

Reconstructing

Incorporating Community

Educational

Knowledge in Functional

Knowledge

Literacy Programs

1

volume



Patricia B. Arinto

• University of the Philippines

Education Research Program - ERP
Center for Integrative and Development Studies - CIDS
Department of English and Comparative Literature,
College of Arts and Letters

• Department of Education, Culture and Sports
Bureau of Non-Formal Education - BNFE

• ADB-assisted Philippine Non-Formal Education Project

Copyright 1996,

Department of Education, Culture and Sports
Bureau of Non-Formal Education
Republic of the Philippines
and
Education Research Program
Center for Integrative and Development Studies
University of the Philippines

All rights reserved. No part of this publication may be reproduced, copied or transmitted in any form for commercial purposes, but parts of it may be quoted for research and other purposes, provided appropriate citation is made.

Cataloguing-in-Publication Data

Arinto, Patricia B.

Reconstructing Educational Knowledge: Incorporating Community
Knowledge in Functional Literacy Programs, Volume I

1. Education -- Literacy. 2. Literacy --- Philippines. 3. Social Anthropology -- Knowledge. 4. Education -- Philippines.

ISBN 971-8797-85-8

Printed and Bound in the Philippines by U.P. Printery

Reconstructing Educational Knowledge:

**INCORPORATING COMMUNITY KNOWLEDGE IN
FUNCTIONAL LITERACY PROGRAMS**

VOLUME I

Studies on Functional Education and Literacy (9 volumes)

Maria Luisa Canieso-Doronila, Research Program Director and Series Editor
Nanette M. Tolentino, Deputy Program Director

Commissioned by the ADB-Assisted Philippine Non-Formal Education Project
Magdalena Dugenia, Director, Bureau of Non-Formal Education and
Project Director, Project Management Office
Rosa F. Sese, Chief, Literacy Division and Head, Functional Education
and Literacy Program (1992-1994)

Basic Studies

Bernardo, Allan B.I., with *Mariano Sto. Domingo* and *Edith Liane F. Peña*,
Cognitive Consequences of Literacy: Studies on Thinking in Five
Filipino Communities
Alangui, Wilfredo V., Indigenous Learning Systems (Mt. Province)
Han, Benjamin A., Indigenous Learning Systems (Tawi-Tawi)
Rapanut, Teofina A., *Wilfredo V. Alangui* and *Henry N. Adorna*, *Arlano R.*
Aquino, *Avelino P. Bucaoto*, *Edna M. Nazaire*, *Madelym M. Ragasa*,
Reynaldo P. Rimando, and *Reamar Eileen R. Sales*, The Algebra of the
Weaving Patterns, Music and Kinship System of the Kankana-ey of
Mountain Province

Pre-Implementation Community Assessment

Quejada, Diego G. III, *Cecilia Sipin*, *Louie Montemar* and *Leandro Florida*, Pre-
Implementation Rapid Community Assessment and Training at the
Community Level

Curriculum and Content-Generation Studies

Arinto Patricia B., Reconstructing Educational Knowledge: Incorporating
Community Knowledge in Functional Literacy Programs
Cruz, Flora G., *Ma. Theresa de Villa*, *Dina Ocampo-Cristobal*, *Eleanor Eme E.*
Hermosa, *Diana L. Ferrer*, *Selma Cortes*, *Carlos Asuncion*, *Lily T. Reyes*,
Lerma Matta, *Felicitas Pado*, *Rosalinda Esmundo*, and *Lorina Calingasan*,
Taxonomies of Functional Literacy and Numeracy
Quejada, Diego G. III, Preliminary Inventory of Existing Literacy Materials

Instructional Materials Development

Hermosa, Eleanor Eme E., *Diana L. Ferrer*, *Cielito C. Calvelo*, *Flora G. Cruz*, *Ma.*
Theresa de Villa, *Dina Ocampo-Cristobal*, *Selma Cortes*, *Carlos Asuncion*,
Lily T. Reyes, *Lerma Matta*, *Felicitas Pado*, and *Rosalinda Esmundo*,
Development and Field-Testing of Exemplar and Instructional Materials
for FELP

Reconstructing Educational Knowledge:

INCORPORATING COMMUNITY KNOWLEDGE IN FUNCTIONAL LITERACY PROGRAMS

VOLUME I

Patricia B. Arinto

with the assistance of

Asia G. Canieso

Arlene R. Sabio

Merwyn Rostrata

Roberto Ruda

Mylene D. Masangkay

Rhoderick M. Dipol

Vicente Antonio T. Garcia III

Anna Jhorie E. Perez

**EDUCATION RESEARCH PROGRAM
CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES
University of the Philippines**

**BUREAU OF NON-FORMAL EDUCATION
Department of Education, Culture, and Sports**

**Commissioned by
ADB-Assisted Philippine Non-Formal Project**

February 1996

ACKNOWLEDGEMENTS

This study, conducted under the auspices of the ADB-assisted Philippine Non-formal Project, would not have been completed without the help of many individuals.

In particular, I would like to thank Dr. Maria Luisa C. Doronila for her confidence in my ability to do the study, and for her constant support.

I acknowledge my intellectual debt to the ethnographers and scholars whose extensive studies of various Philippine communities served as the sources of the data included here. I owe a similar debt to the experts whom we consulted with regard to the scientific, socio-cultural and practical validity of the beliefs and practices recorded here --- Prof. Maria F. Mangahas, Dr. Porfirio Aliño, Dr. Israel Bentillo, Dr. Alfonso Lagaya, Prof. Ruben Martinez, Dr. Nicanor Fernandez, Dr. Valentino Argañosa, and Dr. Elpidio Coligado. Needless to say, however, I alone am responsible for the weaknesses and errors in the present study.

I also thank the persons-in-charge of the agencies we consulted about the mass media materials we documented (as well as those we were unable to include).

I am especially grateful to my research and student assistants and encoders who took care of the tedious task of documentation and other paper work. I am most grateful to Asia and Arlene for the technical and moral support they gave me during critical moments in the course of the study.

I also thank the staff of the U.P. Education Research Program, my second "home" in the University. I make special mention of Ester and Liza for attending to the financial aspects of the study, and Nanette, deputy program director, for her assiduous monitoring of the progress of the study and other forms of assistance.

All of my personal, political and practical work, in this field and in others, have drawn inspiration and support from my family -- Papa and Mama, Angie and Rene and my nephew Paolo, Terry, and Tina -- as well as from my closest friends and colleagues -- Bibi, Bliss, Carol, Joy, Tina, Edel.

This book is dedicated to my husband Sarge and my son Iso.

TABLE OF CONTENTS

Chapter I	INTRODUCTION	1
	Objectives of the Study	4
	Theoretical and Methodological Considerations	6
	Organization of the Study	13
	Review of Related Studies	14
 Chapter II	 INCORPORATING COMMUNITY KNOWLEDGE IN THE CURRICULUM	 21
	Curriculum Grid # 1: Sama/Badjao of Tawi-tawi	29
	Curriculum Grid # 2: Ipugao of Sagada, Mt. Province	42
	Curriculum Grid # 3: Bukidnon of Mindanao	67
	Curriculum Grid # 4: Maranao of Lanao	106
	Curriculum Grid # 5: Tausug of Sulu	127
	Curriculum Grid # 6: Tagalog of Angono	163
	Curriculum Grid # 7: Bicolano of Bacolod, Sorsogon	179
	Curriculum Grid # 8: Ilonggo of Magballo, Negros Occidental	192
	Curriculum Grid # 9: Waray of Basey, Samar	205
	Curriculum Grid # 10: Multi-ethnic Community of Looban, Sta. Ana, Manila	218
 Chapter III	 LESSONS FROM THE MASS MEDIA: EXPLORING ALTERNATIVE PEDAGOGIES	 226
	Radio Component	228
	Print Component	231
	Television Component	237
	The Case of Inipon and Corona: Mass Media For and By the People	239

Chapter IV	COMPARATIVE ANALYSIS, CONCLUSIONS AND GENERAL RECOMMENDATIONS	246
	Towards a Cross-Cultural Understanding of Community Knowledge	246
	Thread # 1: Folk Spirituality	247
	Thread # 2: Ecological Balance	248
	Thread # 3: Shared Inner Self	250
	Some Pedagogical Imperatives	252
	Redefining Literacy, Knowledge and Development	255
Chapter V	SPECIFIC RECOMMENDATIONS	260
	WORKS CITED	264
	LIST OF ETHNOGRAPHIC SOURCES	267
	LIST OF EXPERTS CONSULTED	274
	LIST OF RADIO AND TV PROGRAMS AND PRINT MATERIALS	275

1

INTRODUCTION

An educated people makes for a developed society. So goes a widely held view of the relationship between education and development. According to this view, literacy, the means by which individuals gain access to the kind of knowledge which constitutes being educated, is an imperative for material progress and economic prosperity. Hence the long-running "war" against illiteracy in modern cultures, particularly in "developing countries" where some 98% of the total number of illiterates worldwide are to be found. How successful has this war been?

According to Pramod Parajuli (1990), one third of the world's population 15 years old and above remain illiterate despite the 40-year global campaign against illiteracy. In the Philippines, the 1989 Functional Literacy and Mass Media Survey reports that more than a quarter (26.1%) of the population 10 years old and above are functionally illiterate. The future bodes no better. UNESCO projections indicate some one billion illiterates by the year 2000.

These statistics raise important questions regarding the nature and function of literacy as currently being purveyed by educational institutions. A growing number of educators from various parts of the world have pointed out that dominant views of literacy and knowledge subscribe to a logocentric binarism which erroneously privileges written, scientific, rational and expert theoretical knowledge over knowledge that is primarily oral, folk or indigenous, and practical or commonsensical. This privileging undergirds what Paolo Freire calls "the banking method of teaching" where students or learners are assumed to be ignorant of important knowledge and are passive receivers of this from the teachers/experts. The knowledge they have acquired prior to or outside of schooling (largely traditional and popular knowledge) is accorded little or no value, at least as basis for the experts' knowledge taught and validated through the schools.

Maria Luisa Doronila in Learning From Life: An Ethnographic Study of Functional Literacy in Fourteen Philippine Communities (1994) cites as an example the non-inclusion in formal or classroom math lessons of the ethnomathematical "adding on" method of subtraction. The latter is widely practised in computing for change (*sukli*) in business transactions. According to this method, the change (difference) is computed not by subtracting the cost (minuend) from the total amount of money paid (subtrahend) but by adding onto the cost until the total amount of money is arrived at and the amount added on represents the change required. The gap between the officially recognized and written method of subtracting and the more popular and oral adding-on method is not just methodological or formal. It suggests as well a difference in worldviews: the adding-on method underscores a wholistic approach to things such that what is taken away is perceived not to be completely lost but still a part of the whole, though it has changed form. The lack of official recognition of the validity of this method explains in part why few of the respondents admitted having retained the computational skill after having dropped out of school, *even when most if not all of the respondents continue to engage without any difficulty in business transactions in the course of their daily activities.*

The foregoing example provides a broader perspective for interpreting statistics on literacy and illiteracy. In the words of Parajuli, "...illiteracy is not a problem of numbers. The problem lies in the way literacy and knowledge have been defined. What is needed is an 'epistemic break' from the basic notions about knowledge, state and development." This break is concretized by the following questions which we adopt from Parajuli:

What kinds of knowledge should be given value in a society? What kinds of knowledge should be taught in and validated through its schools? Is it correct to assume that folk or indigenous knowledge, which is based on actual community life, is inferior to Western or textbook knowledge and should therefore not be recognized and included in educational programs, whether formal or non-formal? Who are the knowers? Do they include only the academically trained experts? What about the people themselves who in the course of their daily lives have learned not only to survive but also to preserve and conserve the resources upon which their survival depends?

These are some issues that must be considered in the formulation of development and educational programs which aim to empower people. For far too long, dominant development frameworks in developing countries have revolved around an uncritical adoption of Western knowledge and technology. While it is true that Western technology has contributed much to global progress, it is not without distinct disadvantages which can result in a skewed kind of development and even underdevelopment. In economic terms, much of Western technology is capital-intensive; the inputs are many and expensive, especially for cash-strapped developing economies.

As for the socio-cultural costs of Western technology, Ponna Wignaraja (1991), among others, points to the erosion of cultural heterogeneity as a result of the erroneous assumption that Western technology has universal applicability. Because technology is thought to be value-free, it is applied willy-nilly to cultures whose value systems and socio-cultural structures differ radically from those in the West where such technology originated. A gap is formed between those who imbibe the new knowledge and skills and acquire the corresponding access to and control of resources, and those who are unable to assimilate this new knowledge and are thus disempowered in the new social order. This unequal distribution of control over resources is reflected as well in the relationship of local manpower with Western companies in uncritical and arbitrary "transfer-of-technology" schemes. For Wignaraja, this is proof of the inconsistency of Western developmental claims of equality and democracy.

Furthermore, the unqualified imposition of Western technology in developing nations results in the formation of distorted values which perceive environmental resources as something to be exploited for profit. This attitude has given rise to the current ecological crisis which threatens the entire human race. In contrast, traditional approaches to the environment place emphasis on the renewal of resources and sustainable use. This has enabled indigenous peoples to survive and to flourish for centuries without causing the world to lose its capacity to sustain life. And yet, ironically, it is this same indigenous knowledge which has been marginalized in favor of Western knowledge.

As the limits of modern/Western science and technology become apparent, the need to reevaluate the current emphasis on Western knowledge systems in our educational institutions becomes obvious as

well. From the pedagogical perspective, it has been demonstrated that the learning process is greatly facilitated and becomes more effective when the learners are able to identify with what is being taught and they are empowered to contribute what they already know to the new knowledge to which they are being exposed. Thus, it is imperative that people's knowledge be recognized as a starting point for any kind of education program. Nonformal literacy programs in particular must take into account traditional and popular knowledge in their target communities, because of their relatively more direct contact with people in the context of community life.

Objectives of the study

The present study is an attempt to illustrate how the inclusion of people's or community knowledge in nonformal literacy programs can be operationalized. Its principal objective is to provide curriculum planners/developers and teachers a ready source of material for instructional materials development in nonformal education programs. The specific objectives are:

1. To provide a systematic documentation according to community type of community knowledge in various Philippine communities;
2. To present experts' analyses of this body of knowledge for their practical, scientific and socio-cultural value; and
3. To provide models for non-conventional pedagogical methods using community knowledge.

In this study, the term "community knowledge" is adapted from Learning from Life which defines it as "the stock of facts, norms, attitudes, values, beliefs, practices and general perspectives or world views available to and developed by people in the area, in the context of their daily lives." Our use of the term "community knowledge" likewise draws from the definition by the Regional Program for the Promotion of Indigenous Knowledge in Asia (1992), to wit: "Indigenous knowledge (IK) is basically local knowledge that is unique to a given culture....Indigenous knowledge systems include those defining social, natural and physical environments, as well as cognitive and ideational systems. [They] form the basis for indigenous decision-making, which is operationalized through indigenous organizations." Passed on from

generation to generation usually by word of mouth, "indigenous knowledge systems are dynamic, never static, and are continually influenced by internal creativity and experimentation as well as by contact with external systems." Moreover, as Michael Warren (1992) of the Center for Indigenous Knowledge for Agriculture and Rural Development asserts, "Indigenous knowledge represents successful ways in which people have dealt with their environment."

As defined by Doronila in **Contexts, Constraints and Possibilities of Functional Literacy in Marginal Philippine Communities** (1995), community knowledge are of two types: traditional and literate knowledge. The first, which is primarily oral and which corresponds to what REPPIKA calls indigenous knowledge, consists of a wide body of folklore or knowledge of nature and the environment, and of various stages of the life cycle. The second, usually learned in schools, consists mainly of modern technological principles and practices. According to the same study and as earlier discussed, these two types of knowledge are substantively and formally different and have been historically represented to be oppositional by Western logocentrism. However, the same study shows that where the people themselves are empowered to determine the shape and substance of their knowledge for the advancement of a communal project, then traditional and literate knowledge need not be separate and may in fact be constructively integrated such that both forms of knowledge develop simultaneously and interactively. The current study aims to show how this integrative process can be made possible in both formal and nonformal education in the Philippines.

Based on the objectives outlined above, the study has four components, namely:

1. Systematic documentation and classification of community knowledge gathered from existing ethnographies of various Philippine communities, in integrated curricular grids;
2. Annotation of the data by experts/specialists from various fields such as health and nutrition, agriculture, animal science, meteorology and climatology, and marine science;
3. Documentation and analysis of mass media programs and materials dealing with community knowledge; and
4. Comparative analysis of community knowledge in various Philippine community types.

The methodology for each component is outlined in the next section.

Theoretical and Methodological Considerations

First Component

The impetus for the study was provided by the 1993 Ethnographic Study on Functional Literacy in Fourteen Philippine Communities which sought, among others, to document the beliefs and practices related to various aspects and stages of the life cycle in the fourteen communities studied. The study's objective was to get a broader understanding of the rhythm of community life and to generate possible preliminary sets of community knowledge to be incorporated into instructional materials for nonformal literacy and numeracy classes. Using the findings of the 1993 study as initial database, the current study used the library research method to gather data on community knowledge of other Philippine communities. Ethnographies, folklore studies, and sociological materials on the various communities were surveyed. In the interest of timeliness, we limited our choice of material to those published on or after 1965.

While it is obvious that a more accurate and comprehensive collection will be generated by means of actual field research or, more appropriately, participatory research with the people themselves, there is a need as well to note the data already recorded in the numerous ethnographies and other such studies on various types of Philippine communities for three reasons. First, the existence of these data proves once and for all that dearth of documented data is not an argument against the use of community knowledge in our schools. Many social scientists have devoted close attention to a great number of Philippine communities and have affirmed in their studies the dynamism of even the most remote and marginalized of these communities. Second, the data serve as a starting point for the systematization of community knowledge for use in literacy classes. This is especially significant in view of the fact that despite the existence of such studies, little attempt has been made to integrate them more fully into educational programs. And third, it provides a basis for comparison with data *in situ*, or community knowledge actually available to people in a given locality.

The second part of this first component of the study was to sketch in broad strokes how the data on community knowledge can be utilized

for nonformal curricular programs. Using as model the pioneering work of Education Forum (EF) among the Agtas of Heneral Nakar, Quezon Province (in EF Curriculum Journal January-March 1991), we classified the data into themes and grouped them for integration in four subject areas, namely: communication arts, civics and culture, science, and math.

As can be seen from the sample grid below, this can be readily done. From the grid, curricular units and specific lesson plans may be formulated. (A more detailed explanation of the grid is provided later in this chapter as well as in Chapter II.)

Table 1: Sample Curriculum Unit for Basic Education for and by the Agtas of Heneral Nakar, Quezon Province

	MATH	AGHAM	SIBIKA AT KULTURA	SINING PANGKOMU- NIKASYON
PANG- KABUHAYAN	pagsukat at pagsusukat pagkukuwenta ng kita sa lupa pagbibilang ng mga bagay-bagay na galing sa lupa	pagsukat at pagsusukat pag-aalaga ng lupa composting contour farming kaingin wastong pagtatanim likas-yaman (galing sa lupa, tubig) - irrigation (problems related to pests, pagbubunga)	kahalagahan ng lupa mga gamit sa pagbubungkal (pala at piko) rice terraces	awit sa paggawa sa lupa

PAMPULI-TIKA	paggamit ng mga datos tungkol sa laking lupang ninuno, populasyon, atbp.	mga hayop at halaman epekto sa kapaligiran ng pagkakaingin, pag-mimina	Bakit kailangang mag-aral magsukat ng lupa? kahalagahan ng lupa ang titulo ng lupa mga karapa-tan sa lupang ninuno	mga kuwento sa pang-araw-araw ng lupa pagsusulat ng liham, petisyon, pagsusulat ng awit
PANGKUL-TURA	paggawa ng mga gamit pangkuwenta mula sa katutubong materyales	mga paniniwala sa pamahiin (additional listahan) paggawa ng mga gamit pambahay at pangsaka mula sa katutubong materyales	kasaysayan ng pag-agaw sa lupang Agta Gaano kalaki dati ang lupang ninuno? Ano ang populasyon noon? ngayon?	kuwento ni Lukab Agta mga paniwala tungkol sa pagmamay-ari ng lupa

Source: Fr. Jojo Eranista, "An Education Program for the Agtas, By the Agtas of Heneral Nakar, Quezon Province: A Pilot Project in Curriculum and Para-Teacher Development for Indigenous Filipinos," *EF Curriculum Journal*, January-March 1991, p. 46.

Second Component

The second component of this study is the analysis by specialists and scientists of traditional and popular beliefs, practices and technologies to determine their scientific, practical and socio-cultural value.

One of the most pernicious arguments against the recognition of community knowledge in our Western-oriented schools is the mistaken idea that science refers only to Western knowledge. Ponna Wignaraja in the same study cited earlier points out that many non-Western scientific traditions exist and have done so far longer than the Western tradition we now know and on which we put much stock. In fact, modern scientists have unsuccessfully tried to duplicate the highly developed mathematical and scientific technology of ancient civilizations like the Mayan, Incan and Aztec civilizations in what is now Latin America, and the Chinese, Indian and Egyptian kingdoms in Asia and the Middle East. In areas like agriculture and health, many non-Western peoples (including the northern Filipino tribes whose scientific genius is manifest in the centuries-old rice terraces) have evolved a scientific body of practices remarkable for their emphasis not only on utilization but also on conservation of resources.

More and more Western-trained experts are recognizing the scientific value of such traditional bodies of knowledge. Agricultural experts, for example, are now studying traditional or indigenous agricultural practices which emphasize sustainable resource use. Our health experts are studying the medicinal qualities of herbal plants long used by our ancestors to cure and prevent all kinds of illnesses. They are also looking into the benefits of holistic healing practices for the treatment of "modern" diseases. Even in architecture, experts are once again reevaluating traditional structures for their practical value for current realities.

Thus, in this study, we have asked teams of experts from the fields of farming, fishing, animal behavior, weather and climate, and health and nutrition to comment on/analyze the various beliefs and practices we have documented. Initially, we thought we needed only one consultant per theme or set of data. The agriculturists we consulted at U.P. Los Baños proved us wrong: they explained how agriculture, for one, is a broad field covering a number of more specialized disciplines. An agriculturist (like other experts) necessarily has to focus on one of these and develop his/her expertise in that area. This confirmed our view that although modern

knowledge has grown in depth, it has also become increasingly more limited in breadth of vision, given the distinct lines drawn between disciplines. In this sense (and in others), modern knowledge is really not superior to traditional knowledge systems which appear to be so fragmented and decontextualized to the modern mind.

