28	2.40
Utilities & Infrastructure; Transportation & Communication & Other Economic Services	-	75.97	93.16	84.03	58.95	79.78	33.35
Social Services	50.00	74.17	54.52	53.07	85.56	80.40	54.98
Education	-	35.29	29.36	34.12	36.06	34.33	24.64
Health	-	12.60	11.68	10.74	12.30	14.22	8.41
Housing & Community Amenities	-	21.96	7.19	2.53	26.90	23.50	14.72
Social Security & Welfare & Other Social Services	-	4.32	6.29	5.69	10.30	8.35	7.21
National Defense	46.12	38.89	26.96	30.96	33.19	30.61	19.53
General Public Services	52.11	35.29	47.63	50.23	32.34	28.45	51.98
Debt Services	95.06	95.77	44.63	40.44	49.79	55.66	125.29

Source: Commission on Audit, *Annual Financial Report*, for years indicated as reported in Miranda, L.T. and A.N. Herrin, 1986, "An Overview of the Impact of Adjustment Policies on Welfare." Paper prepared for United Nations Children's Fund (UNICEF).

Family Planning Program. The family planning program appeared to have had some impact on contraceptive prevalence rates, and hence on fertility reduction in the 1970s. But such progress could not be sustained in the 1980s.

To understand the lack of progress in fertility control, one must consider several factors. One is that the macroeconomic environment, i.e., high poverty rates, slow economic transformation and occupational mobility, and slowly growing employment opportunities, specially for women, was not conducive to rapid fertility decline. Secondly, one must also consider the magnitude of the task. The proportion of currently married women of age 15-49 years had risen in the late 1970s owing to the maturation of a large cohort of women born in the high fertility period of the 1950s and 1960s, and to the decline in the mean age at marriage in the latter half of the 1970s. Thirdly, the early consensus regarding the urgent and continuing need to pursue an aggressive national program of fertility control to moderate population growth had steadily eroded in the late 1970s.

The commitment to pursue such an aggressive program depended on who was in charge of NEDA and POPCOM, rather than on a well-defined and consistent national policy. Conflicting signals at the policy level, coupled with discontinuities in program leadership, have diminished the capacity of the program to meet the ever-increasing challenge of fertility reduction. This declining capacity and commitment are reflected by data on family planning expenditures reported by the Commission on Population which showed that while real expenditures in 1978 prices rose from ₱126 million in 1972 to ₱180 million in 1974, real expenditures declined thereafter to ₱118 million in 1980 and to ₱93 million in 1983 (See Table 10). Thus just as more efforts were required to sustain earlier gains, real resources had in fact declined since 1975.

Health and Mortality. As in fertility reduction, public interventions can be expected to have a significant independent impact on mortality reduction and improved general health conditions. However, the low priority given to health and other social sectors, the declining real resources for health and the inefficient use of such resources, constrained the ability of the sector to obtain larger impacts. An examination of the distribution of current expenditures of the Ministry of Health (MOH) revealed an increasing share of curative and hospital services at the expense for preventive health services that were likely to have a large impact on the poor given the prevailing morbidity and mortality patterns. (See Table 11).

Population Distribution. The development plans of the government recognized the large regional disparities in economic growth, employment and provision of basic services. They also recognized that these disparities are associated with the migration of the population to a few urban centers resulting in various problems in these receiving areas. In fact, in the development

TABLE 10
Family Planning Program Expenditures
(In Million Pesos)

Y e a r	Total Expenditures		Per cent Share of Expenditures By Source			
	Current	Constant (1978 = 100)	Total	GOP	USAID	Others
FY 1972	54.4	126.2	100.0	15.1	71.1	13.8
1973	72.5	144.6	100.0	36.8	48.3	14.9
1974	113.8	180.1	100.0	51.3	30.3	18.4
1975	127.7	170.3	100.0	47.6	32.4	20.0
1976	113.9	140.2	100.0	49.5	26.2	24.3
1976 ext ^a	73.3	86.2	100.0	59.8	32.6	7.6
CY 1976 ^b	130.2	153.3	100.0	55.3	29.8	14.9
1977	131.6	140.9	100.0	55.2	31.1	13.7
1978	131.3	133.3	100.0	74.2	21.6	4.0
1979	149.1	126.9	100.0	72.5	18.8	8.7
1980	163.7	117.9	100.0	79.0	15.9	5.1
1981	196.6	125.1	100.0	70.3	18.8	10.9
1982	196.2	113.3	100.0	67.4	24.1	8.5
1983	176.5	92.7	100.0	40.2	37.5	14.3
Total	1,702.6	1,643.8	100.0	59.8	28.1	12.1

^aRefers to July-December 1976.