Admittedly, the recognition by contemporary experts of the validity of traditional knowledge, is not without its limits. On the face of it, the subjection of traditional knowledge to the scrutiny of the experts can all too easily prove to be a patronizing exercise which can lead to the fetishization and token adoption of folk elements which are seen to fit the dominant Western cognitive system. In the current study, this was evident in the approach of some scientists who labelled "unscientific" or even "superstitious" majority of the folk beliefs and practices we submitted for their inspection.

But viewed more critically, what actually takes place in the "validation" process is an encounter between two knowledge systems which results not necessarily in the diminution of one but in the reconfiguration of both. In more concrete terms, this component of the study forced even the most conventional of our experts to reconsider not only the scientific validity of folk beliefs and practices but also the heuristic validity of modern science vis-a-vis traditional knowledge. This process is evident in the expert's tentative comment "may have scientific basis" regarding specific practices. Moreover, because we had requested them to consider not only scientific value, but also socio-cultural and practical significance, the experts had to take cognizance of the inherent validity of these practices.

We also surveyed related literature and abstracted from these findings on the scientific value of specific practices and technologies. These and the comments of the experts we consulted are recorded in the grids in the form of "notes."

Third Component

The third component of the study is the documentation of print, radio and television programs/projects which promote community knowledge. Our aim is to highlight some non-traditional pedagogical methods for the integration of community knowledge in nonformal education, particularly continuing education. The 1993 Ethnographic Study reports that of these methods, one of the most influential is mass

media. In addition to their broad reach, mass media provide people with a means for applying literacy skills, particularly thinking/analytical skills. The issues mass media deal with are concrete and immediate. For most people this adds to their positive value for educational programs. Hence the need to harness mass media for pedagogical purposes.

To identify radio and television programs for inclusion in this study, we consulted the annotated list of stations and their programs compiled by the Kapisanan ng Mga Broadcasters sa Pilipinas (KBP). From this list we noted radio dzRM's programs promoting community knowledge, and a number of television shows in Channels 9 (RPN), 4 (PTV) and 7 (GMA). We attempted to include provincial radio programs in our survey but only a few stations responded and logistical constraints prevented us from including them in this study.

For the print component, we concentrated on materials from government agencies directly engaged in educational and community development projects (e.g., awareness-building). Of the five agencies we identified, only two responded: the Philippine Information Agency and the Department of Health. In addition, we studied print materials from the Technology and Livelihood Resource Center (TLRC) which airs equivalent modules on television.

The programs were each closely monitored for a week. We also conducted interviews with the program hosts and agency heads to validate our findings on their community knowledge component and our analysis of the effectiveness of the use of mass media for promoting community knowledge.

Complementing these mainstream mass media programs and print materials are a community radio and newspaper in two rural communities notable for their advocacy and practice of participatory democracy in all levels of community life. Our discussion of the community radio and newspaper draws heavily from documentation and analysis given in Doronila's study, Contexts, Constraints and Possibilities of Functional Literacy in Marginal Philippine Communities (1995).

Fourth Component

The final component of the study is a comparative analysis of beliefs and practices in various Philippine communities. Our primary aim is to point out commonalities to illustrate one basis for establishing unity among the different Philippine cultures. At the same time, we do not

wish to elide the significant differences among communities. To do so is to fall back into the trap of homogenizing cultures and universalizing certain stocks of knowledge. For the reasons cited earlier, we are critical of conventional definitions of "unity" and propose instead the fostering of unity in diversity.

Thus, the mode of analysis we use in this component of the study draws from what Virgilio Enriquez (1979) calls a cross-indigenous method and perspective which seeks to understand beliefs and practices in their proper cultural context. This differs radically from the conventional Western-oriented mode of analysis which explains local knowledge systems using Western measures and meanings. This dominant approach which assumes, wittingly or not, that the local community lacks an epistemology to adequately explain the culture underpins current transfer-of-technology approaches to education and development. The approach we use, on the other hand, affirms local cultures as *sources* (not *targets*) of knowledge which can only be understood on its own terms. Towards this end, we adopt the steps for cross-cultural analysis identified by Enriquez, as follows: (1) identification of key indigenous concepts/methods/ theories; (2) semantic elaboration; (3) indigenous codification or recodification; (4) systematization/explication of implied theoretical frameworks; (5) application/use; and (6) comparison with other theories, methods, and techniques.

Organization of the study

These four components serve as the bases for the organization of this report which will be presented in two volumes. Volume I includes the current chapter and four others. In Chapter II we include exemplar curricular grids of community knowledge from ten communities representing several ethnolinguistic groups with varying lifestyles. We also present the experts' annotations of specific traditional and popular beliefs and practices. Chapter III documents some mass media programs promoting community knowledge. Chapter IV includes a comparative analysis by way of conclusion, as well as general recommendations for further studies. The final chapter details specific recommendations for the use of the study's findings in non-formal educational programs that will be designed for specific communities.

Volume II of the study is a compendium of additional curricular grids of community knowledge in various Philippine communities from ethnographic studies.

Review of related studies

The philosophy of education which underpins this project to integrate community knowledge in functional literacy and numeracy programs is derived from Paolo Freire's concept of the literacy process as "cultural action for freedom." This concept conceives of literacy not as "a purely technical action" but as a meaningful dialogue during which learners are empowered to understand the real conditions of their existence and to work towards their transformation. According to Doronila in *A Critique of Development Education and Training Among Philippine NGOs* (in *EF Curriculum Journal* April-September 1991), "This type of education assumes that present knowledge is as yet incomplete, open-ended, always in the process of being constructed by the participants themselves. But for this new knowledge to become available to them, they must first recognize existing knowledge as permeable, not given, and subject to change, and then reconstruct this knowledge in an integrated way in order that they can use it to make sense of their own life situations in ways previously unavailable to them. *The raw material for this redefinition and reconstruction of meanings is the participants' own reality, viewed in a new way.*" (emphasis added)

This philosophy of education is particularly appropriate for the Philippines for two reasons. First, Philippine communities are not culturally homogeneous and what may be relevant knowledge for one sector of the population is not necessarily so for another. Second, the Philippine educational system is hamstrung by a lack of resources, including textbooks and other instructional materials. One solution to this problem is to develop instructional materials from local knowledge. In fact, this not only answers a material need but also serves as a good motivation for learning how to read and write. As Sarah Gudschinsky (1980) says, "Literature that is worth reading, that people want to read, is the beginning of motivation. The subject matter should be familiar, whether the pupil is at the primer stage or post-primer stage. This is even more important if one of the pupil's motives for learning is pride in his [her] own culture and his [her] own language and delight that it can be

written. His [Her] own oral literature in writing, in a form that can be read, can be both a delight and an excellent reading practice."

Despite the obvious advantages of this scheme, however, few attempts have been made to consider in more detail how it can be adopted for Philippine educational programs. One noteworthy project is the Fourth National Folklore Congress, held in July of 1980, which had for its theme "The Role of Folklore in Functional Literacy." Among the papers read in that Congress was Fr. Anton Poostma's *Development Among the Mangyans of Mindoro* where he reports the institution of a "mountain school" for the Mangyans. Though patterned after the formal system, the school is important in its attempts "to incorporate as much as possible the original Mangyan customs and mentality into the regular school agenda...[while] at the same time...offer[ing] an education equal to that of any Filipino child anywhere in the country."

In concrete terms, this meant (1) using the Mangyan language as medium of instruction; (2) teaching the Mangyan traditional syllabic script [with the incorporation of a stop-mark] to those who did not know it yet; (3) encouraging Mangyan handicrafts during work-education classes; and (4) promoting Mangyan literary, dance and musical forms during school programs and co-curricular activities. An educational program was also instituted for the parents, to teach them not only basic literacy and numeracy but also modern agricultural techniques.

In addition, a health program and a residential community organization were introduced by the school. According to Fr. Poostma: "The development that resulted in the setting up of the Mangyan Barrio of Panaytayan is almost totally the fruit of the formal modern system of education introduced among the Mangyans and its further development can no longer be thought of separately from formal education."

The Mangyan educational program was, as reported, primarily formal in orientation although it did lead to the institution of a nonformal program as well. Also, although indigenous knowledge was given due recognition in the school system, it may well be said that the dichotomy between this form of knowledge and "modern" knowledge governed the assignment of academic space such that the former was promoted only in co-curricular areas and "minor" subjects like work-education. Furthermore, despite Fr. Poostma's avowed intention to preserve Mangyan culture, the primarily interventionist character of a school

system which espouses a "civilizing" mission, in the final analysis, undermines this intention.

A more effective adoption of local knowledge in a literacy program may be gleaned from Fr. Frank Laubach's paper titled *The Lanao System of Teaching Illiterates*. With the primary aim of teaching Maranaws how to read and write in their native Maranaw using Roman letters, Fr. Laubach and his team adopted an alphabet on the basis of all Filipino vernacular languages and printed a chart of three key words in Maranaw which together made use of the 12 consonants making up the Maranaw dialect. By varying the vowels, it is possible to construct all Maranaw words from the key words. In the beginning, the teacher guides the students over various combinations. When the chart is completed, each student is given some easy and interesting reading material to read by him/herself until s/he becomes a proficient reader. Afterwards, s/he is given the "pen print" copy book for writing.

This method was so successful, said Fr. Laubach, that over a period of one month, some three thousand learned how to read, making it possible to teach all the people in Lanao province to read in four or five years. Although teachers are not a problem (at present there are some 400 volunteer teachers coming from various sectors, including *datus* and *sultans*), the lack of reading materials continues to be felt. According to Fr. Laubach, "The people of Lanao are not greatly interested in the literature from other lands or even from Manila. They are deeply interested in their own literature." Popular among the masses are the native epics and stories of the prophets which some people are putting down in Maranaw script and which Fr. Laubach's team is printing. They are also translating into Maranaw and printing books on health, law and government, geography, business, history, "morals," and religion. A four-page periodical containing mostly provincial news is likewise regularly printed and disseminated.

Fr. Laubach's method has drawn the attention of many local legislators and visiting scholars who "have pronounced the system one of the finest...in the world." From our perspective, it is admirable not only for its effectiveness in teaching people how to read and write but also, and more importantly, for its use and promotion of the local language and its espousal of the validity of community knowledge. By this means, it has made possible the development in printed form of the local knowledge system.

A similar program is the Adult Education Program of Dansalan College in Lanao del Sur. Originally an adult literacy program, the Dansalan program is now an adult education and community organization program which covers three phases, namely: functional literacy, continuing education, and the project phase. Proceeding from the assumption that "literacy [is] only....a facet of the many factors of daily life and survival that education must develop, and that education is only effective when it is relevant to crucial issues within the community..." the syllabus and curricula for each of these phases is based on community concerns. For instance, in teaching the basics of reading, writing, and arithmetic, examples are drawn from fishing and farming and other such community activities. The method used is called "tech-so-math." A session begins with a class discussion of a lead sentence illustrated by a picture chart. Lead sentences are always about realities familiar to the participants. The first discussion of a lead sentence is technological; thus, if the lead sentence is about farming, such technical (tech) aspects as farming implements and methods are discussed. This is followed by discussions on the sociological (so) aspects of the lead sentence. Finally, the discussion is translated into mathematical (math) symbols and fundamental operations are taught.

The series of discussions enables the staff to identify community problems and study concrete solutions to these for the continuing education and project phases. Also, through the discussions, language skills are developed informally. Formally, these skills are taught during the second half of each session using specific words found in the lead sentence for the teaching of how words are formed out of syllables, how several words combined can form a sentence, and so on.

To sustain the interest of the participants, the Dansalan Adult Education Program staff found it necessary to develop a variety of supplementary materials like photographs, slides and film, and audio tapes. Primers were also provided each student. According to Bruno Tolentino, director of the program, the curriculum and syllabus were developed by a team consisting of the technical staff, resource persons, and literacy teachers. In this one aspect, the program seems limited. That is, the learners themselves do not participate in curriculum planning. This is not the case with the Education Forum adult literacy project among the Agtas of Heneral Nakar, Quezon Province.

In an article titled *An Education Program for the Agtas by the Agtas of Heneral Nakar, Quezon Province* (in *EF Curriculum Journal* January-March 1991), Fr. Jojo Eranista et al. describe a pioneering project in curriculum and para-teacher development for indigenous Filipinos. Based on the philosophy that "the best [education and development] program is that which people develop and implement according to a critical assessment of their own needs, through their organized efforts, and at their own pace," this multi-sectoral effort actually covers two main programs: education and socio-economic development. The first "is designed to integrate basic and functional literacy-numeracy, health, cultural development and to provide the educational foundation" for the second program which focuses on agro-forestry, and marketing and a consumers' cooperative.

The educational program takes place over a period of three and a half years. It has three levels: basic literacy and numeracy for six months; a basic education course for two years; and specialization and skills development including leadership training, health and education work, cooperative development, and agroforestry training, for one year. The basic education integrated curriculum for mathematics, health and science, civics and culture, and communication arts has five main themes identified by the Agtas themselves, as follows: 1) *Lupa* (Land); 2) *Kalinisan, Kalusugan at Wastong Pagkain* (Sanitation, Health and Nutrition); 3) *Kulturang Agta* (Agta Culture); 4) *Pagtutulungan* (Cooperation); and 5) *Pagdadalisay sa Sarili* (Self-improvement through Knowledge and Values).

Specific instructional modules make use of local knowledge (e.g., of plant varieties) even as new skills (e.g., counting and classification) are taught. In addition, Agta songs, riddles, folk tales, and original stories have been collected, to be published as part of the reading program. There is also a regular newsletter titled KABINSA.

The para-teacher training component of the educational program is an offshoot of the Agtas' desire to promote self-reliance and preserve their autonomy as a people. In addition to developing the curriculum described above, the Agta para-teachers administer the actual education programs for young and adult Dumagats. They are being trained by the Tribal Council for Development and the Education Forum in such skills as module preparation, test construction and student evaluation, pedagogical training, and simple ethnography.

Both for the philosophy of education it espouses and the development of a concrete program which is participatory and integrated or wholistic and not fragmented in its incorporation of local knowledge into the curriculum, this educational program is exemplary. For this reason, the current project used as model the integrated curricular grid described above for the systematic documentation of the various local knowledge systems we have researched.

One other important study which has inspired this work is the forward-looking proposal of some educators and researchers at the Institute for Science and Mathematics Education (ISMED), documented in the EF Curriculum Journal (April-June 1993), that science and math be taught to Filipino students in Filipino, using as basis the learners' experiences and cultural heritage. Backed by solid research in psychology, science and math education, Jasmin Espiritu Acuña, Elvira Nguyen, Joe Fadul and Fe de Guzman provide sample science and math lessons which illustrate an exciting variety of pedagogical approaches and techniques for the teaching of science and math to Filipino children. One of these is story-telling which stimulates mathematical thinking not by means of abstract problems but by means of concrete stories which the children can identify with. Also, sample lessons are about teaching values through math.

In the sample science lessons, Philippine history is used to illustrate such concepts like how caves are formed. There is a lesson titled "Agham sa Kusina" where the principles of evaporation, condensation and conduction are taught and the differences between acid, base and salt chemicals are illustrated. The lesson on astronomy makes use of the local names of constellations, even as their English names are also taught. Weather is explained in relation to Philippine houses. Even games played by Filipino children like *luksong tinik*, *holen*, and *siyato* are used to teach different measurements and the concepts of force and energy.

What all these illustrate is that math and science are not entirely academic and abstract, removed from daily human activities. Mathematicians and educators engaged in ethnomathematics, broadly defined as the study of the mathematical ideas of various cultures, assert that "through interacting in a myriad of daily-life activities, people already think mathematically" (Frankenstein and Powell 1994). Moreover, different groups of people develop mathematical concepts and methods according to the demands of their daily practice. However, it is often the

case that dominant views and modes of teaching math, which erroneously consider it to be universal, "static and ordained," result in a split between "everyday" mathematical knowledge and "school" mathematics. There is much to be learned from everyday mathematical operations that take place in such contexts as the wet market and the farm, and in such activities as basket-weaving and pottery-making. It is part of the project of this study to document some of these ethnomathematical practices in Philippine communities for possible integration in literacy-numeracy programs designed for these communities.

This study also draws inspiration from related projects in the formal education sector, specifically the work in Sikolohiyang Pilipino by social scientists primarily from the University of the Philippines. Proceeding from the assumption that Western psychological and sociological paradigms cannot begin to explain, much less exhaust, the social psychology of Filipinos in their multiple contexts, they have adopted indigenous methodologies such as: *pakapa-kapa* (feeling one's way around); *pagtatanung-tanong* (asking discreet and indirect questions); *pakikipagkuwentuhan* (swapping stories); *pagdalaw* and *pakikipagpalagayang-loob* (paying regular visits and establishing camaraderie and friendship); *pakikisama* (getting along with); and *pakikipamuhay* (living with). Coupled with *pagninilay* and *paglilimi* (reflective thinking), these methods have enabled them to blaze a trail in indigenizing a heretofore Western-oriented discipline and in affirming the validity and vitality of education for and by Filipinos.

2

INCORPORATING COMMUNITY KNOWLEDGE IN THE CURRICULUM

In this chapter we illustrate how community knowledge from the ethnographic sources we surveyed, can be incorporated in a standard curricular grid for basic and functional literacy and numeracy classes. Documented here are some aspects of the community knowledge of ten Philippine communities representing nine ethnolinguistic groupings and eight regions, as follows:

Table 2: List of Communities with Curricular Grids Included in Chapter II of Volume I of the Main Report

Community	Ethnolinguistic Group	Region
Sagada, Mt. Province	Ipugao	CAR
Angono	Tagalog	Region 4
Looban, Sta. Ana	multi-ethnic	NCR
Bacolod, Sorsogon	Bikolano	Region 5
Magballo, Negros Occidental	Ilonggo	Region 6
Basey, Samar	Waray	Region 8
Bukidnon	Bukidnon	Region 10
Sulu	Tausug	ARMM
Tawi-Tawi	Sama/Badjao	ARMM
Lanao del Sur	Maranao	ARMM

Because these communities share conditions of marginality vis-a-vis the metropolitan center where socio-political and economic power is concentrated, they are often targetted as sites for various educational and development projects by both government and non-government agencies. In terms of main economic activity, the communities may be grouped as follows:

Table 3: Classification of the Ten Communities According to Main Economic Activity

FARMING	FISHING	URBAN POOR
Upland tribal swidden agriculture (Bukidnon of Mindanao)	Sea nomads (Moslem) (Sama of Tawi- Tawi)	Urban poor (Looban, Sta. Ana)
Upland tribal rice terracing agriculture (Ipugao of Sagada)	Combination lake fishing and farming (Maranao of Lanao)	
Hill monocrop (sugar) (Ilonggo of Magballo)	Marine fishing (Waray of Basey, Samar)	
Lowland Moslem (Tausug of Sulu)		
Lowland Christian (Tagalog of Anggono; Bikolano of Sorsogon)		

A third classification of these communities may be made according to cultural life, or general lifestyle, originally proposed by Doronila in Learning From Life and explained in more detail in Contexts, Constraints and Possibilities of Literacy in Marginal Philippine Communities. A brief description of each type, derived from the latter work, is given below.

The first community type in this classification is called *traditional* on account of its relative cohesion, or wholeness, as a culture. The various aspects of community life are so integrated that they cannot be compartmentalized into discrete, specialized components. This is true of community knowledge as well which is known and practised not as isolated fragments in the form of specific beliefs and customs for specific contexts, but as wholly intertwined parts of a seamless cloth. Religious rituals, for example, are not confined to certain hours and days but practised in the course of such socio-economic activities as shark-hunting.

Thus, the unity between knowledge and practice--expressed in the statement "What we know is how we live"--is affirmed.

The second community type is called *transitional*. The reasons for the transition from the old lifestyle to a relatively new one vary. In some communities like the tribal groups in the Mountain Province, the transition is caused by exposure to modern values and practices by means of trade, mass media and formal education. In other communities such as the refugee and resettlement communities, the transition is a result of forcible displacements from the traditional environment because of natural calamities and even war. In these communities, traditional knowledge in the oral mode survives in significant areas of community life such as in rice terracing agriculture and in literary and artistic traditions, even as literate practice is evident in areas where the people need to relate to the world outside the community.

The third type is the *Moslem Filipino minority community*. They are minoritized in terms of population, language, religion, and access to socio-economic services like health and education. But the community gains cohesive strength through communal adherence to Islam which is the single most important influence in their belief and value systems.

The fourth type is the *lowland Christian majority* which has had the longest exposure to Spanish and American cultures. It also has more access to government resources, mass media and urban life. The lifestyle of communities of these types incorporates many Christian and urban

values though a few traditional elements remain. Because of the dominance of the literate tradition imposed by "small elite groups, heavily Westernized in their practices, preferred language, and world views, traditional oral knowledge is extremely marginalized and survives in fractured and diffuse forms" (Doronilla 1995). There is little or no integration between the two forms of knowledge, which may account for the fact that neither empowers the people in their struggle for a better life.

The fifth type is the *urban poor*, a multi-ethnic community of marginalized peoples often pejoratively referred to as "squatters." They live on the fringes of urban communities where some of them find employment as service workers or small vendors. Unemployment and the lack of basic social services, as well as the constant threat of demolition characterize such communities. According to Doronilla, "the much more precarious material conditions exacerbate the separation of the two forms of knowledge, with the effect of definitely reducing and further fracturing traditional knowledge, and expanding literate knowledge which however remains diffuse, unintegrated, shifting and without focus, and based only on the demands of the succession of odd jobs that become available to them."

The sixth type is designated *developmental*. These are communities which have achieved some form of participatory democracy with some help from non-government organizations (NGOs) and people's organizations (POs). In these communities, there is a conscious attempt on the part of the people to combine both traditional and literate knowledge systems "as a crucial element in their education towards the realization of their social projects." This integration of knowledge with practice is shared by the developmental community type with the traditional community described earlier, with the important difference of the developmental community's cognizance of modern modes of development.

This classification of communities according to lifestyle is particularly appropriate for this study since it provides a framework for understanding the nature of community knowledge in each community. However, because of the unevenness of the data we were able to get from the different ethnographies, the general comments on the nature of traditional and literate knowledge systems by community type might not be apparent in the curricular grids that follow. There is a need to determine more scientifically (in consultation with the people themselves)

what beliefs and practices are true for these communities. Without eschewing the indispensability of this field research, we classify the communities covered in this chapter by lifestyle, as follows:

Table 4: Classification of Communities by Lifestyle

Traditional	Transitional	Moslem Minority	Lowland Christian Majority	Urban Poor
Sama of Tawi-Tawi	Ifugao of Sagada	Maranao of Lanao	Tagalog of Angono	Multi-ethnic community of Looban, Sta. Ana
	Bukidnon of Mindanao	Tausug of Sulu	Bicolano of Sorsogon	
			Waray of Basey, Samar	
			Ilonggo of Magballo	

Although no representative of the developmental community type is included in this chapter, we devote an in-depth discussion in Chapter III of Inipon, Rizal and Corona, Quezon and their successful integration of the most empowering of their traditional value systems and of new/modern technological and literate skills in their community development projects.