^bEstimated by adding half of expenditures for FY 1976 and to the expenditures for 1976 ext. The figure for CY 1976 is not included in the total.

Source: Commission on Population (POPCOM), 1984, "Briefing Materials on the Philippine Population Program"

Plan of 1978-1982, it is noted that: "This premature migration made urbanization more an aspect of poverty than a symbol of growth." (NEDA, 1977).

The indirect policies to influence migration and urbanization included rural and regional development which were not limited only to agricultural production but also included land reform and industrial dispersal. Direct policies and programs involved mainly rural resettlement of the urban poor. The fact that regional development disparities and industrial concentration in Metro Manila and the surrounding regions continued to characterize spatial development in the late 1970s up to the present suggests that public policies and programs thus far have had little net impacts in modifying migration and urbanization patterns and in redistributing population.

The lack of success of population distribution and spatial development policies owes much to the fact that these policies have been formulated more or less in isolation of the broad macroeconomic policies which, it would now appear, have much large unintended impacts on the distribution and concentration of economic activities, and therefore, on population.

TABLE 11
Current Expenditure of the Ministry of Health,
by Program, 1978-1982

	Per Cent Share				
	1978	1979	1980	1981	1982
Administration and Planning	10.2	9.0	2.6	3.9	3.4
Operation of Special Projects	5.0	4.6	4.4	7.5	4.6
Hospitals	47.9	49.2	52.4	54.6	53.4
Special Hospitals	11.3	10.7	10.7	9.5	9.8
Hospital Services	36.1	38.0	41.0	42.5	42.1
Tondo General Hospital	0.5	0.5	0.7	0.4	0.4
Subsidies ^a	—	—	—	2.2	1.1
Field Health Services	26.5	26.8	31.1	27.6	28.9
Other	10.4	10.4	9.5	6.4	9.7
Total	100.0	100.0	100.0	100.0	100.0

^aQuezon Institute, Philippine Hearth Center for Asia and the Lung Center of the Philippines.

Source: Ministry of Health as reported in World Bank, 1984, "Population, Health and Nutrition in the Philippines: A Sector Review," Vol. II.

V. DEMOGRAPHIC DEVELOPMENT IN PERSPECTIVE

On the basis of the foregoing discussion, it is becoming clear that Philippine demographic development during the past one and a half decade had been influenced by various indirect and unintended impacts of economic policies and by the failure of population-related programs to have large direct impacts on demographic trends.

The net effect of the various economic policies had been to lower the capacity of the economy to achieve sustained economic growth and structural transformation, employment expansion at rising wages, rapid occupational mobility, and poverty reduction. These in turn created a general economic environment that was not conducive to rapid demographic development.

Deterioration in the levels of living among the large majority of the population contributed to the slowing down of the progress toward mortality reduction and life expectancy increases. Slow structural transformation and the accompanying slow occupational mobility did not favor changes in lifestyles consistent with reduced fertility, thus limiting progress toward more rapid fertility reduction. Moreover, the declining economic opportunities in the rural areas and the increasing concentration of economic activities in few urban centers further limited the emergence of a more productive reallocation of human resources, thus aggravating regional economic disparities and severely constraining the ability of the destination areas to cope with the rapid influx of migrants. The type of migration that evolved was also not conducive to further fertility decline.

In spite of the increasingly adverse economic situation arising from the indirect effects of economic policies, the economic and demographic welfare of the poor could still have been improved by the impact of direct public interventions in the form of increased provision of health, nutrition, and family planning services. But such did not occur for various reasons, including misplaced expenditure priorities, existing inefficiencies in the delivery systems, and in the case of family planning, a certain policy ambivalence regarding its role in enhancing population welfare and long-term economic development.

In retrospect then, the demographic development in the Philippines in the 1970-1985 period was constrained by the joint effects of poor economic performance and inadequate direct public interventions particularly in fertility reduction. Given the dynamic interactions between economic and demographic factors, the demographic development observed during the period, unless reversed quickly, is likely to pose further constraints to the capacity of the Philippine economy to achieve sustained improvements in the levels of living and the quality of life of the population in the future.

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