The body of folk and popular beliefs and practices documented here are classified by theme, as follows:

Table 5: Classification of Community Knowledge by Theme

THEME	SUB-THEMES
Nature/environment	Climate/weather and time Direction and stars
Production/livelihood activities	Farming Fishing Animal-raising Trade Others
Social organization/relations	Courtship and marriage Child-rearing Kinship Social Stratification
Political organization/ civics/law and order/ moral codes	Political structures Law and order Ethics Others
Culture	On birth and childbearing On health and illness On death and burial Religious practice Literature Arts/crafts Architecture Games

The subject areas covered are communication arts, civics and culture, science, and math. These correspond to the areas covered in the formal basic education curriculum, underscoring therefore the adaptability of the present materials not only to nonformal but also to formal education.

For each community included, an integrated curricular grid is presented. The grid is integrative in several ways. First, it shows how data listed under different subject areas are in fact interrelated such that

mathematics lessons should be of a piece with lessons in civics and culture and in other subject areas. For this purpose, where specific practices seem to fall under only one subject area, we provide general suggestions (in brackets) regarding possible lessons in other subject areas. Second, the thematic classification of data is provisional so that artistic and literary beliefs and practices, for instance, are in fact closely intertwined with the socio-political-economic life of the community. Third, the inclusion of scientific notes in the grid underscores the interaction between traditional knowledge systems and modern scientific perspectives which takes place both in the actual conduct of community life as well as in discursive practices characteristic of educational projects such as ours.

A brief explanation of the scientific notes is in order. As indicated in Chapter I, we invited teams of experts in farming, animal science, fishing, meteorology, and health to annotate the data we had collected. The scientific notes included in the curricular grids in this chapter are the result of this exercise. These notes are by no means exhaustive or final. Some of the experts we consulted expressed doubts about the validity of commenting on data that, despite our attempts at contextualization, appear sketchy and fragmented. The agricultural experts in particular said that many farming practices need to be elaborated on, with information regarding geographic location, terrain, and temperature, for example. Because of the absence of such data, the comments by the experts are necessarily tentative and general. But they nonetheless point the way to a more rigorous analysis of data hitherto labelled "unscientific."

The curriculum grids that follow may serve as general guides in the planning of specific literacy programs in the communities indicated. Specific modules or lesson plans may be formulated for each subject area and for each level (basic or intermediate, for example). But before this is done, it is important to have the target populations examine and critique the grid to find out whether the beliefs and practices listed are accurately recorded and still current. Modifications may be made if necessary. And the people should themselves determine which themes or topics they wish to focus on and discuss in the course of the literacy program. Finally, it is important to integrate not only the lessons in each subject area but also to link education with development activities and efforts in the community.

The curriculum grids are presented in this order:

1. Grid # 1: Sama/Badjao of Tawi-tawi
2. Grid # 2: Ipugao of Sagada, Mt. Province
3. Grid # 3: Bukidnon of Mindanao
4. Grid # 4: Maranao of Lanao
5. Grid # 5: Tausug of Sulu
6. Grid # 6: Tagalog of Angono
7. Grid # 7: Waray of Basey, Samar
8. Grid # 8: Bicolano of Bacolod, Sorsogon
9. Grid # 9: Ilonggo of Magballo, Negros Occidental
10. Grid # 10: Looban, Sta. Ana, Manila (multi-ethnic)

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT STARS/ WEATHER AND CLIMATE	[Songs and stories about the stars and other natural phenomena]		Sama fishermen use the stars as navigational guides. Just by looking at the stars, they can determine their exact position in the open sea and the exact date and time of their arrival at their destination. <i>Scientific note: Ancient navigators used stars as navigational guides.</i> Just by dipping a finger in the sea, the experienced Sama fisherman can determine the direction of the current and predict the weather. <i>Scientific note: This may be true of determining the direction of the current.</i>	[Mathematical concepts and principles illustrated by natural phenomena]
LIVELIHOOD/ ECONOMIC ACTIVITIES VENDING AND BOATING	[Rhetorical patterns: description, process, classification]	To augment the men's income, Sama women peddle small coral fishes, tehe tehe or the meat of sea urchins, mussels, edible sea-weeds, octopus and baluys or mats. Another source of income, especially among the teenage group, is transporting people across a mile-wide channel in their bancas. They are called bankeros. Occasionally, a mother and daughter tandem is seen, indicating that the menfolk are away on a fishing trip. Also a common pair is the husband and wife,		[Commercial transactions]

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		with the husband doing the paddling in the rear and the woman paddling in front. Foodstuffs are also accepted as fare. More recently, young boys and girls earn a bit from coin-throwing tourists and visitors.		
FISHING	[Narrative account of shark hunting] [Description and classification of sea vessels, tools and fishing implements] Songs that accompany fishing activities; e.g., song sung by Sama children to welcome their fathers home from a fishing expedition: Lo Lo! Masau banog tul'lu Leyang magbiyu biyu Bang tau-wah tokod ko Tekka na si uhmarah ko Lo Lo! (Lo Lo! Whose are the three sails Swaying back and forth If my guess is right My father is arriving.) The lo lo or lu-lu is "a short poetic composition recited and sung with a distinct rhythm by a fisherman or his son as he steers or paddles his pelang	Fishing is the primary economic activity. It is also the activity around which the Sama community is organized. Fishing is a communal activity. Whenever a family is successful at fishing, a portion of the catch is shared with other members of the komkoman who, due to illness or some other reason, is unable to get their own supply. This is in keeping with the injunction, "What I eat is what you eat." But what best expresses Sama unity and cooperation is shark-hunting. Involving two or more komkoman, this venture is carefully planned under the guidance of the Botang Mat'toa who advise the participants where to fish, how to deal with emergencies, what troublesome areas to avoid, and what prayers to say so as not to incur the ire of the tungguh, the supernatural guardian of the sea. The Botang Mat'toa also decides who may join the munda'an, whose boats and leha will be used, who will finance the trip, and which	Different practices are observed for each type of fishing activity. In the amanah (speargunning), the wife maneuvers the pelang towards the site indicated by the husband: The latter then dips half of his head underwater to locate a good target. With his pana loaded for the kill, he dives swiftly into the deep at the sight of his target, fires his pana, catches the fish on a sharp iron rod, and surfaces back to his boat. In the a'nuh, the sahapang is used to kill the kanuus or kulabutan. The stingray or pahi is killed with the sangkil. Shark-hunting requires three to four pelangs with a minimum of eight to 10 participants. In each pelang, an expert harpooner is assigned to ensure that the target is taken even the assigned harpooner misses. As soon as the shark is	The Sama numeric system is limited to thousands. To compute the cost of catch the abacus is used. [Modes of measurement used] [Shapes of baskets for geometry lessons]

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	on his way to fish or as he returns home. Its theme is usually the sea and its wonders."	Chinese suki to contact for credit, payable upon the disposal of the catch. A nakurah or leader for the expedition is also chosen. The length of the stay at sea depends on whether they have caught enough to make up for the expenses incurred for the expedition. The trip home is made when the food supply has run low. The return of the munda'an is greeted with much jubilation. If the arrival is at noon or towards sundown, the catch is usually stored in the bigger house until dawn when the men and their wives prepare to market the catch at their suki's store. At nightfall, the men gather in the house of the Botang Mat'loa to share anecdotes of the trip as they drink coffee and chew mama (betel chew). The Botang is given a share of the catch for the lalamutan or offering to the Uhmboho. The tribute to the Lord of the sea, Uhmbo Dilaut, includes dropping a plate, a bowl and a saucer where the catch was made so that the Uhmboho will not be angry and instead give them more fish. With the aid of the suki and his abacus, sales are properly divided among the participants in a fishing expedition. The nakurah then suggests who should be given a bigger share for extra services like the loan of gas lamps, sails or lehas, and boats. The nakurah is usually given a bigger share for his good	caught (smaller sharks are preferred), it is cleaned of its entrails, cut into halves, and dipped in boiling water for a few minutes until the sand-like covering of the skin softens. The halves are then rinsed in cool water to remove the sandy covering, and then shredded into smaller pieces. Types of fishing boats are: 1. the jeng-eng, a small version of the canoe but heavily built to withstand turbulent seas; 2. the lepa, a large jeng-eng with a heavily decorated prow (the decorations are ukir or carvings); 3. the pelang, an outrigger sailboat or vinta, which is the most intricately decorated of all Sama boats (notable is its multi-colored leha or sail) Common fishing gear include: the barih (knife for cutting), lahut lahut (smaller knife for carving), kapa (ax), sangkil (harpoon), sahapang (three-pronged spear), tipara (under-water eyeglasses), and panah (speargun). Fish traps like the panggai or bubu (woven bamboo slats in rectangular, square or round shapes) are sometimes used.	

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		management of the trip. Then the <i>men embrace one another and with their wives, proceed to buy gifts for the elders, the children, and the less fortunate members of the community.</i>		
SOCIAL RELATIONS/ ORGANIZATION KINSHIP-BASED COMMUNITY	[Description of pehak, komkoman and munda'an] [Traditional metaphors for community life and experience like the pehak]	"Sama" means bound together, united and having one common origin. What distinguishes the Sama of Sulu from all other cultural groups in the Malayan archipelago is their intimate attachment to a common origin they call pehak which literally means fish gonad or eggs. The statement "Da pehak kitam" (We come from the same gonad) embodies the basic ideological principle governing Sama community life. The two types of Sama community are: the munda'an and the komkoman. The munda'an (literally, the fronthead of a boat) is a fleet of Sama boats bound for a fishing expedition. It is composed of a kin-group usually consisting of two families-- the parents, their unmarried children, the married son (usually the eldest), and grand-children. A married daughter traditionally becomes a member of her husband's munda'an.	The Sama utilization of space as seen in the munda'an and komkoman. Note also their concept of maritime control--i.e., no two boats or houses must be too close to each other. [Other scientific principles embodied by physical arrangement of Sama community]	[Mathematical principles illustrated by Sama arrangement of boats and houses, etc.]

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Primarily nomadic in nature, the munda'an may sometimes drop anchor at coastal settlements where the land-based or strand-dwelling Sama live, to engage in barter or trade. When at bay, the normal distance between munda'ans is seven to ten meters--a distance which may be attributed to the Sama's stoic insularity, shy nature, and independence. The munda'an members refer to the place where they drop anchor as pahantian (sanctuary). Unless threatened with physical harm, they prefer to return to the same pahantian after their fishing expeditions. In the course of time, the nomadic nature of a particular munda'an may be altered to a semi-strand based settlement pattern which leads to the komkoman. The komkoman (meaning "grip") refers to the Sama strand settlement consisting of four to six houses. Like the munda'an, one komkoman set apart from another komkoman by a five- to six-meter distance between them--which is wide enough to allow for the passage of a pelang or vinta. A komkoman hut or luma is a one-room affair built out of local materials that can be bartered for fish and other marine products. The door of		

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		each house normally faces the open sea and boats are moored in this direction to make escape from an invading tribe easier. Smaller boats are used as floating stores.		
COURTSHIP AND MARRIAGE	[Courtship and wedding songs] [Description of rituals and ceremonies like the pang-angbat which is a formal announcement of a couple's engagement]	The engaged couple should not be allowed to associate with each other until after marriage. After the parent of both the boy and the girl have agreed on the engagement, no other proposal shall be accepted and no gift giving by men other than the relatives or family of the boy is allowed. The boy and girl are also prohibited from engaging in conversation. The parents of the girl are the ones who set the time and date of the pang-angbat. If a pagsaan (disagreement) arises during the engagement, the relationship is broken. A bamboo pole is planted beside the main door of the house and a big blanket with a bright colored design is raised to symbolize the forthcoming wedding. The multi-colored blanket implies that the marriage will be blessed with better		

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		opportunities in life. In the early morning of the wedding day the bride is bathed by an imam. If the wedding was arranged by both parents, it is only after the wedding that courtship takes place. After a divorce, whoever marries before the end of the grace period is penalized.		
SOCIALIZATION	[Description of distribution of roles by sex and age]	Sama men in the komkoman engage in deep-sea fishing when this is called for by the community. They make their own tools and fishing gear, or modify those they have bought. They also gather materials for house building or repair when necessary. The women gather food supplements, do the household chores, assist the men in their fishing activities, weave mats, and take care of the children. They are the custodians of their husbands' earnings and dispose these according to the latter's specifications. As early as four years old, Sama children learn the technique of picking edible shells during low tide, and even the ability to dive into the sea at a depth of 1 or 2 meters to retrieve a fallen knife or	[Scientific principles illustrated in daily activities of Sama men and women]	[Computations/formulae required in daily activities of male and female members of the community]

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		tool. By the time they are 10 years old, they become the partners of adults in various tasks. The girls assist in women's work while the boys assist in men's work. Some types of fishing require the coordinated efforts of both husband and wife, or a father and one of his children. One is amanah (speargunning) where the wife maneuvers the pelang to the appropriate site or position and the husband catches the fish. Another is the a'nuh, the dominant type of fishing done during dark nights along the fringes and deeper seas not far from the settlement. Here, the wife maneuvers the lighted boat while the husband catches any type of fish in sight. The usual catch is the kanuus (squid) and the kulabatan (cuttle fish). Girls also undergo circumcision. This is known as pag-Islam. It is said that girls who do not undergo pag-Islam will become flirts. Until the wound (caused by circumcision) is healed, the patient is not allowed to do heavy work or to walk outside the house lest she step on the waste matter of animals.		

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
POLITICAL ORGANIZATION LAW AND ORDER		The Botang Mat-toa refers to the prescribed ways or botang of the Sama as decreed by the Umhbo (great grandfather; the eldest male member of the munda'an). It also refers to the guardian/custodian of these customs and traditions. The Umhbo or Botang Mat'toa guides the nakurah (leader) in the supervision of community affairs; solemnizes marriage ceremonies (called paghunda/pagkawin); conducts other rites and ceremonies; and keeps track of records (mostly oral) of the clan's genealogy. The nakurah is the consensually chosen leader of the munda'an. He is chosen for his physical qualities, knowledge of the weather, seniority among male members of the clan and ability to handle affairs outside of the munda'an. Any violation of the pehak is punishable with expulsion from the community.		
CULTURE BELIEFS AND PRACTICES RELATED TO CHILDBEARING	[Rhetorical patterns: cause and effect, process, description]	An expectant mother is not allowed to eat jackfruit, lanzones, durian and bananas, lest the baby grow big in her womb. An expectant mother who has offended an elder should apologize or ask for the taubat. Otherwise, she will experience difficult labor.	[Maternal and child health]	

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		A pregnant woman should not go to a wake lest the fetus be born dead. Two pregnant woman should not be allowed to live in the same house because misfortune or death is likely to befall one of them or one of their infants. The panday or midwife assists in childbirth. She is given a ganta of rice, an egg and sugar by the expectant mother. A ritual is performed for women who have just given birth by the panday or midwife. The ritual is based on Islamic practice. It includes the pag-kunit or postpartum bath. After the pagkunit the mother is allowed to breastfeed and perform minor household chores. If the newborn is a boy, the Imam makes a loud call to prayer. The newborn is not allowed to suck from the mother until his/her first fecal discharge. Grated coconut colored with pundedulaw or yellow ginger, is used to rinse the hair of the nursing mother. Yellow is believed to signify the color of gold, which implies that the baby will do well in later life.		

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		When a mother eats jackfruits after delivery, she will become ill and maybe even die. Breastfeeding is encouraged. It is believed that a child fed with animal milk will become unruly.		
BELIEFS ON HEALTH AND SICKNESS	[Rhetorical moves: cause and effect, process, description, classification]	The panday also administers to the sick. In times of illness, the supernatural assistance of the tungguh or spirits, is sought by means of prayers. Unsettled disputes are believed to cause a delay in a sick person's recovery.	[Health care]	[Measures, dosages used]
BELIEFS ON DEATH AND BURIAL		The dead is washed before burial by the panday. It is taboo to mention the name of a deceased parent. Sweeping the house during a wake will cause more deaths to the family. Sewing is taboo while the corpse lies in state. If one dreams about being with dead relatives, this means one will die soon. A dream about a falling tooth means one member of the family will die.	[Sanitation]	

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
ON COOKING AND FOOD PREPARATION	[Description of traditional dishes] [Process: preparing food]	Food is considered tasty only when one can hear a hissing sound from the diner due to the strong taste of lara. Sting ray meat is a favorite delicacy. When not cooked fresh in the elaborate way of the Suluans, it is sliced thinly and allowed to decompose overnight. Then it is broiled and spiced with sai (lemon grass), sulasi (an herbal mint), and dulaw (turmeric), or the meat is simply put atop embers until it is cooked. Various sauces or tinuanan may be used to garnish the cooked pahi or sting ray meat. These are: 1. tinoktok mampalam made of thinly chopped green mangoes, a little salt or baling (fish paste) and a strong dose of lara (hot chili of the small-est variety) 2. a sauce made of muntai iklog (native lemon), a small amount of baling, plain water or soup extract from the broiled meat and lara When prepared this way, the pahi is eaten with sinanglag (crunched cassava roasted in the simplih or clay pan), pinutu (steamed cassava crunch) or binamban (cassava wrapped in banana leaves and steamed).	[Scientific principles observed in food preparation]	[Measures used]

SAMA/BADJAO OF TAWI-TAWI

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The elaborate preparation of shark meat, called sinagol kaitan, involves cutting the fish and cleaning it very well. It is then sauted in coconut milk, crunched turmeric, garlic, onions, crushed sai and sulasi, slices of tomatoes, and lara. (Lara is considered an indispensable part of every meal.) It is then eaten with pinuto, sinanglag, or plain white rice.		
RELIGION		Islam is the dominant religion. Mosque leaders like the Imam and and Ustadj are consulted on religious matters. The Imam is usually invited for prayer offerings--e.g., in thanksgiving or to honor the dead. The office of the Imam appears to be hereditary.		

Sources: Han, Benjamin. Site Report for Boheh Umos, Tawi-Tawi. LEARNING FROM LIFE: AN ETHNOGRAPHIC STUDY OF FUNCTIONAL LITERACY IN FOURTEEN PHILIPPINE COMMUNITIES. DECS-BNFE-UP-ERP Project, 1994.

Tao, Saladdin. THE LIFE CYCLE OF THE BADJAOS: A STUDY OF EDUCATION AND CULTURE. 19

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT DIRECTION AND STARS Ancient Sagada legend says a solar eclipse is due to a fight between the sun and moon during which the latter throws ashes at the sun's face. A similar story is told about why the moon is not as bright as the sun: the sun threw ashes at the moon's face. [Other stories and legends about natural phenomena]		[See stories and legends]	[Scientific perspective regarding the formation of matter and the nature of various natural phenomena]	[Mathematical principles manifested in natural events --e.g., speed, velocity]
FARMING	[Description of festivals; explanation of significance] [Songs sung; stories told] [Songs sung during milling] Any man or woman skilled in extemporizing the daddada--at songs does so to relieve the tedium for the group working together; this type of song tells some narrative appropriate to the occasion in rhymed meter.	Dayday is a feast day celebrating the first sowing of the palay seeds. The people celebrate by cooking rice flour with meat in the center, wrapped with gabi or chayote leaves. The next day pork and chicken are sacrificed in the fields. The pagan feast which was started by Dayday continues with the Yabyab Begnas. The people get together in the dap--ay to celebrate, play gongs and dance. Some bring chicken, cooked rice wrapped in sugar cane leaves, tobacco and fermented rice wine as their lambo or donation. In Mainit, Bontoc, the people engage in a ten-day community sugarcane milling. The cane is pressed between large wooden rollers turned by as many as eight	Rice is grown in Sagada in irrigated stone-walled terraces built across the valley, the difference in altitude between the highest and lowest fields being 1,300 feet, with a resulting difference in temperature and favorability for ripening grain. The cycle of rice-farming begins in the native month of Pagpogew (usually early September) with the preparation of the fields -- as seedbeds. Letwod, the actual turning over of the earth, is done by both men and women using a wooden tool called aklo. Carabaos are sometimes driven around in circles so their hoofs break up the soil and work the old rice stalks in. The dried stalks must be thoroughly mixed into the soil, and this is done by trampling them down with the	[Math concepts shown in rice terraces--e.g., columns and rows] [Calculating and computing using traditional farming calendar; conversion of traditional modes of measurement to modern metric system and vice-versa] [Indigenous modes of measurement and other forms of ethnomathematics are shown in the farming implements enumerated below.] The sanggap is a tool for digging camote and for cleaning kaingins. It has a wooden handle more or less 20 inches long and a flat metal blade on one end and has a semi-circular edge which is

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		or ten men walking around and around in a circle pushing a large lever before them. Sometimes children replace the men and try to make a game of the work by singing songs and by seeing if they can race around the mill. Sometimes carabaos are used to turn the mills, usually during the long night, for the milling continues night and day until everybody's sugar-cane has been squeezed. These agricultural activities are scheduled according to a community ritual calendar and accompanied by the sacrifice of chickens and pigs to spirits and ancestors believed to be inhabiting fields, mountain sides, streams and trees, sometimes by individual families and sometimes by the whole town. The sowing of the seedbeds, the transplanting of the seedlings, and the placing of scarecrows in the fields are all initiated by a priest or priestess who has inherited the requisite skill--that is, a reputation for having had good crops, without any catas--trophes occurring after the performance. The beginning of the harvest is signalled by a rite performed by a whole group of village wise men. Additional communal sacrifices may be performed to 'blind' rats and rice birds against seeing the ripening grain, to increase the water supply in the dry season, or to counteract an infestation of cutworms and other pests.	feet (dayday) and, finally, by swinging one foot about in large arcs (sikadan) while maintaining balance by holding a staff in each hand. The carabao can be brought in for harrowing. During the last week of September, seedbeds are prepared by clearing away weeds. The seeds for sowing were carefully selected during the last harvest. They have been stored unthreshed, still attached to one-foot long rice stalks. Now the grains will be removed, husks and all, by pulling the heads under the sole of the foot (Kodsowan) or, less commonly, by drawing them between the thumb and forefinger. The seedbeds have two or three inches of standing water at the time of sowing as a defense against rats, and the seeds sink to the bottom where they should germinate within three or four days. About a week later all the little white coats should turn green, take root and stand erect with some leaves. The seedbed will again be irrigated and the water left standing or flowing during the rest of the seedlings' growth depending simply upon the abundance of the supply. People add sunflower stalks as fertilizer, either freshly cut or dried. Nobody uses	sharpened for digging. It is only 2 or 3 inches wide. The handle may be long or short depending upon the owner. The aklo is a curved piece of wood about 5 ft. long, often with a small handle at one end, used in place of a plow by both men and women to dig up rice fields. It may be 5 or more inches wide. The tampak is like the sangap but its blade is usually sharper, thinner and wider than the blade of the sangap. It is used for cleaning kaingins and the surrounding of the rice fields. It is not used for digging camotes, however, because of the wideness of its blades which might easily destroy the camotes. Sinowan is constructed like a sangap and is used for breaking the soil for a new kaingin. The kagitgit is round and pointed. It is used for removing camote and for cultivating kaingins. The daos or tolan is like a sickle made out of a discarded metal shovel. The curved blade is fitted into a wooden handle and held there by an iron ring. This is used for cutting weeds.

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	[Description and classification of farm work]	But special sacrifices in fields that do not produce well are becoming less common as chemical fertilizers grow in popularity. The sowing itself is always done by women, and the seeds are broadcast with an overhand snapping motion of the fingers by which they are released horizontally at face height. Certain women are called upon as experts in broadcasting and give their services free to those requesting them. All able-bodied men, women and youths take part in the fieldwork (harvesting). Women take a sturdy flat basket (lawa) with which they can transport a load of 60 to 80 bundles of harvest rice on their heads; men use gimata (loaded with 100 to 120 bundles).	pigpen compost. The final smoothing, kneading and leveling of the soil follows when the seedlings have been growing a month already. At the end of November, transplanting takes place. For the next two months, the fields should have an ample water supply. In February when the rice is knee-high, farmers remove weeds carefully, redistribute some of the plants if they are crowded and apply mineral fertilizers (a kind of acid black deposit called tad-og). By March, farmers busy themselves constructing scarecrows because grains are ripening. When transplanting, both men and women go out with baskets to where the plants are already at least 8 inches tall. These plants are pulled gently so the roots will not tear. The women will stick them two inches deep into soft soil by holding them parallel between thumb and forefinger. They are planted about five inches apart in rows, but these rows are not in ranks—that is, they appear to be in rows in one direction only. Because they cannot stay long underground, mature camotes are dug up for preservation. They are sliced into thin pieces and dried in the sun three or more days depending on the heat. The dried camotes are used	The alado is a plow. It is made of wood and has only one handle and a pointed blade of iron or steel. It is pulled by a carabao. The sagad is a kind of harrow to smoothen the soil after the field is plowed. It is made of wood fastened together and is pulled by a carabao. The wooden teeth at the bottom is about 4 or 5 inches long. The ateb is a trap placed in fields for catching rats. It is a deadfall and is woven out of reeds, making a sort of basket about a foot long, 9 inches wide and 6 inches deep. It is raised from the ground by a string tied loosely to a post. At the center of the trap is the bait. When a rat sees the bait and seizes it, the string is pulled loose and the trap falls on the rat suddenly. The gaat is a slipnoose for catching birds on the ground. A string loop hangs from a reed which is fastened to tow other standing reeds stuck on the ground. A narrow path is made which leads to the loop. If a bird walks through the path and happens to put its head in the loop, then the weight of the bird will pull the string and the loop tightens. The bird is caught by the neck.

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	[Description and classification of farm produce; also of farm implements]		as a substitute for fresh camotes when there is scarcity of new roots. <i>Note: The procedures outlined above have been proven to be effective in the course of the people's practice and experience.</i>	The liga-o, commonly called a winnow in English, is wide, circular and shallow, with a diameter of 20-28 inches and a depth of about 1 1/2 inches. The frame, about 1 inch wide, is made of wood or bamboo, and it is bound with rattan cut lengthwise in strips about 1.5 cm. by one cm. The rest is made of bamboo or canes in 1/2 inch strips. It is used for winnowing rice, millet, corn and coffee and used as a container for drying meat, corn, palay or legumes in the sun.
SOCIAL RELATIONS/ ORGANIZATIONS CHILDREARING	[Stories and songs for children]	The name is usually given by one of the grandparents or by the parents. The names of famous ancestors are perpetuated in this way, occurring over and over in different branches of the family, generally in alternate generations. There is no formal training of small children. The attitude of parents is highly affectionate and permissive. There is plenty of bodily contact. A boy is introduced to the dap-ay by being carried there in a blanket sling which is a symbol of security. Toilet training is also gradual, casual and unaccompanied by	[Health concepts]	

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	[Description and classification of roles by sex]	scolding or emotion. The sexual division of labor and the growing formality of cross-sex sibling relationships gradually separate brothers and sisters. The boys bring in wood, work in rice fields, and learn to hunt. The girls labor with their mothers and aunts in camote fields. At the age of 8–10, children can no longer sleep in the same room as their parents. The boys are sent to a sleeping house for boys and old men, the dap-ay. The girls go to the elegan. The boys in the dap-ay are divided into 2 groups, the younger ones (7–12 yrs.) classified as mama-o and the older ones called mangmong. The younger ones have more duties to perform. These include drying runo-seeds, kindling a small fire outside of the abong, scratching the feet of older boys and old men and keeping watch at night. To keep the fire burning at night is necessary because using blankets in the dap-ay is a taboo. Another important duty is to assist old men in pakde, a sacrifice of pigs. As a privilege, the small boy may take the whole leg of a pig home. They also act as assistants to older priests in the different ceremonies and in looking out for who is working on a rest day so they can be punished.		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		All unmarried girls from the age of 8 and up sleep in the ebgan. Many love affairs occur in this place. The ebgan has a "meat party" called sidsidda. A day or days of killing chickens and cooking of different meat for sacrifices take place in several houses and girls save their share and take it to the elegan where everyone is gathered. There are fewer disciplinary problems with girls and no system of punishment by older girls or even parents.		
COURTSHIP AND MARRIAGE	[Courtship songs and dances] [Description and narration of various ceremonies] Dancing during the Palayog or Koslay takes place outside the house. The men dance in a circle and beat gongs while the women dance on the outside with upraised arms. Songs are sung, notably the liwliwa, a stylized conversational singing extolling the hospitality of the parents and wishing long life and many children for the couple. Da-ing or song debates are also conducted. The man and woman tease each other over the preparations of rice-harvesting or work in the fields. The man sings as the men in the group shout a refrain. The women also	There are three traditional methods by which a marriage may be arranged: (1) by the boy and girl in the ebgan; (2) by go-between (men-itoya) who speak to the girl for the boy; or (3) by the parents of the couple. It is not thought proper to marry a sister or a first or second cousin - all called 'sibling' in address - though marriage with a third or remote cousin is permissible. The major courtship pattern is for teen-age boys to go around in groups from one ebgan to another, singing songs or serenading the adolescent girls with panpipes (diu-as), nose flutes (kallaleng), or jews harps (awiding). Normally a boy does not enter an ebgan where his sisters		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	repeat some of the woman's words. Cultural traditions are preserved in this way. It is also a means of letting off steam. [songs] From the night of Payo, boys and girls assemble after dark at the houses of the couples for men bolbolitiya, the telling and solving of riddles. Then the two marriage trees are taken down and placed under the caves outside the house. [riddles]	or close cousins are wont to sleep. A boy and girl typically engage in a kind of singing duel. Friends of the celebrants from other towns and barrios are invited for the wedding. The weddings are accompanied by the beating of gansas and dances. Pine leaves are placed by the door to signify the celebration of a wedding feast. The first step in the elaborate series of marriage rituals is a symbolic exchange of work activities called dok-ong and ubbo. The boy, accompanied by his best friend, goes to the forest and carries the heaviest log he can carry on his shoulder to the house of his future father-in-law. The next day the girl, with a female friend, usually from her own ebgan, goes to work in the camote or rice fields of the boy's parents. From the standpoint of Sagada society, marriage actually begins with the pasya or preliminary marriage ceremony. After earlier notification, the boy's relatives gather in his father's house, bringing gifts such as meat, beans, and rice and the girl's relatives gather in her father's house bringing similar gifts. One of the boy's companions accompanies him to the girl's house,		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		carrying a topel basket with a few pieces of meat and a jar of rice wine. The girl's father takes the meat and wine, puts back a few pieces of his own rice and meat and says a pasya prayer. The pasya prayer is part of the Lumawig cycle of myths. Just as Lumawig in the sky had the pasya for his child, and the couple had long life, many children mean abundance of pigs, chickens, and crops. After the pasya, the boy and girl take the bamboo basket with some salt pork (etag) and a handful of uncooked rice and go to the boy's house with an escort. On arrival they give the basket to the boy's parents, who in turn provide food for the guests. The boy and the girl eat rice and meat together but each from his/her own dish. They then sleep apart, each in his/her respective quarters, the ebgan and dap-ay. During the period after the pasya, close attention is paid to any unusual event which may occur. It is a bad omen if any of the following events occur while the couple are walking, working, eating or sitting together: the girls' beads break, soup is spilled, a rat crosses their path, birds fly overhead in a certain way, etc. Should any of these take place, the marriage is tem-		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		porarily dissolved. Later the marriage may be renewed or the separation made permanent. The Li-it ceremony takes place a few months after the pasya. Here, the boy takes some salted pork and rice wine to the girl's house. She is seated in front of the house, and the two enter together. The girl's father opens the basket with a prayer. The next day the boy brings wood for fuel to the girl's house. Another rite is called Eset, the fixing of the house. Relatives on both sides, particularly the co-parents-in-law cooperate in the rebuilding or remodeling. Sometimes one set of parents turns over their house to the couple and moves into a vacant one. The Babayas are the public wedding feasts which are periodically performed in Sagada. They are normally held two or three times a year – in December and May, and also after the July rice harvest, if desirable. The old men who represent the various dap-ay set the date. Bayas may either be held as an initial marriage feast or performed by a couple long married to bring goodluck and many children. They are performed by both rich and poor but require a minimum of two		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		pigs. A major wedding ritual is called Palayag or Kaslay. Long processions of relatives arrive from neighboring towns bringing baskets of rice, pigs, chickens, rice wine and other gifts for the couple who sit near the door of the house to receive the gifts. A master of ceremonies, chosen by parents, utters a prayer and supervises the event. During this day, there is dancing, feasting, singing, and gift giving. The rituals symbolize the various activities of married life, and the song debates frequently dramatize them in a situational form. In a variety of ways, strength, permanence, health, contentment and other qualities of a good family, are emphasized. The most valued attribute is fertility. The day after the Palayog is called Poyo or Inga. The pine samplings put up the day before are cut down and a rooster is sacrificed for the rice fields. The following day is a 'rest day' called Gangaw. During this time it is taboo to go to the fields to work. This provides the men of each ward the opportunity to gather for ceremonial and secular purposes. If the weddings take place during the period when mushrooms and edible insects are		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		plentiful (about May), the Saob-ay ceremony is performed. Old men and boys go to the center of the rice fields bringing some chicken, a jar of rice wine, the kidneys of the pigs that have been butchered, and some topig or rice cooked in sugar cane leaves. The old men sing a song requesting the multiplication of animals, particularly edible beetles, mushrooms, snails and crustaceans. April and May are a period of hardship and the gathering of food is an important concern. During one of the days when they are allowed to work in the fields, called Papaen, friends and relatives come to wait on the couples in their houses. The bride and groom take a bath together. When they return, they sit down and start receiving the gifts of the townsfolk. The day after the Papaen, another Segep or 'entering' rite is held. The old men go to the couple's house in the morning to eat. In the meantime, a string of heirloom beads (gameng), furnished by the girl's parents or borrowed for the occasion, is given to a boy, who takes them to the groom. Later on the same day, the Apoy or 'fire' ritual for the fields begins. All people who have rice fields gather with a chicken and salted pork to ask the spirits of the mountain for a good harvest.		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The following day the old men perform the Pes-ay rite. They go around the town looking for a pig, and finding one, make arrangements with the owner for its purchase. The price is borne by the entire village. The next day is called Sidwil di Pes-ay, the end of Pes-ay. Married couples are not allowed to have sexual intercourse in the belief that this will cause rats to get their rice. A pakde sacrifice, officiated by an old man, is held at one of the sacred groves. A pig is provided by the whole town. one who supplies the pig is given one bundle of rice by each household. After the Sidwil di-Pes-ay, a second Bayas ritual called Pidpidwa, is celebrated. The "marriage tree" samplings are once more set up, this time at the side of the house. The father of either the boy or the girl takes a tangayen (hibiscus) plant, a torch, and a small amount of water in a bowl and recites a prayer. The meat is put in a wooden basin and placed at the base of the marriage trees and a master of ceremonies recites a prayer. After this prayer, the marriage trees are taken down and stored in the house. All present go inside the house while the old men sing. The groom takes a coconut shell of water and sprinkles in front of the house saying: "Spread out, spread out, spread out the		

IPUGAO OF SAGADA, MT. PROVINCE

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		fertility of crops and animals!". A Sabosab prayer is recited by the oldest man over the head of the sacrificed pig which is intended to strengthen the couple against disease. During the baknag or work day. The bridegroom goes outside the town to work and brings home a small bundle of pine branches, symbolizing a load of wood. A small pig is given as a gift by one of the parents. The following day the Otop ritual is held to make it possible to eat beans and other leafy vegetables and for strangers to enter the house, i.e., to terminate some of the taboos which the couple have had to observe. The second series of Bayas rites is mainly for the health and welfare of the new couple as well as for the welfare of the community.		

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
CULTURE BELIEFS AND PRACTICES RELATED TO BIRTH AND CHILDBEARING	[Narrative exercises like "How I got my name;" also exercises in explication like "What my name means"]	From the time the cravings of pregnancy begin, the husband must not fell trees. Neither the man nor woman may approach the "houses" of the Nginin or cave-dwelling spirits that hate people with pregnant wives, sows, or hatching hens, and who take the souls of children but not of adults. The man may not build stone walls either. If he fells trees or builds stone walls, the child might die immediately after birth or the mother will have a difficult delivery. Going near caves and underground passages may cause the child to develop an itch immediately after birth. As soon as a child is born, the whole household is assembled and eats together. The mother uses a separate dish, basket of camote, and wooden bowl and nobody eats with her. As soon as they have finished the first meal after the child's birth, the husband takes the afterbirth and buries it in front of the house. Then he takes the wife's basket and bowl and goes to the spring at Gedangan, Labayan, Today, or Engasen to wash them. He goes home and takes tobacco to his dap-ay. He puts it on a dap-ay stone and, if the child is a boy, says: "Here is what has been caught by the men's fishing [saep]." If the child is a girl, he says, "Here is what has been caught by the women's fishing [saydo]". When he goes back, he puts two sticks of runo-reed, from inside the house, in the ground before the house, in order that the townsfolk may know that visits are taboo.	[Maternal and child care]	[Determining age of fetus]

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The newborn infant is called engnga, 'baby'. On the fourth day, a ritual called Gobbaw is performed during which the child is given a name. A chicken is killed in the houseyard and the father or grandfather recites a Gobbaw prayer. This includes a summary of the events involved in the ritual and a request for freedom from sickness, for sufficient milk and rice gruel for the child, and for a long life.		
COOKING AND FOOD PREPARATION	[Description]		[The following cooking implements exhibit accuracy and related scientific principles in indigenous designs.] The taga--ong is a dipper made out of hollow wood, coconut shell or anything else that is hollow. The handle is wood or iron fastened to the coconut shell. The size varies but a common size is 12 inches. It is used for scooping vegetables or meat from the cooking pot. The bakkong is a wooden, leaf-shaped spoon (some--times made of bone) with a handle as long as one foot. It is used for taking rice from the pot. The kidlo is a wooden spatula about 10 or 11 inches long which is used to stir rice while it is cooking or to mash it before scooping	[Calculations required for measurements]

IPUGAO OF SAGADA, MINDANAO

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			it. It is also used to mash food old people cannot chew easily because they have no teeth.	
RELIGIOUS OBSERVANCES		The obaya (staying home) which begins on April 9 and ends on April 16 is one of the most solemn obayas observed every year. The first day is especially important. Nobody is allowed to draw water from the well. On the last day, the old men go to a hut in Ambasing to ask their crop gods blessings for a good crop supply for the current year. An ancient practice is seeking omens from birds. Old men go to three different huts. On their way they make a lot of noise to attract the red-winged birds. If a bird comes out and speaks in a cheerful way, it is interpreted as a sign of good luck and a fruitful harvest, but if it covers its body with its wings, this means a relative of one of the men in the dap-ay will die. After hearing the bird's voice, they proceed to the hut where they pray to their gods. In the hut they cook salted meat and chicken. They spend the night in the hut and the following morning go back to their dap-ay to sacrifice chickens and pigs to their gods.		
ARCHITECTURE	[Description and classification of architectural structures]	There are 4 types of houses in Sagada: 1. Innagamang – is the main type of house. It has a	[Scientific principles which undergird the vernacular architecture of the people of Sagada, as shown in the structures described]	[Mathematical principles embodied by Sagada architecture]

IPUGAÓ OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		wooden granary called the "poso" ("heart") -- and the people live under this granary. The walls and the floor of the house and that of the granary are made of wooden boards cut by hand. The roof is made of cogon grass tied to patch the cracks in the wall. The boards are not nailed but are mortised together. There are no windows and only one doorway is available. There are four parts that stand on stones and placed in the middle of the house to support the granary. 2. Binnaey, binang-yan or binangi -- similar to but larger than an Innagamang. The ceiling of the granary is made of wood making a "three storey" house. The third storey may be a kind of second granary or the wooden ceiling may only serve the purpose of protecting the palay in the granary from rats that could come down from the grass roof. 3. Tinokbob -- is the easiest and cheapest to make. It is very low and has no granary inside for pounding rice. Palay must be kept on a reed platform above the cooking place. 4. Tinabla -- this kind of house is elevated from the ground on parts. This house is simply divided into 2 rooms: one for sleeping and storing of personal things;	The pigpen is a stonepit about 3 or 4 ft. deep, semi-circular or oval, and is narrower at one end where the house for the pig to sleep in is. One part of the pigpen is a narrow raised place above the lower level so the pig can keep out of the water in the rainy season; the rest of the pit is the pig's wallowing place. Steps sometimes lead down into the pigpen so people can get down easily to give food to the pig, but the steps are too small and too far apart for the pig to walk up and get out of the pigpen. There are two kinds of pigpens: pigpens connected with the house, and pigpens separated from the house. When the pigpen is connected with the house, the pig's bedroom extends under the house and the square wooden roof of this bedroom is used for storing things inside the house. The pig enters through a small round hole in the boards. The advantage of this kind of pigpen is that pigs grow faster and bigger when they live in a warm place. The pigpen's wallowing place or lomeng usually has grass and sunflower plants and rice husks thrown into it to turn into manure to be used in fertilizing crops.	

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		and the other for storing palay and things seldom used. They use another building for cooking and eating. Walls are built below the house to protect chicken coops, tools, weapons, etc., stored there. This type of house has windows. There are two kinds of rice-pounding place: one is inside the house and the other separated outside the house. The pounding place within the house is convenient during rainy days. It takes up about one-third or less of the total floor space and a low board wall is used to separate it from the rest of the house. This wall will prevent the rice-husks from flying into the house during winnowing. Both ends usually have raised wooden platforms for storing farm implements and large tools and boxes. Above are shelves or hangers for hanging palay, corn millet, etc. The mortar is buried in the ground but can be rolled outside. The rice pounding place outside the house is made of a cogon grass roof supported on four posts. The mortar is made of stone and is approximately two feet high. The mortar hole is about six inches wide. The granary or agamang is a cube-shaped wooden room about 8x8 ft. and about 6 ft. high, standing on four posts about 5 ft. above the ground, its		

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		roof is made of grass and is a pyramid in shape with two triangles and two trapezoids for sides. Its eaves are level with the top of the posts. There is one door and no windows. A dap-ay is a house for men and boys to sleep in or a clubhouse for them to meet in. The building itself is rectangular with walls of wood or stone closed up with mud to make them very tight so that the dap-ay will be warm. The roof is about 8 ft. high and its eaves almost touch the ground, and is made of wood, rattan, reeds and cogon grass. Some dap-ay are divided into 2 parts: the abong and the tongbab. The abong is the inner sleeping place in which a fire is kept burning all night for warmth. The tongbab is a kind of porch with stone walls on two sides and open on the front.		
GAMES	[Explaining rules; analysis]	Some boys games are dad-ayet, involving tops, banba-o where they throw spears at lined runo--reeds, and an-anap which involves sticks. Other games are: dangpil, where two boys would sit facing one another and, crossing their legs, see who can force the other's knee back; tolsi, locking the middle	[Scientific concepts illustrated like gravity, velocity, etc]	[Mathematical concepts]

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		fingers and seeing who can turn the alku's; sangdol, locking the arms and forcing the other to give up; dama or wrestling; and sinogto or boxing. These are all games involving test of strength.		
THE ARTS: WEAVING	[Description; explication of process]	Women learn to weave by watching others weave. They do not have formal lessons. The simplest kind of G-string is the langat, a piece of red cloth imported from the lowlands. People usually wear it for working in the fields but very rarely for any of the festivals. Women wear a large woven belt called bakget with a common width of 3 to 4 inches and the common length is 6 feet or more. The thread is twisted and braided before weaving. The colors are red, black, white and yellow. G-strings and sometimes headbands (or turbans), can be made of the bark of the koba tree, and they are then called koba, too. The koba G-string is only 6 to 7 inches wide and 2-3 yards long. Koba is also worn by women after delivery of a baby, but they fasten it to a string around their waist.	[Scientific principles illustrated by weaving procedures and instruments] These are the tools used in weaving. First are the Qauedan, two upright poles in the ground which hold up the warp-beam or bawayan, around which the warp threads are passed. The ipitan are two pieces of wood fastened together to serve as the cloth beam, which is fastened to the waist of the weaver by a belt or dohopan. The gol-on and tobongan are used for shedding and to put the design in; the gol-on is the main heddle-stick and can not be removed, while the tobongan can be removed. The main tobong, or shed-stick, is a piece of bamboo about 2 inches thick. The leletan are laze rods which hold the warp tight and keep it from being scattered. The baliga is a flat piece of wood pointed at both ends used to beat the wool tight. The shuttle is called sikwan. [How precision is arrived at by proper design]	[Computations and modes of measurement used] [Geometry in weaving designs] When a weaver wants to weave a skirt, she computes the length she wants, which depends upon the owner's taste. All of the warp threads will not be included in the woven cloth; there will always be some extra. After weaving, she cuts the woven from the unwoven thread, and then cuts the woven piece into two pieces. She then joins the edges together and sews them into one piece. She sews the edges, too. The pinagpagan is the most commonly woven design in Sagada. It takes about 20 days to make and the size is about 3 yards long and about 48 inches wide. The design has a prominent white strip down the middle with intricate weaving in black, red, white, yellow and a little bit of green. Rich people in the Sagada used decorated G-strings called binolda-an. The

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			[Study of physical attributes of fiber and other materials used for weaving]	decorated parts are a little more than a foot at each end, and in between these decorated parts of the G-string are stripes of red and black with a little yellow and sometimes green. The thread used for the decorated parts is thick yarn so that part of the g-string is 3-5 yards and the width is 10-12.5 inches.
BASKETRY AND JAR-MAKING ALSO TOOL-MAKING	[Description and explication of process]		[Scientific principles illustrated by indigenous designs] The Kamowan is a jar-shaped basket with a height of 10-16 inches and its top is 4-6 inches square and about 3 inches deep. It has a lead and loop handle. From the top to the bottom it gets sharply bigger for 2 1/2 to 3 1/2 inches and then gets smaller again. The Kabeng has the same height as the Kanowan but is much bigger in diameter. It is 11 to 14 inches wide. Its cover is 2 inches deep and has wooden sides, but some are coverless. The base is usually a square of 11 to 14 inches but some round. It is used for storing clothes and blankets. A topil, used as a lunchbox, is square or rectangular, with the cover connected to the body. The size ranges from 4 x 6 inches to 6 x 8 inches. It has no	[Algebraic and geometric concepts in local tools and containers]

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			base and is woven of rattan or anes. A tampipi is a rectangular container for keeping clothes, necklaces, earrings and the like. It is about a foot long with a tight-fitting cover about 6 inches wide or more. It is made of wood. The bitoto is a plate used for eating rice. It is 5 to 12 inches wide and from 1 1/2 to 3 inches deep. It is woven of anes. Jar covers are round at the lower end but may be square on top and are usually about 2 1/2 inches deep. They are 4 to 7 inches wide, depending on the size of the mouth of the jar. Some have the middle of the top made of wood. They are woven of rattan or anes. Baskets for women: The balokaw can be either round or square, 6 to 10 inches across and has no regular cover. It is made of loosely woven bika or anes and used for containing camotes and vegetables. The Iowa is 30-35 inches in diameter and is round but it has a square base about 4 inches wide and it is 4 to 5 inches deep. It is made of bamboo and is used for carrying camotes, rice or corn. The abiak, which is used for catching shellfish and small	

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			fish, is flat and round, about 14 inches in diameter and 1 inch deep. This basket is loosely woven with holes about a quarter of an inch or less. The atobang is a small roughly jar-shaped basket. It has a square wooden base about 3 inches wide, and its diameter above this base until about 5 inches deep, then it decreases to the top about 7 inches deep, so the biggest part is about 6 inches in diameter. A string is added so a woman can tie it around her waist and wear it on her hip. The tinangban is used for carrying food when on a trip or off to work. It is round, about a foot in diameter and 10 inches deep with a square base. It can have a cover with the same diameter, or it can be coverless with only leaves and paper put over it. The labba is a container for palay, corn and vegetables whose sides and base are made of wood while the rest of the basket is made of bamboo, anes and rattan. It is round and its diameter is from 8-10 inches and depth of 8-18 inches. Baskets for men: The gimata is really two baskets fastened together by a long peice of wood about 42	

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			inches long. Each basket is the same size in order to keep them balanced. Usually they are about 2 feet in diameter and about 15 inches square at the bottom. They are 8-10 inches deep. At the bottom is a piece of wood fixed crosswise with rattan bound around it. The baskets are made of luka and anes. The gimata is used during harvest time, and also to carry fertilizer. The obe is a round, more or less cylindrical basket for catching fish in the rice fields. It can be from a few inches in diameter to a foot and 18 inches long. The Koppit is irregular and oblong in shape, about 6 inches deep and 10 inches long, or sometimes larger. It has three compartments : the largest, the bottom compartment, is for rice; the second is for tobacco and matches, while the third is a secret compartment for valuable things. The sangi is the so-called back basket, because it has 2 woven strap-like handles which enable it to be carried on a man's back. Its bottom is rectangular and about 4 inches wide and 10 inches long and it may be a foot or more deep, becoming oval or oblong at the mouth, which is smaller than the bottom. There are three type of spears or balbeg which are	

IPUGAO OF SAGADA, MT. PROVINCE

THEMES	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			used by the people of Sagada. They are spears with curved 'ears' (barbs or protrusions), straight 'ears,' and without 'ears.' Some kinds are: 1) the sinnimod which has a plain head with small protrusions at the back end; 2) the sinalong, bagsay or kinangaw which has a plain and straight head; 3) the sinangat which has two barbs pointing backwards; 4) the gayang and pangkaw which both have curved ears pointing outwards or front-wards. A spearhead with 3 sets of barbs is also called sinagat. These spears are used for hunting, for killing enemies in the olden times, and for helping carry heavy loads. There are two types of bolos or gamig: the bolos which have wooden handles and the bolos which have iron handles. These iron handles are prolongation of the blade. People used to use bolos to kill their enemies, but now they are usually used to remove the bark of trees when they go to get fuel. The bolo with the wooden handle has 3 parts: the handle, the blade and the ring as in the spears. There are three types of axes or wasay: axes with thick, narrow heads; axes with thin, wide, flat heads; and axes with heads; and axes with heads a bit thicker and narrower than the second type but fastened to the handle differently. Axes are used for cutting trees and splitting wood.	

Source: Scott, William Henry. A SAGADA READER. Quezon City: New Day Publishers, 1988.

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ENVIRONMENT DIRECTION, ASTRONOMY	A lunar eclipse is said to be caused by a monster swallowing the moon. To help the moon get out of the monster's stomach, drums and gongs are sounded and much noise is made by the people. Bukidnon cosmology posits that heaven has seven layers which are suspended on the wings of a big hawk (kambanoga-banoga); and that the lower floor of the earth is made up of pythons (bakusa) the movements of which cause earthquakes. [Other stories and legends about natural phenomena]	Positive meanings are attached to the east. The altar is erected in such a way that the priest and the faithful face east, the source of light and therefore, the source of good as well. When planting, people are enjoined to face east to have a good harvest. In a hunt, hunters must not go in the wind's direction to avoid failure. When transplanting a fruit tree seedling, pull it in the direction to which it seems inclined. It will not grow if it is pulled in the opposite direction. A religious procession should follow the direction of the sun, or move clockwise from the east to the south or west and then to the north, for good luck. Offering food to the moon is a sign of charity. It also means one will have food aplenty because the moon controls the growth of plants. Count the stars nine successive times at dawn and find out who your life partner will be on the tenth counting. When there is a star near the moon that is a good time for courting. The appearance of a comet means impending calamity or war. The moon is associated with love and romance.	[Scientific definitions/explanations for natural phenomena like stars, eclipses, comets, etc.]	[Calculating direction, distance, and related concepts]

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Putting a handkerchief around the neck when one sees a falling star will make one's wish come true. To find a lost object or property like a pig, light a candle, pray, then blow out the candle. Take note of the direction of the smoke from the wick because that is where the pig went.		
CLIMATE, WEATHER AND TIME	[Songs and stories about climate and weather; also riddles]	Dry season stops when the Holy Child is wet. As protection from earthquakes, blessed palm fronds are used to sprinkle vinegar around the house. Rain during a wedding ceremony is a sign of many children for the couple being wed. The chirping of birds at dawn is a sign of luck. Novenas are prayed to solicit rain during a draught. Large blessed candles serve as protection against lightning. When a strong wind is followed by heavy rain and thunder, we should put vinegar on four posts of the house to repulse the thunder. Thunder and lightning can be stopped by scattering palm ashes outside the house.	The appearance of red clouds early in the morning means dry season is coming. Red clouds also signify a windy day. A red sky at sunset means there will be fair weather the following day. <i>Scientific note: Red skies are the result of the refraction of sunlight by atmospheric moisture.</i> When a whirlwind occurs, a long dry season is coming. <i>Scientific note: Not true. Whirlwinds may precede a thunderstorm.</i> When lightning flashes, visit the spot where mushrooms usually grow. If you find one mushroom growing, look for a crack will soon find another group of mushrooms. <i>Scientific note: The growth of mushrooms may come about as a result of the release of atmospheric</i>	[teach concepts like duration]

CONTENT OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		When the pupils of a cat's eyes are dilated, it is high tide. <i>Scientific note: The pupils of a cat's eyes are affected by light.</i> Lending money, food or other necessities to neighbors, is not allowed after 3:00 p.m. until midnight.	When birds begin to sing at four o'clock at dawn, it is a sign that there will be rain the following day. <i>Scientific note: After a long summer, some birds may be able to detect/sense the coming of the rainy season.</i> The croaking of frogs signify the end of a rainy spell.	
LIVELIHOOD/ ECONOMIC ACTIVITIES FISHING	[folk stories and riddles about fishing] [description and classification of fishing procedures and gear]	A human bone placed in the boat will prevent the fishermen from catching any fish. When the pupil of a cat's eye is small, fishermen will have a good profit. One centavo dropped in sea assures an abundant catch. Bringing money when fishing means bad luck. It is also taboo to bring salt and vegetables when fishing. Making a noise will scare the fish away. Throw sticks into the water for an abundant catch.	[environmental issues vis-a-vis to fishing]	[computing for the quantity and price of catch]

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
FARMING	[songs and stories about or related to farming] [description and classification of farm work, crops, farming implements]	It is thought that when a menstruating woman helps in the planting, wild pigs will attack the field. Or the plants will be sickly and yellowish and will eventually die. A rice farmer should not have a haircut during the planting season. Otherwise, the rice will not grow. When planting palay, inserting a blessed palm into the first hole will yield a bigger harvest. Before planting rice seeds mix them with holy water." Hanging a black cloth in the cornfield will prevent crows from eating the corn. When planting corn, wear thin clothes and have a hearty meal beforehand. Avoid eating when planting peanuts because the seeds will rot and birds will eat them. The following materials are mixed before planting tobacco: sugar (for the tobacco to be sweet), pepper (for the tobacco to be strong), and (for the tobacco to be shiny). Before clearing bushes for a kaingin farm, farmers perform certain rituals to appease the fairies in the site. It is said that a farmer who does not offer his first harvest to the spirits will no longer have a good harvest.	The position of the moon is taken into consideration before planting crops. It is thought that more pests and diseases are likely when crops are planted during the first quarter of the moon than when they are planted during the last quarter. Planting coconuts at a time when the moon is high will make it bear many fruits earlier than usual. <i>Scientific note: This depends on whether the variety is photo-periodic.</i> It is good to plant when there are many stars. <i>Scientific explanation: More stars are visible during fine weather.</i> Camote is best planted when the clouds are the cirrus type. <i>Scientific explanation: These clouds suggest fine weather.</i> [teach also environment –friendly but efficient methods for farming] [talk about plant species and soil types]	[measures used in farming] [computational skills required in farming and related activities]

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Before harvest time, farmers cook some of the fruits of their corn field and serve these during the pamuhat, a ritual during which a ritualist calls on the gods of the trees to give the farmers a good harvest. Coconuts should be planted during a full moon so that the fruits will be round and big. The farmer who is about to harvest his rice first makes pinipig from rice harvested from his farm. He then sprinkles a few seeds of pinipig rice around the farm so that the rats and other pests will not destroy the plants. This is done yearly. Before cutting down a balete tree, one must ask the permission of the spirits. Fruits like camote or banana will crack if these are first harvested by a woman.		
RAISING ANIMALS/ HUNTING	[animal stories and songs]	The best time to castrate animals is during a full moon. The testes should be thrown up on the roof of your house so that the animal will grow big and tall. Farmers believe that the cow is a wise animal. If one sees a cow on the loose at night, it means good luck to him. For this reason, farmers do not kill or harm cows, even for its meat.	[familiar animal species and their behavior, etc.]	[computations/formulae used in the care of animals]

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Carrying coins while hunting is taboo. The sound of a dove is a bad omen for a hunter. Holy Week is thought to be a lucky time for hunting. All domesticated animals are in contact with the devil. It is a sign of good luck when a swarm of bees enters the house. A black cat crossing one's way is a sign of bad luck. Dogs howling at night signal the presence of an evil spirit. When lizards are killed, rain will fall. When a lizard makes a loud sound, it means a visitor is arriving. Snake's skin inserted in books gives good memory. A man born with a snake twin will be a good doctor. The family of a man with a snake twin becomes rich. When in the course of constructing a house, you come upon a mound of stones or earthworms, construction should be stopped to avoid an epidemic.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
SOCIAL RELATIONS/ ORGANIZATION SOCIAL STRATIFICATION		Bukidnon society is divided into the following classes: 1. Datu – ruling class; they serve as arbiters (palinugsay) and exercise preferential marriage 2. Bagani – war leaders who avenge the oppressed 3. Baylan – shamans who have direct contact with the spirits; they officiate at rituals 4. Talamuhat – ordinary priests 5. Sulohano – medicine men 6. Oga – op or sakop – Datu's followers 7. Ulipon or magdul – slaves or captives		
KINSHIP	Terminologies for kin: 1. Amay – father 2. Inay – mother 3. Igama or sulod ha anu – brother 4. Ig – bahi or sulod na bahi – sister 5. Lagubay – daughter in law 6. Bati – brother in law 7. Gya (female) – sister in law 8. Hipag (male) – brother in law	Husbands live among their wives' clansmen. The family is extended: it takes into its fold (sulod) brothers of relatives, uncles, aunts, cousins, and grandparents.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
MARRIAGE AND COURTSHIP	[courtship songs, poetry]	Marrying age is 11 and up. A man is allowed to marry more than once if he can afford the bride price. But he must first have the consent of the first wife. Women are allowed only one marriage at a time. A man devoted to St. David, who is said to have the power to win ladies over easily, is going to be a successful suitor. When you court a girl for the first time, you must not forget to get a pink gumamela flower and rub it against your face so that everytime the sun rises your face will be pinkish in color. Footwear should not be given as a gift to a sweetheart because it might bring about a broken engagement. It is said that when a man courts a woman during a full moon, the woman will quickly accept him. A couple should not have their photograph taken. This is considered a bad omen. Sweethearts who look alike marry each other. Old folks tell the young to take care of bracelets received from their beloved. A broken bracelet means a broken engagement. Lost bracelets means a quarrel.	[population education] [biology, genetics]	[starting point for math lesson proper age for marriage]

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Using holy objects as engagement souvenirs means the marriage will not take place. A newly married couple should step on pig's blood before going up to the house so that the curse of their grandparents will be blotted out. When going up the stairs, the couple should tread on the same step at the same time so that neither of them will be superior to the other in their marriage. A broken marriage is presaged by the falling of the ring during the wedding ceremony. If a husband leaves the house after a quarrel, the wife should get his shirt, hang it over a stove and whip it several times. The husband will then come back. A person should choose a partner with the same religion so that they will have happy days together. Couples who live together without receiving the sacrament of matrimony will encounter many problems in life. On the other hand, a Catholic wedding is useless without love. For a bride to be sad and late on her wedding day means bad luck. Couples who are about to be married are prohibited from travelling.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		A guest who comes to the wedding in black brings bad luck to the newlyweds. During the wedding ceremony, the bride and the groom should never drop the veil accidentally because if it falls, the groom will soon die. After the wedding ceremony, the couple's personal belongings are tied into a bundle and pulled by both parents in law. This practice ensures peace, prosperity and happiness for the couple. Newlyweds drink water together for peace and happiness. A man and a woman who act as sponsors of a child in baptism should not marry each other before 40 days are over to be successful in life. Sweethearts conversing near a stone will not be able to marry each other.		
CHILD REARING	[lullabies and stories for children]	Children are taught the virtue of obedience. It is said that if you are disobedient to your parents, your children will be disrespectful as well. It is said that cutting the child's hair before s/he is one year old will make him/her stubborn. But as soon as the child is one year old, his/her hair should be cut so that s/he will have thick hair. It is said that allowing a baby to walk before his first teeth have appeared will cause undue delay in	[health care]	

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		teething. It is said that when a girl breaks five plates, she will become a mother without becoming a wife. Children take care not to step over their sleeping parents to avoid a curse. Strike a child's head with a pillow during his first school day so that he will have no difficulty understanding his/her lessons. If the baby sucks his/her feet, the mother will soon be pregnant again. The baby will not live long if s/he does not cry during the baptism. When a child is as tall as his/her mother, the family must prepare a feast and pray so that their spirits will not overcome each other. It is believed that having younger children who wear the hand-me-down clothes of their older siblings will teach them thrift. Bed wetting after the age of three or four years should be stopped. The following methods are resorted to: 1) giving the child a drink made of water boiled with some herbs 2) rubbing the child's abdomen with sap from a kind of firewood 3) rubbing the abdomen with ashes from burnt ticug (a kind of reed) 4) shaming and scolding the child 5) pamuhat The firstborn is usually given the heavier workload. But s/he can choose which of the home chores	Toilet training practices include: 1) letting the baby sit on the mother's lap, legs or feet while sitting over the toilet hole 2) having the child sit over a hole on the floor 3) having the child pass his/her hand through a hole on the floor 4) asking the child to point at the full moon. The practice of using holes is to accustom the child to going to the hole which has become his/her toilet every time s/he feels like relieving him/herself.	

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		s/he wishes to do and s/he can command the respect and obedience of his/her younger brothers and sisters. The second or middle child has almost the same duties and privileges as the firstborn. The youngest may or may not be given work or chores to do. This is usually running errands for the elders. Disciplinary measures employed by parents are: 1. advising, reasoning 2. reprimanding, scolding 3. inflicting corporal punishment Practices resorted to when dealing with the problem of quarreling among children: 1. talking it over with the children 2. scolding or reprimanding them 3. whipping them 4. referring them to their father 5. having the younger child wear the unwashed clothes of the elder child; this is supposed to prevent sibling rivalry. To persuade a child to eat, s/he is: 1. given the food s/he asks for 2. promised a reward for eating 3. given folk medicine 4. subjected to pamuhat 5. brought to a physician Thumbsucking is thought to bring bad luck to the family. It is considered a sign of stubbornness. To put a stop to thumbsucking, the child is scolded or subjected to pamuhat.	Practices resorted to when dealing with children's fears: 1. not exposing the child to the object of his/her fear 2. accompanying the child or providing him/her with a companion 3. persuading him/her or explaining to him/her that his/her fear is unreasonable 4. scolding and shaming the child 5. resorting to the folk method of letting the child eat directly from the pot <i>Note: These are examples of popular/folk psychology.</i>	

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
POLITICAL STRUCTURE		Datus are ruling class, but power is built on confidence and trust between sakop and datu. 1. Succession is in male line but not governed by seniority of birth. 2. Succession depends on ascription and achievements. 3. Ascription is done by continual achievements such that class can be ascribed. 4. Blood and "guts" determine social rank. 5. Any male Bukidnon can achieve datuship in practice if he has leadership through his own efforts, e.g., Dinawat Ogil, High Datu of Namnam.		
JUSTICE/ETHICS/MORAL CODES		The Bukidnons composed of different ethnic groups are generally reserved, respectful, generous, refined in speech but very vindictive when provoked. Importance is placed on word of honor based on bansa (amor propio) which are incorporated in their unwritten laws (Batasan). Neighborliness is valued, as shown in the philosophy: Gagaw sa kag-ila (love is giving away).		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
CULTURE BELIEFS ON BIRTH AND CHILDBEARING	[rhetorical modes: cause and effect, process]	Children are highly valued in Bukidnon society. Male offspring are valued as additional manpower while female offspring are valued for their ability to bring in big bride prices when they get married. This is why pregnancy is a welcome event. During the wife's pregnancy, the husband humors his wife and tries to fulfill as many of her wishes as possible. The Bukidnon believe that if a pregnant woman's wishes are not fulfilled, she will have a miscarriage or her child will be born with some abnormalities. Pregnant women are not allowed to sew and weave hats, baskets and mats. The joining of cloth in sewing and the sticking together of the rattan and ticug in mat-weaving will result in inordinate confinement or attachment of the unborn fetus to the mother's womb. Husbands of pregnant women are not allowed to: make handles of bolos and other instruments, make rope or do something which entails tying, nailing and making a coffin or carrying one. Doing any of these is believed to result in a difficult delivery. Pregnant women, their husbands and other members of their households may not sit just anywhere. Sitting in doorways or on the stairs is believed to block the birth canal and result in a difficult delivery. Using a grinder is also prohibited. Similarly, opening windows and doors	[maternal and child health]	[computations/formulae/ modes of measurement used in care of mothers and newborn]

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		when a woman is about to give birth will ease the birthing process. It is thought that when a pregnant woman leaves the ladle in the pot after getting some food, she will cause the fetus to be in the breech position. Stepping over a piece of rope is also taboo because of the rope's similarity to the umbilical cord. When chopping firewood, the pregnant woman or her husband must see to it that the pieces are completely separated to prevent a difficult delivery. It is thought that drinking directly from the water container will cause a pregnant woman to have profuse bleeding. A pregnant woman should not go out at night to avoid swelling of the stomach and giving birth to a deformed baby. A pregnant woman must not go out at night. An evil spirit might smell her and cause the baby to die in her womb. Wearing snake's skin around the waist facilitates childbirth. It is thought that rubbing an expectant mother's stomach with ell's tail or the roasted feces of earthworms will make childbirth easy. If a pregnant woman cuts her hair, her child will be born hairless.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Pregnant woman are warned not to eat bananas to avoid giving birth to a dull and lazy child. By hanging her hair loose over her shoulders, a pregnant woman keeps the evil spirits from looking at her fetus. A pregnant woman who eats twin bananas will give birth to twins. Pregnant women are not allowed to see an eclipse. A pregnant woman should not sleep facing the ceiling at night. If she does, she should cover her body with black cloth. If a pregnant woman is made a godmother at a child's baptism, the child will die. If the pregnant woman's abdomen is pointed, her baby will be a boy; if it is rounded, the baby will be a girl. Children are not allowed to watch a woman who is giving birth. Girls in particular are kept from watching so that when it is their turn, they will not have a difficult time of it. Children are also not allowed to make a noise because this may distract the woman giving birth or the one assisting her. In order of frequency, the following are persons called to assist during labor: unlicensed midwife, relatives, licensed midwife, and a doctor		

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		To cut the umbilical cord, scissors are used. Sometimes rattan or bamboo instruments are used. The most prevalent method of disposing of the placenta is by wrapping it with an old mat or sack and then hanging it on a tree. This is supposed to prevent the child from becoming a crybaby and from being easily startled in his sleep. The Mainobos, on the other hand, believe that hanging the placenta will cause the child to fear the wind and the heights, and s/he will be afraid to walk on a piece of round wood over a stream. For this reason, they prefer to bury the placenta. The placenta of the newborn baby should be buried under the house in a slow manner so that when s/he grows up s/he will always return home. It's good to put ashes on the palm and feet of the newborn so that s/he will be a climber when s/he grows up. The family should place books, a pen and anything connected with learning under the pillow of the baby so that when s/he grows up s/he will become very intelligent. If the baby's nipples protrude, the next baby will be a boy; if the nipples are lodged in, the next baby will be a girl.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Names of babies are derived from names of patron saints. No breastmilk sharing lest children become quarrelsome.		
ON DEATH AND BURIAL	[songs of lamentation] [cause and effect]	The soul of a dead man can hear talk addressed to him. When attending prayers for the dead, you must answer each prayer so that the soul will not haunt you. This belief may have been intended to ensure the attention of people, especially of the restless young. When a person dies without a blessing or without some religious ceremony being performed for his/her soul, the path to heaven will be very dark. Too much crying on the part of the bereaved makes it difficult for the dead to reach his/her destination. It is believed that the dead man's debts should be paid so that his soul will not come back. When a funeral is over and you are going home, at the gate, you must spread your hands over the fire. Thus, the sorrow experienced by the dead person will escape you. When someone is dead in the house, do not kill a chicken lest another death will follow.	Hands should be washed with warm water and citrus after burial to get rid of germs especially if the dead man died from an incurable disease. <i>Scientific explanation: Citrus is a natural disinfectant.</i>	

BURIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		If you see a coffin about to be buried, stop and say a few prayers for the dead person to be forgiven his/her sins in life. The coffin should be passed through the window. If it is allowed to pass through the front door, it is likely that death in the same family will soon follow. The coffin of one who has been stabbed to death is not allowed into the church. If there is a dead man in your house, watch it carefully and never allow a cat to jump over the body because the body will rise and walk if jumped over. If someone in the family dies, let him/her hold a crucifix so that he will go to heaven. Family members abandon the house where someone has died in the belief that the spirit of the dead will return there. Cleaning of the house is not allowed before nine days have passed after death. When a person dies, he must wear the very same clothes he wore when he died. Respect for a funeral procession is shown by taking off one's hat. After burying the dead, one must go home with the same group lest bad luck befall one in the days to come.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Throw salt out of the window upon getting home after attending a burial. A dead man's soul comes back to visit his family on the third day after the burial. During the vigil, mirrors should be covered so that the newly departed cannot join the living who are praying for him. The gimukod (soul) is said to leave the body after death. It goes to Gumogonal, the keeper of the souls in Balatukan (the abode of the dead). Before reaching Balatukan, the soul passes several places: 1. pulala--on where pulala players will play their flutes. 2. Sayawan, where dancers dance their specialties, and 3. panigbasa (a tree or limestone in the river of Aloyan, soft enough for cutting) -- it is where the soul leaves its imprint, giving reason why Bukidnons bury their dead with a bolo. All of the above is the registration process for admission to Balatukan.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Another theory of souls, relates that the soul goes to a place (tumanod) and lives there in the afterlife. It may be a cave or any such place.		
ON HEALTH AND ILLNESS		When a baby's illness is caused by an aswang, the family should burn rubber tires or the bones of animals to drive the aswangs away. We should not take any medicine when we are sick because our illness is God's will. Prayer is the cure. One method of curing illness is applying a bit of the tambalan's (healer) saliva on the face of the ill. The smoke of a blessed candle is thought to be a cure for fever. Holy water is best for headaches. To get rid of pimples, wash your face with coconut water on Good Friday. A string of rattan tied around the waist prevents seasickness. When a spider falls on a sick person, that sick person will die. If you are wounded during Holy Thursday or Good Friday, your wound will not be cured until the next Holy Thursday or Good Friday.	If a mother or father is sick of leprosy, it follows that one of the children or grandchildren will contract this disease. <i>Scientific note: Leprosy is a progressive infectious disease caused by a bacterium that attacks the skin, flesh, nerves. It is characterized by nodules, ulcers, white scaly scabs, deformities, and the eventual loss of sensation, and is apparently communicated only after long and close contact.</i> Placing a poultice made of guava leaves on the wound caused by a pulled tooth will heal it faster and ensure the quick replacement of the tooth. <i>Scientific note: Guava has medicinal properties.</i> Putting salt on the wound caused by a pulled tooth staunches the bleeding. <i>Scientific note: Saline solutions hasten the drying of wounds.</i> If the child has measles, he should be made to drink water where mongo seeds have been soaked overnight so that all the measles will come out. If all the measles do not come out, the child will die.	[formulae and measures used for administration of medicine, etc.]

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The sacrament of Extreme Unction will cure illness only when the sick person firmly believes in God. If you criticize a patron saint or make fun of him, you will suffer from an incurable disease or become permanently insane. Cleaning a sick person's bed presages bad luck. To help relieve aching gums caused by teething, part of a cogon root is touched to the gums while the parent urges the tooth to come out. One folk healer treats insect, dog and snake bites with garlic, nicotine, and even urine on the bitten part. <i>Note: The application of urine may cause or worsen infection.</i> It is said that taking a bath and eating sour fruits during one's menstrual period may cause an abnormal stoppage in the menstrual flow. Boys are usually circumcised between the ages 7 and 15. Before the procedure, the boy is made to take a cold bath as this is thought to have an anaesthetic effect and it is thought to control the bleeding. Diseases are incurred from angry spirits eg. agkagaba-an (retributed), when one is cursed by parents.	Children are not allowed to eat fruits early in the morning to avoid stomachaches. <i>Scientific note: Some children have delicate stomachs.</i> A toothache can be remedied by applying a small amount of pounded ginger, or sap from a burning piece of wood or rattan into the tooth cavities. Katumbal (pepper plant) is also sucked to lessen the ache. <i>Scientific note: This is a natural anaesthetic.</i> Teething causes a child such discomforts as loose bowel movement, fever, loss of appetite, salivation and painful gums. Guava leaves boiled in water is given to a child with stomachache. For constipation, some home remedies are inserting a small tube of soap into the anus and rubbing the anus with coconut oil mixed with some leaves. <i>Scientific note: The principle is the same as that which applies to glycerine suppositories: to stimulate and moisten the rectum and thus facilitate the expulsion of waste.</i> Fever and headache are cured by pounding the leaves of angelica amamangpang, banana leaves and hilbas to make a poultice applied to the forehead.	

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Effective folk methods of birth control: 1. paunda for complete sterility. 2. pabata for fertility. 3. palihang for spacing. 4. palat-og for aphrodisiac.	
ON DREAMS		Dreaming of bathing in the river or sea means bad news or bad luck like poverty. Dreams believed to be true will not be realized. Offer prayers, a mass and a banquet after dreaming of dead relatives. If you dream that you are dead, the old folks say that you will get married. Dreaming of fish, trees or snakes means money or happiness. If you dream that one of your teeth is being pulled, you cannot tell others about it unless you have bitten a tree branch; otherwise it would mean death to one member of the family. A dream is regarded as a real experience where the soul of the sleeper takes an excursion to another world and reports on it. Thus, we should never awaken a sleeper lest the soul fail to find its way back to the body.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		If you dream of your sweetheart and you wake up, kiss your pillow and turn three times so that your sweetheart will also dream of you. A dream of one's teeth being removed presages death. Dreaming about going to an island or to a faraway country means death. Dreaming of a well with clean water means that the dreamer will receive a large fortune.		
ON BATHING		If you bathe in a stream beside a balite tree, avoid shouting because you might disturb the spirits. When you take a bath in the sea on St. John's Day, you will be safe because all the fish that are harmful to man will be kept by St. John for he owns all the fish in the sea. It is necessary to bathe at the end of the year; otherwise, you will not be fond of bathing throughout the year. Combing one's hair at night is not good. It means you wish your parents will die. If you are a boy, your father will die. If you are a girl, your mother will die.	<i>Note: Bathing regularly with clean soap and water is a means of getting rid of dirt and germs which may cause illness.</i>	

BURIDNUN OF MINDANAU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Tuesdays and Fridays are believed to be the days of the devil. Bathing on these days will cause sickness. A person who bathes only on Good Friday will have a long life. Bathing after hearing Mass and recieving Holy Communion washes away grace.		
MOVING TO A NEW HOUSE		Blessing a new house will drive engkantos away. New buildings or houses blessed by a priest bring harmony, peace and progress to owners. Cars should also be blessed so that the passengers will be kept safe from accidents. One should move into a new house during a full moon. The first thing one should bring into a new house is a lamp so that the dwellers will have a bright future. Alternatively, bring in rice first so that there will be an abundance of rice. When looking for a good site for a new house, dig a hole and put a young coconut in it. Let it stay over night. If the coconut shakes, it means there are bad spirits living in the area and it is not a good site for a new house. Before buying a lot for a residential unit, buy a fresh egg and put it right on the spot or area where you intend your house to stand. Let the egg stand		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		for three days. On the fourth day, shake the egg. If it can be shaken, do not proceed with construction work because you will meet bad luck. Doors should not be built facing each other because you will not be able to save no matter how much you practice thrift.		
ON EATING	[description, classification of food]	When you accidentally bite the left side of your lip, that means people are talking ill of you behind your back. If you bite the right side, you are being praised. If you undress while eating, your guardian angel will cry. Putting your hands over your face while eating presages the death of your parents. Singing while eating is bad. Turning the plate while eating is a sign of coming marriage. A girl who takes her meal by the window will elope. A man eating from two plates is an adulterer. Eating hito is taboo. They represent satan or evil spirits. Eating in the dark invites evil spirits (e.g. the witch will give you a viand).		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Eating and doing other things at the same time shows disrespect for the food so that God will not give grace anymore.		
MISCELLANEOUS	Some wise sayings: 1. A coward hides behind the bottle. 2. If you spit at the sky, the spittle goes back to your face. 3. Those who exalt themselves shall be humbled; those who humble themselves shall be exalted. 4. Ang hindi magmahal sa sariling wika ay higit pa sa mabaho at malansang isda. 5. Ang hindi marunong lumigon sa pinanggalingan ay hindi makarating sa patunguhan. 6. Every cloud has a silver lining. / There is light behind every cloud. [discuss other wise sayings, proverbs, and the like]	Using a cooking pot to fetch water for bathing will cause bad weather. Finding a sharp object brings good fortune. If you meet a funeral procession on your way to a gambling place, you will be lucky. Having a mole on the foot means the person likes going out. Grinding one's teeth means the early death of one's beloved. Chicken blood should be offered before moving into a new house. Encountering a funeral cortege after leaving one's house signifies bad luck. When three persons have their pictures taken, the one in the center will die soon. A quarrel between a cat and a snake means good luck. Sneezing before a journey is bad. It is said that dwarfs live in attics. Engkantos are said to live in trees.	Little balls of fire, popularly known as St. Elmo's fire, which appear at night especially during rainy season, are believed to represent a murdered person's spirit. The blood that streams from his wounds becomes the fire. <i>Scientific explanation: The phosphorous in the blood reacts with the oxygen in the air to produce fire. St. Elmo's fire is thus a common sight in cemeteries.</i>	

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		When walking during a dark night, avoid looking over your shoulder so that the witch will not follow you. Power from the soul can be obtained at 8 o'clock in the evening of Good Friday. Holy Thursday is the day for acquiring anting-antings. The whites of herons' eggs is a good source of the power to fly. If you want to find out whom you will marry, wake up at midnight of St. Valentine's day, wear something black, and look into the mirror where you will see the face of your future spouse. An irritable person is reformed if he cuts feathers off a rooster's head while invoking satan. It is bad to winnow rice at the door because God's grace will go away. If there are 14 persons living in a house, one of them will die. When a picture frame falls, its owner will meet an accident. When a woman breaks a plate while washing dishes, she should throw salt out of the window to get rid of the bad luck. A woman who has a mole where tears fall will become a widow or widower early.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		A person who has a mole in his/her eye(ball) can see fairies. People who have moles on the head are intelligent. A person who talks in his/her sleep is a curious person. A girl who loves to dance the waltz is worth winning. If a girl has white spots on her fingernails, she is not constant in love. If a person has a mole on the nape, it means that s/he will have a bright future. A woman whose favorite flower is the red rose is very affectionate; one who likes white roses is very religious and pious. One must not have his/her picture taken with his/her sweetheart. One who leaves the seminary due to misconduct will have a bad married life. The length of one's life is shortened when one's lighted candle is easily blown out. A politician who runs for office will not succeed if a close kin dies in the same year. Riding in a creaking calesa means bad luck. The horse will refuse to go on after reaching the destination. If the cochero is gay and chatty, a successful trip is at hand.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Do not bring salt if you are going to ride a pregnant carabao. The animal might suffer abortion. When a traveller meets a bull, that means good luck. If you want to cut a balite tree (usually the abode of spirits), hang an axe on its branch and leave it there. If on the following day the axe is still there, you may cut it. A bolo rubbed with boiled rice can cut a person who possesses an anting-anting that makes him immune from the bolo cuts. Don't go out on the 13th day of the month because 13 is an unlucky number. It brings bad luck. In the olden times, men went out with an axe as a sign of friendship. But a stranger who came in with an axe was considered an enemy. As a sign of friendship, each person buries the other's axe. The saying "the axe is buried" which means hatred is forgotten, comes from this gesture. The last night of the year is spent sleeplessly watching out for the first animal sound of the New Year. The is said to give clues of events in the new year. If a cow makes a sound at midnight, it is said that the coming year will be bad: there will be famine, sickness and other calamities. On New Year's Eve at midnight, the doors and drawers are opened to usher in the new year.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
RELIGIOUS PRACTICES		Prayer books and rosaries should be blessed before they are used. Bow and make the sign of the cross upon entering a church as a sign of respect. Votive lights are placed in front of saints in the belief that this will lead to more grace and one will be more pleasing in the eyes of God. If you write something on Good Friday your penmanship will be bad. One should not do any kind of work on Good Friday in order not to contribute to the difficulties of Christ. Carrying a cross will protect one from danger and temptation. Reciting the rosary while travelling helps keep one safe from accidents. Make the sign of the cross before going up or down the stairs to avert a fall. Cover crucifixes and sacred images during Lent. This means hiding from earthly pleasures in order to devote oneself to God. It is not advisable to go to church if you have menstruation because you will make the house of God dirty. Laymen should not challenge Church authorities. The punishment for doing so is severe. Cursing a priest causes a person to live		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		in misery unless he repents. Devils are driven away by praying the Apostles' Creed. During an epidemic, barrio folk gather for the Aurora, a community prayer with hymns dedicated to the Virgin Mary. Not completing a novena means tribulations for the person concerned. Also, novena prayers must be repeated if someone laughs during prayers. The only non-Christian festival among the Bukidnon is the KALIGA, a type of carnival which is celebrated to fulfill previous promises made to the magbabayas or native gods. The people shout their prayers instead of praying in silence. It is a common practice to put a lighted candle on the window when there is a procession to show respect. Devotion to St. Anthony helps students get high marks. He also helps recover lost items. Farmers pray to San Isidro for an abundant harvest. Praying to St. Vincent will help relieve pain during childbirth. Travelling is not allowed during Holy Week. Eating leafy vegetables on Good Friday is taboo. One's mind will always be in trouble.		

BURIDNUN OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		When the host falls when someone is receiving Holy Communion, that person is a sinner and is not worthy of receiving God. Telling white lies during Holy Innocents Day is not a sin. A godparent who gives gold during a child's christening is said to possess a golden heart. Some people believe that some beggars are God's messengers come to test people by begging for alms. Those who are kind-hearted and give to these beggars, love God. The Intombangol is the keeper of the underworld, also known as Tumpas Hanapiyaw. Supreme god is Magbabaya, and demigods under him have specific jobs and territory e.g., Ibabasok is goddess of the Sea, Tumanod are their guardians, Dumalongdongs are their mental guides, Mulin-Olin is guide in eloquent speech, and Tium are defenders against evil. The priest is called Talamuhat or Mamumuhat and the highest priest is known as Baylan. The latter can communicate with spirits. The Baylan can pacify angry spirits and serves as the community oracle.		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
COOKING AND FOOD PREPARATION	[process: preparing food]	Talking while cooking gabi will give it a bad taste. To cook rice quickly, sprinkle salt over the embers and on the pot cover. When cooking rice, don't blow the bubbles in the boiling mixture. Otherwise, all kinds of animals will eat your crops. Don't eat the young corn as vegetable so that the animals will not eat your crops. Avoid talking when making suman out of corn. Avoid singing while cooking. A cook who sings while cooking will be widowed. The unmarried woman will marry a widower. Frying on Good Friday causes pimples and blackheads./ Roasting bananas or any food on Good Friday causes freckles. Chicken should not be cooked with squash. Eating chicken with squash will cause leprosy.	When cooking something that takes a long time to cook, such as mongo beans, put a metal spoon in the pot so the food will be cooked quickly.	[measures and formulae used in food preparation]
MUSIC AND DANCE	[description and classification]	Some local musical instruments are the following: 1. pulala – long bamboo flute with four holes 2. yangyang – short bamboo flute with five holes 3. kula-ling or kubing – bamboo jew's harp	[scientific principles illustrated by designs of musical instruments]	[math through music]

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		4. dayuday or dayuray – one-stringed violin covered with snakeskin 5. saluray – a bamboo intermode with four built-in strings. 6. kutyapi or kudyapi – a boatshaped guitar. There are also different percussion instruments such as the inagong, the binaylan, and the tinambol. The different native dances include: 1. Linibong – dance of the immortalized. 2. Dugso – religious dance. 3. Lagoras – variant of the dugso. 4. Binaylan – dance of the priests and priestlike. 5. Tinambal – farmers' ritual dance. 6. Inagong – courtship dance. 7. Hinaklaran – a ritual dance. 8. Binakbak – dance of the frog. The most popular Bukidnon dance is called sayaw. This is a dance in imitation of the hawk's flight. Music is provided by two or three women		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		who beat on a mat with the palms of their hands. Some dances are not accompanied by music. In dancing the dugso, for example, the only accompaniment is the sound of bells tied around the waist and legs, and the tapping of the feet.		
LITERATURE	The folk epic is called <i>Olaguinon</i>. This celebrates the heroism of Aguio whose mythical home is called <i>Naledangan</i>. Folk lyric poetry is called <i>sala</i>. Religious songs are called <i>kaligu-on</i>. Verses are called <i>bayok-bayok</i>. Riddles are called <i>antoka</i>. Proverbs are called <i>basahan</i>. Folktales are called <i>nananggon</i> or <i>toltolan</i>. Debates in verse form are called <i>dasang</i>. All these can be sung or chanted. In prose form, they are called <i>mantukaw</i>.	[meanings and philosophies]		

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
WEAVING	[description, process, classification]	[meanings attached to weaving designs]	Bukidnons weave mats, bags, hats, fish traps, and cloth (pangabol). Kayumot (knap sack) is woven from the center bark of the abaca plant, thus: 1. The bark is stripped with a toothless (nura tactad) stripper (lagitan), but before doing so it is first crumpled and only the strongest are used. 2. It is then dried under the sun. 3. Then it is dyed with native (i.e. kalatura, igagana and kalawag) and commercial dyes; then dried under the sun again. 4. The next step is softening the bark by means of crumpling. 5. Finally, it is woven on a crude loom. The finished cloth is made into blankets (tinabas) or knapsacks (kayumot). Other local products are: 1. Bead jewelry – Ginakit Ginibang for the ladies, and Dinumpas for men; Inaboy for ladies and Balading – big earrings with wooden plugs 2. Native tie dyeing (the gunti) 3. Mats (Hasks) and baskets (Bakag).	Color arrangements and geometric designs (Lugo) according to motifs: Lines: 1. straight (matul-id) 2. curve (kinayog) 3. vertical (tagtiyarog) 4. horizontal (taghiruga) 5. diagonal (binaligyas) 6. crooked (balugko) 7. zigzag (sinurigao) Shapes : 1. Round (lironglirong) 2. Triangle (tatulo sa suyok) 3. Square/rectangle (baupat sa suyok) Height : 1. tall man (matangkaw) 2. short things (mababa) 3. short man (mayampok) Width : 1. wide (malapad) 2. narrow (malig-ot) Sizes : 1. big--arag; dagiragi 2. small--atiyo, atiyo-ay 3. tiny, cute--mayantok Color : 1. red (maliga)

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
				2. green (mahilaw) 3. yellow (macalawag) 4. violet (inampay) 5. white (maputi) 6. gray (abo) 7. black (maitim) Blue is not found in their color arrangement so there is no term for it. Native dyes include kalarura (for red), kalawag (for yellow), and igagana (for reddish brown). These are used to dye cloth. Color arrangements: 1. bindlin tawak 2. penasalangga 3. binaligyas Geometric designs in specific motifs: 1. kinaruka 2. binitu-on 3. binabangan
COMMUNICATION AND TRANSPORTATION	Means of communication: 1. Verbal or oral – simple calls or messages sent through messengers 2. Knots (Balinghot) a. slip means "do not enter" b. any trail with a knot is restricted area; you may not enter		Means of transportation: 1. Bamboo/round timber rafts along the river. 2. Horse and carabao on land.	

BUKIDNON OF MINDANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	c. to prevent a pile of bamboo from being touched, a knot is placed around it 3. Bamboo drums (buntola) are used to call for help and to transmit some messages			

Sources: 1. Demetrio Francisco, S.J. **ENCYCLOPEDIA OF PHILIPPINE FOLK BELIEFS AND CUSTOMS**. Revised Edition. Cagayan de Oro City: Xavier University Press, 1991.

2. Opeña, Ludivina. **A BRIEF ETHNOGRAPHY OF THE BUKIDNON**.

3. Romo, Clemencia. **CHILDBEARING PRACTICES AMONG THE BUKIDNON**. M.A. Thesis, Bukidnon State College, 1978. M.A THESIS – BUKIDNON STATE COLLEGE, 1978.

4. **SOME PHILIPPINE BELIEFS AND PRACTICES RELATED TO FERTILITY**. Manila: DECS Population Education Program, 1976

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ENVIRONMENT CLIMATE/WEATHER/TIME	[rhetorical modes: cause and effect, description] [legends and folk stories about natural phenomena]	Whenever an eclipse occurs, the Maranaw beat gongs and make all sorts of noise. A common practice for holding back the rains is reciting this verse: "tilik, tilik paligid kasa palaoawi ka sa puan—nan," which means: "rain, return where you came from." It is believed that the coming of an earthquake can be predicted by an ulama (religious person). If the omen is bad, food offerings are made. Lightning is greeted with the recitation of the verse: headobillahimina saltan ir raliman ir rahim When lightning strikes, if possible, one should stay in bed but not lie on one's back. All mirrors must be covered and windows closed. The Maranaws believe that floods are caused by angry spirits. They become angry when their abodes are destroyed or when people fail to make food offerings to them.	[scientific explanations of natural phenomena]	[math concepts in natural phenomena]
PRODUCTION/LIVELIHOOD/ECONOMIC ACTIVITIES FISHING	[fishing songs]	Fishing is a part-time activity and is done on a small scale basis. Lake	[scientific principles observed when fishing]	[modes of measurement]

MARANAO OF LANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	[rhetorical modes: classification, explication of process]	Lanao and the Taraka River are important fishing grounds. Awang is a term for dugout. Small awangs are used for fishing while bigger ones are used for transportation.	[fish species]	[computations made]
FARMING	[farming songs] [rhetorical modes: classification, explication of process]	Rice farming is a principal economic activity.	[farming methods]	[measures and computations used]
SOCIAL ORGANIZATION	[rhetorical patterns: description, classification] [figures of speech such as isa ka koman, pegawiden, and pegawid]	All Maranaos trace their descent to one or more of five ancestral settlements in the Lake Lanao region. Each settlement expanded within their districts and established new communities called agamas. Agamas are non-unilinear descent groups with a variety of units defined primarily by kinship. The most stable unit is the household, called isa ka koman. There are also kandadawaga or food sharing relationships. Ancestral lines or "conical clans" called bangsa define memberships and are inherited bilaterally so each person belongs to a variety of lineages. Each lineage provides its descendants with membership in a particular office as well as other rights and duties in that agama.		[counting generations, quantitative groupings]

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Agamas are ranked in relation to each other as pegawiden or pegawid (meaning "the carried and the carrier"). In this system, each person inherits the rights and duties, the claims on titles, the land rights, the claims on ceremonial payments and the seating claims in the mosque from each of his ancestral lines. These rights and duties are exercised by him as an individual in the agama communities with which each of the particular rights is attached, regardless of the place of his residence. During election, for instance, he can vote in an agama of which he is a member, regardless of where he lives. Within an agama a person may inherit the rights and duties belonging to several ancestral lines and when this is the case he may exercise both rights (as in the distribution of ceremonial payments), or choose between them when they are mutually exclusive (e.g. place of seating in the mosque). His election is not permanent and he may alternate between the rights and privileges without giving up any claim. But he often shares a claim with others who trace the same descent. Where the claim is not distributive, it is circulated, or		

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		one may relinquish his exercise of the right to another with greater personal prestige and power. Rights and privileges may also be acquired by prestige though partially influenced by his lineage skills for being a kalalagan (ceremonial orator), by his knowledge of the adat (law) or the Koran, by his bravery, or by the number of his children or arm-bearers and the organization of his army.		
COURTSHIP AND MARRIAGE	[courtship poems like the tubad-tubad; courtship forms like the kandaonga] [proverbs] [rhetorical modes: description, narration, classification]	Love starts in social gatherings such as night vigils for the dead, marriage festivals, or any plain Maranaw get-together. They believe that a girl's nails and hair, when mixed with food served to a male admirer, will entice him. When a young man starts courting a woman, he reveals his love indirectly through short love poems called tubad-tubad. Whenever a Maranaw parent wishes to punish his child or ridicule a persistent suitor of his daughter, he usually recites a wise saying or a proverb to drive home his point. As with other Philippine tribes, courtship among the Maranaws is carried out with the help of parents. Parents require the suitor to pass certain rigorous rituals not only	[scientific concepts like genetics]	[computations made during courtship rituals]

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		to test his character but also to minimize or even eliminate natural but improper behavior before the consummation of marriage. Maranaws usually marry between fourteen and fifteen years of age for girls and between fifteen and sixteen for boys. Elopement is frowned upon and is thought to cause dishonor to the families involved. Love is rarely considered an end in itself. Marriages are pre-arranged by parents as these are considered a means to become rich and powerful. Ordinarily, young men cannot openly express their feelings for their beloved because of the presence of chaperones, usually the girl's female relatives. The more daring engage in kandaonga (talk fest) with the girls. In this game, the young man is able to make known his feelings by means of clever statements and poetic lines. At home, the young man tells his parents about his desire to marry. His parents listen quietly because a Maranaw marriage is costly for the groom. His parents consult with relatives and evaluates the girl. During the kapamalai (revelation of intentions), a go-between reveals to the girl's parents the intentions of the boy's parents. The amount of the dowry is then discussed. The dowry is divided into several parts. The first, called warang a		

MARANA KAWA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		butang, is the principal part consisting of cash given during the wedding day. Another portion, called pagopawan, goes to the titled members of the community, regardless of whether they are related to the girl or not. During the kapaniwaka, which is when the families get to know one another, the girl's parents prepare the family's biggest house as the place of assembly. Whether they come by boat or jeepney, the girl's family welcomes the boy's family with a gun salute. Kaluka sadalong is the practice of formally introducing the boy and girl to each other. This marks the first step in courting. While eating, the boy can begin to make love to the girl although they are rarely left alone. The kambatiyara, which is when the dowry is presented, takes place before the wedding. It is an exchange of praises among the relatives of the boy and girl. The dowry is then distributed among those present while food and buyo are served. When all the demands of the girl and her relatives are met, either through cash or by giving what is called sand, a collateral, the kakuwing or wedding starts. As soon as the groom arrives, the imam asks him to perform a ritual of purification. Meanwhile, the bride accompanied by several		

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		young women, hide in a relative's house. After the wedding ritual, the groom goes to look for his bride. Some recent changes in courtship among the Maranaws are: value for physical beauty among educated Maranaws; exchange of letters between the boy and girl; the substitution of the dowry with an amount equal to what the girl receives from her parents; and a parade around town by the groom, bride and their relatives and friends, with the accompaniment of Western music. A groom should not kiss the bride on the cheek and neck lest she become hot-tempered. During the wedding, the young man who stays behind the groom will marry soon. During a wedding, nobody is allowed to stand at the threshold or under a ladder as this is said to augur poverty for the newly weds. A heavy downpour during the wedding is a cause for rejoicing as this means many children for the new couple. Weddings are better held when the moon is full to ensure prosperity for any of the new couple's undertakings. A newly married couple is advised not to sleep during the first night of the marriage. It is believed that the first person to fall asleep will die first.		

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The man and woman should face each other while sleeping. They say that in doing so, their marriage will last. For three days, the newly married couple are not allowed to leave the house or cross a lake or river because it is considered bad luck to do so. When a married man wants to leave his wife and remarry, he cannot just tell his wife that he is divorcing her. The Koran says that a man can remarry only if he can fulfill certain conditions. If the husband is found guilty of maltreating his wife, he is promptly fined or asked to divorce his wife. If it is the wife who is unreasonable, they are given a lecture on married life. If they do not wish to reconcile, divorce follows. The properties are divided equally between them, or in three parts if they have children. Even if the man remarries, he is still obliged to support his children. Maranaw families are divided into four social categories, as follows: one carabao—kuwingan, two carabao—kuwingan, three carabao—kuwingan, and four carabao—kuwingan. The last refers to influential Maranaw families.		
CHILD-REARING	Stories of a moral nature, called quizos, are found in old books written in Arabic. These come from Mecca and other Muslim cultures, and are	A baptismal ritual calls on the spirits of the lake, river, and general surroundings, to partake of delicacies consisting of mudfish, chicken and yellow rice. The occasion	[child health]	[computations involved in child care]

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	used by imams and guros (teachers) to teach Islam to the children. Maranaw children's songs occupy a definite place in Maranaw literature. These songs, although short, are beautiful. These are actually rhymes sung in chorus (pagebeg). There are common riddles which any ten-year old Maranaw child can answer.	marks the formal introduction of the child to his spirit-neighbors. Child-rearing is considered a woman's responsibility. Aside from taking care of the child's physical needs, the mother is responsible for teaching him/her proper behavior and community values, especially respect for elders and honesty.		
STATUS OF WOMEN	[rhetorical modes: description, classification, argumentation]	Whereas in the past, Maranaw women participation in public life has increased and some have even been elected to public office. Also, although marriages are still family-negotiated, young women are now allowed to entertain suitors at home and to marry men of their choice. Mothers are expected to teach their daughters modesty and chastity. Women have the same religious obligations as the men: they pray at prayer time, fast during Ramadan, and those who can afford it go on a pilgrimage to Mecca. But women are exempted from daily prayers and from fasting during their menstrual period and for 40 days after childbirth. Pregnant and lactating mothers are exempted from fasting.	[biology; health care]	

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
POLITICAL ORGANIZATION/ LAWS	(rhetorical modes: classifica- tion, description, narration, cause and effect]	A traditional way of catching a thief among the Maranaws is the use of a coin submerged in a steaming pot of water. All the suspects are asked to dip their hands in the water to get the coin. The one who refuses is branded a thief and compelled to return the item he stole to its owner. Another method is the use of the Koran: each of the suspects is asked to swear before the Koran that he has not stolen the lost item. It is believed that a hardened thief who swears upon the Koran will be brought to destruction. Lanao courts use the Koran in court proceedings especially when witnesses are asked to swear to tell the truth. In some rural communities, an egg is used to punish the thief. When an item is lost, the owner takes an egg, recites magical verses over it, and heats it over fire. When the egg breaks, it is said that the thief is struck blind. The head of the Maranaw traditional government is called solotan or sultan. The title carries with it executive, judicial and legislative powers. Next to the solotan is the cabogatan or Radia Moda. Both can succeed the solotan. A solotan or any titled datu holds office for life or for as long as he is able to discharge his duties. No titled datu, no matter how corrupt or cruel, can be forced to give up his crown; nor can he be impeached. When a solotan does give up his		[mathematical relationships as illustrated in jurisprudence and political relations]

MARANAO OF LANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	The coronation festivities consist of nightly bayoks (song fests), folk dances such as the sagayan (princely dance), and games.	crown, it takes a long time to choose a successor. As a rule, a solotan has to be married, wealthy, wise courageous and of good moral character. The coronation takes place on the last day of festivities. The immediate past solotan goes to the house of his successor. If the past solotan is dead or disabled, a representative takes his place. The past solotan is shielded from the sun by two huge umbrellas. He is accompanied by a local band called tagongko and by slaves carrying a sampak (ceremonial spear). Much food is prepared, with as many as five carabaos and several boatloads of fish and sacks of rice given as sagka or gift to the prominent datus present. Even today, Maranaws value titles. No matter how educated a person is, if he is not titled, his power and influence are limited. A hierarchy of civil leaders exists, with the following titles: panondiongan (most high), kasaongan (adviser), ampotoa (wise), paniyambaan (great), ampuan (most revered), soltan a pitulan (chosen soltan), simbahan (idol), solotan a adil (wealthy soltan), solotan a patiiian (chosen soltan), simbahan (idol), solotan a dalomangcab (wise solotan), songcopan (adviser), and solotan a gaos (monoyed soltan).		[mathematical principles used in music and dance and games]

MARANAO OF LANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Maranaw religious leaders carry titles such as imam (high priest), kali (attorney), and wali (judge). Women carry titles like bai a labi (most exalted queen), potri maamor (princess), solotan a bai (kindly queen), bai a dalomangcob (wise queen), and bai a cabogatan (queen).		
ETHICS/MORAL CODES		The maratabat is the key to Maranao psychology. This is folk psychology, an expression of social position as shown in the following expressions: A man who has lost his bangsa (identification with ancestors) has no maratabat. A man without maratabat is nobody. A man who loses his maratabat becomes very, very small. An important man is one with lots of maratabat.		
CULTURE BELIEFS AND PRACTICES RELATED TO CHILDBEARING		When there is an expectant mother in the house, a small needle and a ganta of rice are hung in the doorway. The needle is believed to drive away evil spirits while the ganta of rice is said to drive away Saitan who causes tumors. If a conceiving woman fails to eat the food she craves, she might have a miscarriage or the child may have bad luck. Pregnant women are enjoined to wear an agimat for protection against		

MARANAO OF LANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		evil spirits. A pregnant woman who passes by a banyan tree (called noknok) should make a sign of respect to these spirits lest she suffer bad luck. Childbirth is a cause for rejoicing as children are considered blessings from God and economic security for old parents. Expectant mothers are taken care of by the midwives (pandai or pangga wai), one female and the other male. The female midwife is more important than the male. She provides pre- and postnatal services and attends to the birth while the male assists. In the final stages of labor, the relatives of the mother repeatedly utter the word "kasili, kasili" (meaning "eel, eel") so that the infant may just slip out easily, like an eel. A woman can have another baby when her youngest child can lie on its stomach. When a baby crawls with raised buttocks, it is interpreted as a sign that the child wants to have a new brother or sister.		
BELIEFS AND PRACTICES RELATED TO DEATH AND BURIAL	[rhetorical modes: description, narration]	Four chanters form two lines leading to the dead man's grave. They are garbed with finery, complete with a mosola (colorful neckerchief) and tobao (turban) tied around the head in such a way that one end points stiffly upward.		

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Miyari is a religious dance in which six or more players sing and shout towards the grave of a dead person.		
HEALTH AND SICKNESS	[rhetorical modes: description, process, cause and effect]	Illnesses are believed to be caused either directly or indirectly by spirits that inhabit the world. One has to be sure first what caused the ailment before any treatment can be administered. A folk healer diagnoses the patient by pressing his fingers on the dead person's forehead or stomach while reciting magical verses. Another way of treating the sick is through the help of a pendarpaan, someone who is befriended and visited by spirits and is capable of curing any kind of sickness except those which, by fate, will cause a person's death. Another type of magical specialist who employs a spirit helper to injure his enemy or his client's enemy, is called pamamantok. Still another type of magical work is known as gamot and the practitioner is called gagamoten (poisoner). It is said that this specialist extracts poisons or gamot from plants or animals, including snake venom left on food offered to reptiles in dark isolated corners. The poisoned leftover food (sama) is secretly mixed with the food or drink of the intended victim who may consequently get sick or die.	In case of stomach ache, a handful of sunflower leaves is gathered. The leaves are heated and applied on the sick person's midsection. [medicinal value of herbs] [health and sanitation]	[measures and computations involved in the preparation of medicine etc]

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		A sick person who has been diagnosed to be at odds with his own desires to appease it, is brought to a pendarpaan. It is believed that strange illnesses are caused by angry and vengeful inikadowa. There are instances, however, when the inikadowa possesses too much of one's maratabat and refuses to be appeased. In such cases, the sick usually dies in a few days or months. Other spirits believed to cause mental and physical suffering are the tonong, salindagao, saitan or dampipayag. The last means "unseen being." Spirits of long-departed relatives are also believed to influence the health of the living.		
MISCELLANEOUS BELIEFS	According to another tale, during an encounter between prophet Mohammed's army and that of the Meccan pagans, Mohammed found his whole army surrounded. He had no way of fetching water for his men. So as a last resort, he decided to send an animal, a pig, to a faraway lake to fetch water. But instead of doing what it was asked to do, it just played and wallowed in the sandy shore. After several hours, it returned. The prophet was so mad that he cursed the pig. This is why Muslims do not eat pork.	The oros are magical verses placed in a bottle. The bottle is then hung on a bamboo pole standing in the middle of the plantation. To the average Muslim, the hardest word to swallow in any language is swine and the most distasteful dish is lechon. To be called a swine or a son-of-a-pig is the most degrading thing that can happen to a Muslim. The Koran explicitly prohibits the eating of pork. Maranaws believe that balete trees are inhabited by spirits called		

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	[other folktales and legends] [rhetorical modes: narration, description]	saitan so when they pass under one, they say, "Excuse us; we're just passing through." Maranaws believe that the sun is a flaming young man riding a chariot pushed by angels. Hell is considered a pathetic place in the bowels of the earth. It is reserved for disrespectful children. Dark places and big posts are shunned because these are believed to be the abode of evil spirits called saitan. Thunderbolts are believed to have been sent by God to kill these evil spirits. The reason Muslim carry daggers or Krisses wherever they go is that the carved handles of these weapons protect them from evil spirits or saitan.		
FOOD	[rhetorical modes: process, description]	During the Ramadan, sindol is served. It is made of pounded rice, coco milk, sugar, jack fruit and banana. After the 15th day of fasting, one is allowed to smoke or chew betel nut. After common prayers, there is an exchange of food. During house visitation, a light meal is served. Meat is eaten only during feasts.	[scientific principle involved in food preparation]	[mathematics of cooking and food preparation]

MARANAO OF LANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
LITERATURE AND ARTS (INCLUDING MUSIC AND DANCE)	Maranaw literature is primarily oral. It may be divided into folk tales (tutul), short love poems (tubad-tubad), wise sayings and proverbs (pananaro-on), genealogy (salha), oramas (sowa-sowa-i), folk dances (pakardiyaan), stories of a moral nature (quizo), children's songs (ida-idaawata), riddles and puzzles (mangka antoka), and epics. Tutuls are further divided into legends (tutul sa pakapoon), funny stories (tutul a piyaka kuyukayad), fables (tutul a panga ngayaman), and stories of birds and fishes (tutul a magica suda ago papanok). Other literary forms used in courtship is the malikata or poetic joust and the tigum-tigum or love riddle. The Salsila/Tarsila refers to written genealogy which include accounts of significant events. The study of genealogy is reserved for maongangen (wise men and women). One type of Maranaw drama is the kambayoka which is a poetical joust in which two onors (players) try to defeat each other by reciting in verse the story of Prince Bantugan, the mythical hero of the Darangen epic.	Every beginner artist in Lanao has to perform a ritual. Otherwise, it is believed that he will develop an illness and die of it. It is believed that artistic talent needs the help, guidance and constant encouragement of the tonongs (supernatural beings). Islam is a predominant influence in Maranaw designs, whether in brass work, gold ornaments, or wood carvings. There are Arabic, Chinese, Indian and Japanese influences as well. The predominant design used in Maranaw brass work looks like a pako (fern) which is a modification of the Arabic floriated kufic. The arabesque is a motif with interlacing lines and flourishes growing usually out of or around one central unit, which may be a tree, a stem or a hollow. The geometric designs are a Mesopotamian influence. The long rectangular designs found in the corners of the loto-an are called milantring meaning like a bamboo (tring). Another decorative design is the sinalopongan which is comprised of a rectangle surrounded by circles. Another Maranaw design is the pinagapas which seems to be a combination of the pako and tiyodi (a kind of plant) motif.	[scientific principles observed in creative work]	[mathematics in artwork -- e.g., geometric designs]

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	Kaganat sa darangan is an interpretative play depicting the sending of Lumna, Bantugan's son by his sister, Lawanun, to Minirig a Rogong, a kingdom by the sea. Diabro and Onta are the comedy versions of the Moro-Moro by the Maranaws. The Diabro is a story of the fight between good and evil on the seashore. The onta is the personification of a camel. The Mauleed en Nabi play depicts the story of the prophet Mohammed as a little child. This play is enacted every birth anniversary of the prophet. According to popular Maranaw myth, art descended from the great Tominaman sa Rogong, the supposed patron of art from the famed fable City of Bumbaran. Tominaman sa Rogong was a relative of Bantogan, the mythical hero of Darangan, a Maranaw epic longer than the Iliad and Odyssey combined. It is written in Arabic. Another mythical tale about the beginning of Maranaw art says that art descended from the nabis or prophets. [rhetorical modes: description, narration, classification]	The Sari-manok is representative of the okir art of the Maranao. It is not as abstract as the naga or dragon, another motif. Patterns which make up the okir are: patick (bud), pako (fern), dapal or raon (leaf), etc. These are combined in complicated designs. Notably, these floral motifs are associated with the masculine and are called okir-a-datu. Geometric designs usually found in weaving are considered feminine and called okir-a-bai. This is because it is the male who uses curvilinear forms in carving and metal work while the woman uses geometric designs for weaving. The panolong is an intricately carved extension of the floor beam done in bas relief. It is customarily shaped into a wing of a mythical bird or the mouth of a crocodile. The predominant design of the panolong is the niyaga, a mythical snake that supposedly inhabits the skyworld. This same design is used by Indonesians. The bugolong is a wooden roller that is commonly used by farmers to mix soil and water thoroughly in their farms. This is decorated with the potiyok, a rabong motif and the piyako, a form of okir. The gador (a kind of brassware) is also used as container for the ingredients of an imbama. It is carried during marriage ceremonies.		

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The magoyda is found in the kris. This is a decorative design joined from end to end. It resembles the pako or scrolls. The kris is a wavy sword. The doda-i (spitton) is decorated with the gosom (riblike) design along the sides. The tabak is another Maranaw brass article. It is round, decorated with wavy lines at the edges, with a short single leg. The tabak is used as a table. Tali-tali (like rope) is a design found in brass kettles. Wood, horn and ivory carving involve a simple but lengthy process. Carving tools include the nawi (a very sharp, curved bolo), panasang (chisel), pencil or charcoal patok (ax), and other similar tools. Dyes are used for coloring. One of the most beautiful and most popular carving designs is the sarimanok which is often pictured with a fish caught between its beaks or clutched between its claws. It is used to decorate torogans or ancestral homes. It symbolizes completeness as well as wealth, prestige and power. Langkongan is a rack for the kuliintang, a set of eight gongs of graduated sizes.		

MARANAO OF LANA O

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Kotmapi is a two-stringed musical instrument which corresponds to the "boatlute". Maranaw folk dances (manga pakaradiyaw) are quite few, unlike Maranaw stories. The best known are the Sinkil sa Sagayan, Kaganat sa Darangan and the Kadaolat sa Miyatai. This last is a religious dance in which six or more dancers line up on a path leading to the grave of a dead person while singing and shouting. Sagayan, commonly known as the Maranaw war dance, depicts Bantugan as he pleads for his sweetheart, Minoyod, to marry him after failing to fulfill his promise to do so before.		
ARCHITECTURE	[rhetorical modes: description, process, classification]	Maranao houses fall into three categories: the lawig (small house), mala-a-walai (large house), and the torogan (an ornately decorated house of the titled Maranao). The latter has panolongs which are ornate, roughly-carved beams with flaring wings either in the piako (fern-like) or niaga (dragon-like) motifs. The panelings are often ornately incised. Inside the house and holding up the kingposts of the roof is a horizontal beam that is curved and completely polychromed. This is called the rampatan or intestine of the house. Inside, there are practically no permanent partitions. The house is one cavernous hall with a central aisle going down the entire	Since the land is technically unstable and often visited by earthquakes, houses are built on floating foundations. The houseposts which are usually large trunks of trees, rest on large, rounded boulders so that the entire house can roll and float when the earth convulses. [other scientific principles observed in architecture--e.g., use of space]	[mathematics in Maranao architecture]

MARANAO OF LANAO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		length from the front doorway to the rear of the house, where the kitchen is located. On both sides of the aisle are sleeping areas. Several families often inhabit a single house. The more families there are, the more prestigious the owner. Thus, most houses, no matter how large, consists mostly of sleeping areas with one family per sleeping area. Each sleeping area is furnished with matting on the floor over which sleeping pads are laid. It also serves as a living area where the family eats meals from their talam or food traps, weave the malong or langsit, or create designs on wax molds for their brasswork. They also receive their guests here.		

Sources: Canieda, Rose et.al. Data Papers No. 3. PAPERS IN MINDANAO ETHNOGRAPHY. An Occasional Publication of the University Research Center, MSU, Marawi City, 1979.

Demetrio, Francisco S.J. ENCYCLOPEDIA OF PHILIPPINE FOLK BELIEFS AND CUSTOMS. 2 Volumes. Cagayan de Oro City: Xavier University Press, 1991.

Madale, Abdullah. THE REMARKABLE MARANAW. Quezon City: Omar Publications, 1976.

Madale, Nagasura. THE MUSLIM FILIPINOS: A BOOK OF READINGS. Quezon City: Alemar Phoenix Publishing House, 1981.

Saber, Mamitua and Abdullah Madale, eds. THE MARANAW. Manila: Solidaridad Publishing House, 1975.

SOME PHILIPPINE BELIEFS AND PRACTICES RELATED TO FERTILITY. Manila: DECS Population Education Program, 1976.

Suenagayen, Amina. THE CHANGING ROLE OF MARANAW WOMEN IN A MARANAW RURAL SOCIETY. U.P. Master's Thesis, 1982.

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT SEASONS	The Muslim month of Rabilauwal is the month of Muhd. Muhd are commemorative songs similar to Christian Christmas carols. The singing which is performed between the 12th and 28th moon is in honor of the Prophet. On the tenth month, the Sultan and his family hold their own Muhd rituals.	The month of Jamadiwal and Safar are good months for weddings. The Muslim month of Muh Arram is the start of the Muslim New Year. On the tenth day of the lunar month a ritual feast called Kabole is held in or near the mosque. The food is a mixture of rice and root crops. Safar, besides being a month for weddings, is also a month of the annual ritual purification called tuak bal. This is held three Wednesdays after the tenth moon, by the river or sea. It is a symbolic washing away of sin and disease. Sha'ban is the month reserved for the commemoration of the dead.	[scientific concepts pertaining to the seasons]	[math concepts related to the seasons]
PRODUCTION/ LIVELIHOOD/ ECONOMIC ACTIVITIES FARMING	[farming songs] [rhetorical modes: description, classification, narration, cause and effect, process]	Four small bamboo poles are planted at the center of the rice field. Under each pole a bottle of water is buried as a symbol of continuous water for many ska (sprouts) and anay (white termites) for the rapid increase of palay.	Rice Farming Local farming implements include the janap, a bolo with a sharp straight edge used for weeding; the pira, a sharp bolo for cutting banana plants and small trees; and the oraru or plow. The land is prepared for planting during the dry season (March–April).	[mathematical operations required for farming and related activities] [measures used]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Male and female, young and old members of the household participate in the harvesting. Magsali or magdangin (bayanihan) is practised. Participants are served lunch. The person who drops the grains of corn must have a good set of teeth. It is believed that if the person who drops the corn grains has bad teeth or is limpung (has missing teeth), the corn grains will also be incomplete. A menstruating woman cannot join the planting because it is thought that she can cause a poor harvest. The bagaybag (blossoms) of the corn will not bloom.	Weeds and grass are first cut by a process called lapahan. The initial plowing, called mag-badja, follows. After a month, the weeds are removed either by hand or with the aid of a janap. This process is called magsuat or magbisbis. A third plowing known as magtalan (harrowing) is done, followed by the magbakal or magbubudbud (broadcasting the palay). Then the magkas (raking of field) is done using a kagingking (topmost part of a bamboo) drawn by a carabao. When the palay is about 6 inches high, the field is plowed for the last time so that the palay will grow sturdier. After the mag-ani or harvesting, threshing is done by the family using a method called uhut. This is threshing with the feet to separate the grains. Carabao hide is commonly used as the threshing floor. The final step is magtakap to separate the chaff from the grain using a ligo (winnow). The pal or threshed rice is dried under the sun before it is kept in sacks and bamboo baskets and stored in the kitchen. Corn Production The field is cleared by cutting the weeds and burning them. The field is then plowed and levelled. After a week, the field is ready for planting and furrows marked. Farmers plant corn by walking along the furrows and dropping two or three kernels on mounds two feet	

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			apart. After three weeks, the soil between the corn plants is plowed to cultivate the soil and remove the weeds. Four months after planting, the corn is harvested. Some big ears of corn are left and allowed to mature to be used as binhi (seed) for the next planting. These are not husked and hung in the kitchen near a stove for them to be preserved. Other Crops Peanuts are planted in a field which has been plowed twice or thrice. The furrows are about a foot apart. The seeds are planted three to a hill at one foot intervals and covered to a depth of two or three centimeters. Peanuts can be harvested after three months. To harvest, the entire plant is pulled out and hung to dry before the pods are picked off by hand. The coconut is the most highly priced agricultural produce. Its uses are varied. The fronds are made into thatch. The shells are made into containers and also converted to charcoal. Copra, the dried meat of coconuts, yields oil which is the basic ingredient in the manufacture of such goods as margarine, soap and cream. The roots are used as medicine. Other agricultural products are cassava, abaca and corn.	

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Durian, lanzones and mangosteen are some of the fruits found in the province.	
FISHING	[fishlore]	[beliefs regarding fishing]	The bungsud is made of bamboo woven with vines. It is about 1 1/2 meters high and 200 meters long. It is planted in the shallow parts of the coastline in the shape of a capital Y. At the base of the Y is the lugu, a woven basket made of split bamboo. As the water recedes, the fish caught in the bungsud falls into the lugu. The benget or hook and line can be used in both shallow and deep sea fishing. The hook is baited with ripe nangka for deep sea fishing and fish, meat or worms for shallow fishing. Another method of catching fish is by using a gas lamp. Schools of fish are attracted by the lighted lamp in the vinta. Fishermen feed the fish gathered around the vinta with poisonous seed. The intoxicated fish are then scooped up with a small net called sasaud. For catching bigger fish, the lantaw (gill net) is used. It is about 100 meters long and about 10 feet high, with bouys tied to the top. The net is weighed down by lead pellets about a foot apart from each other.	[measures and computations involved in the making of fishing implements and in fishing activities] The bubo is a rectangular bamboo basket not less than 4 feet long, 3 feet wide and 3 feet high. It has an opening at one end through which the fish get in as they are pushed by the receding tide or as they are attracted by whatever bait is placed inside the basket.

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			During the 13th to the 17th days of the month, some fishermen do not go out for deep sea fishing. Fish do not come to the surface because of the bright light of the moon. The current is also strong at this time.	
RAISING ANIMALS	[animal lore]	Cows are raised for commercial purposes. Families raise them as a source of ready cash in the event of a family crisis. Carabaos are considered prized possessions, not only for plowing but also for transportation. Goats are raised mainly for meat. They are in demand during the Hailaya Hadji (Feast of Sacrifice) because the goat is the animal slaughtered in memory of Ibrahim's sacrifice of his son Ishmael in fulfillment of the divine command through Jibrail (in the Qur'an). Raising chickens is another family enterprise. The women and children are usually responsible for the flock which are kept under the house at night and allowed to roam in the daytime. Chicken and chicken eggs are sold as the need for cash arises. They are cooked and served only during special occasions. Families whose houses are constructed above the water raise ducks, mainly for eggs. The Tausugs very rarely eat the meat of birds with webbed feet as the Qur'an proscribes this.	Cows are tied and allowed to graze in the grassy areas or open fields under coconut trees. Scientific note: It is best to allow cows to graze. Pugaran manok (chicken nests) are hung or set on elevated structures under the house. Scientific note: This is to protect the eggs from animals who would steal them for food.	[measures for animal feeds; computations made for raising, cooking, or sale of animals]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		When they do eat ducks, they separate the web that connects the toes of the duck's feet before slaughtering them. Horses are used in hunting and sports. Fighting cocks command prices up to several thousands among cockfight aficionados called "magbubulang".		
SOCIAL RELATIONS/ ORGANIZATION COURTSHIP AND MARRIAGE	[courtship literature]	Courtship begins once the boy has been accepted by the girl's parents. Direct courtship is not practised. The boy renders service to the girl's parents in the courtship process which may take years before the actual marriage ceremony takes place. Tausug marriage has several stages: 1. TINGGUG – TAINGAH – literally means "earsound" or "listening by ear to sound". This refers to the process of inquiring around neighboring communities about matters pertaining to the marriage proposal. It includes asking an elderly person about the correct dowry amount, as well as investigating the girl's background. The boy and girl must share a similar financial and social background. 2. MAGPAHINGITA – means to see or try to see the bride. Tausug maidens are kept in private rooms and are isolated	Childless couples consult the panday (local midwife) who massages the woman's abdomen and gives her herbal drinks to activate her ovary. An indigenous mode of contraception is known as pagpapalahang. A local vine called pitawali is boiled for drinking by the woman. [family planning practices; genetics]	[mathematical operations in setting of dowries, marriage dates, family planning]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		from menfolk and visitors. Some of the womenfolk on the men's side are tasked with getting a glimpse of the future bride and describing her to the groom's family. 3. MAGPASIHL – an indirect way of asking the family concerned about the wedding expenses and other needs of the bridal party. The task is given to an elderly woman who is closely associated with the family, the imam, and other respected male elders. At this time the date for formally asking for the girl's hand in marriage is set with both sets of parents present. 4. PAGPANGASAWA – the formal asking of the girl's hand in marriage. This is attended by the usba (relatives from the father's side) and waris (relatives from the mother's side) of both families. Both parents of the two families are represented by an uncle accompanied by village relatives and elders. The actual wedding expenses and other matters are settled during this occasion. The boy's family brings gold jewelry as tapil–dila, or symbol of the family's desire and honor to be related with the future in-laws. This tapil–dila will remain with the bride's family even when the marriage does not push through. The formal acceptance is done in colorful ceremony.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		5. PAGTURUL – TAYMAH – this is the formal acceptance of the marriage proposal and is a joyous occasion. Relatives, friends and prominent people in the community are invited by both families. It can be grand or simple depending on the financial means of the family. A grand pagturul–taymah is accompanied with music, lavish feasting and a big crowd. 6. PAGKAWIN – the formal wedding ceremony. This is a whole day affair. It is heralded by gongs, kulintang and other musical instruments. The dimas of the wedding is the wedding prayer by the imam. The bridegroom and imam hold their hands together with thumbs up and pressing against each other. The imam then asks the groom about his willingness to observe the commandments of God, and his acceptance of his wife. The imam leads the man to the bride's chamber where other ladies and guests surround the bride. The imam guides the groom's thumb towards the bride's forehead in a gesture which ends the ceremony. The Tausug male is permitted to have more than one wife. Wives may or may not live together. The magkaluwa or co-wives must learn to get along and share what is due		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		them and their children. This is said to be in accordance with Islam. If the wives live together in one household, the first wife customarily dominates the others. Islamic law permits divorce although there are few actual divorces. The type of divorce granted depends on what the datu or imam thinks is best for the parties concerned. The first type of divorce is tallak satu where divorce is granted but the man may return before 100 days are over in case he desires a reconciliation. The second type of divorce is tallak dua. In this case, a reconciliation may be effected but the couple has to go through a new wedding ceremony. Tallak tiga, the third type, bars reconciliation unless a kipurat or big feast is held and presided over by the imam who prays for forgiveness for the couple. There are marriages among relatives and/or preferential marriages among cousins to facilitate the transfer of property. Polygamy is common among sultans. The first wife is considered first in rank. The sultan's concubines are either debt slaves or regular slaves. Tausugs are endogamous. Where intermarriage with other ethnic		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		groups takes place, the groom must be from a higher ranked group. A bride gift is given to the girl's family in recompense for the expenditure in rearing the girl. Once engaged, the groom is expected to supply rice, fish, betel nuts and cigarettes for the bride's father. During the wedding ceremony, the groom's face is powdered while the bride's face is heavily creamed and her eyebrows painted. Weddings are celebrated with big feasts where there is much dancing. A go-between is hired to arrange the marriage. There are several opportunities for girls and boys to meet and get acquainted. These opportunities are religious celebrations such as Maulideen Wabi (birthday of the Prophet Mohammed), Id'l Fitr (feast after the 30-day fast), Id'l Adha (commemoration of the pilgrimage to Mecca), congregational prayers, and vigils for the dead. Newly weds live with the wife's family even after the arrival of children. Often, they live with the husband's family. His parents support his family until he can support them himself.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The man assists in the farm and accompanies his father or father-in-law on fishing expeditions while the wife does the household chores. Couples who want to live independently may put up a house in the vicinity of the parental abode. This is almost always done when the wife or husband is an only child. The parents continue to extend assistance in any form. The principal meaning of marriage is procreation; children are considered priceless gifts by God and are awaited by everyone. No subul or young lad is expected to talk with a budjang or lady. Even after a formal proposal, the engaged couple are not allowed to come together. Two important rites of marriage are observed: the giving of the ungsud or dowry and the pagkawin or solemnization by the imam. Omission of certain articles from the ungsud could lead to the postponement of the pagkawin. The eight types of marriages are: "kawin saputaŕgan" (marriage by proxy), "mag guyud" (abduction), "magpangasawa" (formal marriage), "magpasumbai" (literally, to be slaughtered; a marriage type where a kris-wielding man directly asks a		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		girl's father for his daughter's hand, under pain of being killed if the girl's father refuses him), magsarahakan tugul (marriage where the boy family asks for an immediate solemnization of marriage as they bring with them all the requirements for the rites), "magtahakkim" (a more honorable kind of marriage than elopement; this practice refers to a girl's asking a religious man to marry her) and "muw' magbana" (similar to "mag tahakkim" except that the girl asks a man who is not an "ulama" – a Muslim religious scholar – to marry her. Variations in matrimonial practices are accounted for by the financial status of the couple's families, the situations leading to the marriage and the pressures at the time of the marriage. A special feature of the "magpangasawa" (literally, formal asking of hand) is the presence of two types of "ungsud" – the "mahal" (basic nuptial gift to the bride) and the "basiñgan" (supplementary gift as token of respect for the woman's virginity). The "pagkawin" cannot be acted upon in the absence of the "mahal", without the "wal" (grant) from the bride's parents and without the "saks" (witness).		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
CHILD-REARING	[lullabies; stories for children; proverbs] [rhetorical modes: classification, description, narration]	Tausugs believe that God will not create people if He cannot support them. So they are not bothered by threats of population explosion and do not practise contraception. Children are considered assets and security for parents in their old age. A baby may be made to suck milk from another nursing woman who may be an aunt, a close relative, or even a close friend of the mother. Two babies with different mothers who nurse with the same woman may be called magsaw--duruh (in reference to breast sharing) and considered real siblings. Mothers caution strangers not to talk or cuddle the infant because it is believed that the strangers' word may be mapasu (hot) and their remarks or descriptions of the baby may cause rashes, fever and some discomfort to the baby. The baby may also become sick due to witchery or spirits. Babies are generally bathed every other day, avoiding Tuesdays and Thursdays. Those days are considered adlaw mapasu (literally, hot days) during which the child is vulnerable to illness. Also, babies are not bathed when a neighbor or relative dies as the baby may be sagdahum (mentioned) by the spirit of the dead.	Many mothers prefer breastfeeding to bottle-feeding with evaporated or condensed milk because it is more convenient (especially at night) and economical. They also know that babies who are breastfed are stronger and healthier, and such babies develop a stronger attachment to their mothers. On the other hand, the mothers know that they cannot stay out of the house for long periods lest their nursing babies go hungry. They also feel that nursing makes them weak and hungry. Generally, babies are weaned between one and two years old. But some babies are breastfed until they are three or four years old or until the mother starts conceiving again. To wean a child, the mother avoids being seen by him/her. The mother's nipple is rubbed with crushed ampalaya leaves so that the bitter taste will make the child shun the mother's breast. When the baby is three months old, s/he is given tubig--am, excess water from boiling rice. In the fourth month s/he is given mistang (thin rice gruel). At six months, the baby is given biugbiug (thick rice gruel flavored with a little salt or sugar). When the first tooth is about to come out, the mother gently rubs then baby's gums to soothe the discomfort.	[measures used; computation made while preparing food, administering medicine, etc.]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Many babies have adjimat or charms hanging around the neck, or fitted around the wrist like a band, to drive away evil spirits. Five sets of accepted norms that underlie Tausug socialization are taught to the child. These are: adat (customs), tabi-at (etiquette), pall-palihan (beliefs and tarasul iban daman (proverbs and sayings), agama (religious orientation). In addition to formal instruction by parents, the child gets socialized by means of observation of his/her social environment and direct participation in social interaction. Elementary-school children help in household chores. Girls help look after the babies, prepare the meals, and wash dishes. Boys fetch water, gather and chop wood for fuel, feed the chickens and ducks, and help their fathers farm or fish. This marks the beginning of segregation of male and female adolescents. Young girls are especially protected by parents and are often confined to the home after class hours. When a girl becomes a sangput daaga (newly grown woman) she is expected to remain chaste and be ladylike until her marriage. The sangput daaga sleeps in a mezzanine called angkap.	At eight months, the child is given soft cooked rice with a bit of fish or meat broth to give it flavor. The child is not given fish yet as this can cause kalug (worms). The child is also given bangbang malunok (soft biscuits) which easily dissolve in the mouth and do not cause choking. Squash and mongo which can be easily mashed are mixed with the rice for the baby. When the child's stool is watery, she is given mashed boiled banana of the sabba variety as this hardens the stools. The baby can eat the saging bata-bata (señorita variety) and the sulay badjo (latundan) but not the marunong (bigger sabba) and green banana as this can cause diarrhea or gas pain. Foods to be avoided include eggplants and baling or bagoong which are believed to cause itchiness and scabies. Sour food are believed to cause gas pain in babies. Fruits like bananas are hung in the kitchen where the children can go to eat some when they are hungry. Other snack foods are boiled camote, native cakes, and bread. The pre-school child sits next to his/her mother during meals. S/He eats the same food as the rest of the family. Some mothers believe that children with abnormally big stomachs eat too much fish.	

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		At the onset of menstruation, a girl is told to skip three treads on the stairs so that her menstrual period will not last more than three days. She is cautioned against taking a bath as it is thought that this will cause the menstrual flow to stop prematurely. She is also advised against eating sour food during her period as this is believed to cause an abnormal decrease of of the menstrual flow and to turn the blood a pale color. When one becomes an "akil-balig" (newly grown man), he is obliged to fulfill his religious duties, including the performance of the five pillars of Islam. The circumcision of the young boy formally initiates him into Islam. The adolescent boy takes extra care with his grooming. He has more freedom as a subul as he is called. He is not restricted in his activities. He is expected to help augment the family income and thus may decide not to pursue formal schooling. An akil-balig who touches a member of the opposite sex who is not a consanguinal relative, is penalized with a fine.	To get rid of intestinal worms, mothers give their children unripe pineapple. <i>Scientific note: Some intestinal parasites like roundworms come from infected fish. It is likely that the sourness of unripe pineapples can have a laxative effect especially on young children.</i> Many mothers believe that eating guavas causes appendicitis. (Guava seeds fall into the appendix and cause an infection.) Guavas are also believed to cause constipation. <i>Scientific note: True.</i> Ugud or scabies and other skin disorders are said to be caused by duguh malummi (impure blood). A mangungubat is called in to help treat the skin disorder. <i>Scientific note: Scabies is a contagious disease caused by a parasitic mite (Sarcoptes scabiei) which burrows under the skin to lay eggs, causing intense itching.</i> A child with fever is made to drink water boiled with toasted rice (linga). <i>Scientific note: The hotness of the drink can cause the child to perspire heavily which in turn will lower his body temperature.</i> Drops of breastmilk are applied to the eye to cure eye ailments	

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			like sore eyes or conjunctivitis. <i>Scientific note: This can have a soothing effect although the mother must be sure to have clean hands and clean droppers.</i> Another cure for diarrhea is roasted camote or the water in which dried mangosteen peelings have been boiled. This hardens the stool. A child with measles is given soft-boiled egg to enable the rashes to come out and to lower the fever. Boiled kangkong water is given to someone with tuberculosis.	
KINSHIP	[genealogies/family histories] [rhetorical modes: explication of concepts, description, classification]	The concept "magusbawaris" refers to a person's consanguinal relatives from both maternal and paternal lines ("usba" means paternal kinsmen while "waris" refers to maternal kinsmen). The "usba" plays a major role in the socialization process. Tausug males relate more closely with their father's kinsmen from whom they expect assistance and protection. For Tausug women, the "usba" select husbands and make the final decision regarding marriage agreements, especially about the recipients of the "ungsud."	[genetics]	[mathematical relationships exemplified/paralleled by kinship system]
SOCIAL STRATIFICATION/ ORGANIZATION		Tausug society is divided into three classes: the hereditary aristocracy, freemen, and slaves.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		There were two classes of nobles. The first class were nobles directly related to the ruling sultan (Majul refers to this class as the "royal datu"). The second class were nobles distantly related to the sultan or not at all (ordinary nobles). The common title used for nobility was "datu" (a proto-Austronesian word, found in Fiji where it appears as ratu). Langeran is a Javanese title found in Mindanao and Sulu although it is more common in Borneo. Salip (sharif) is equivalent to Sayyia. Both are of Arabic origin. The full title is sayyid sharif, meaning "master and noble." The titles refer to individual persons and status groups. A certain amount of bureaucracy developed in traditional Sulu society despite the tenuous ties that existed between the Sultan and chiefs or between the capital and outlying districts. In Sulu, there was a state council (ruma bichara) with 6 to 19 members drawn from the more important chiefs, religious leaders and the richer and prominent members (Orangkaya) of the realm. A religious court (cagam court) with judges (Kadi), experts in Islamic law (Shariah) and customary law (adat) was established. Some of these laws were put down in writing and promulgated. Agents, or panglima of the Sultan, supervised the execution of the		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		laws and collected baitalmal, or revenues for the treasury. The Tausugs believe that all datus are descendants of a previous sultan. A commoner may be appointed as a datu by the Sultan. Non-Tausugs can not officially be datus. Datu is combination landlord, political leader, jurist, religious functionary & nobleman. Titles are given through a formal proclamation of the sultan or by issuing a written paper with the royal seal. Titles are given for life. There are four major title subsystems: 1. ascribed title of Datu 2. ascribed religious title of salip 3. achieved religious commissions 4. achieved secular titles of headmanship The Tausugs have no concept of a state apart from the sultan. The Sultan always sits in an elevated position.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The sultan is surrounded by a number of appointed officials. The highest priest in the state is usually a juridical advisor trained in the Canon Law of Alshai'l. The sultan's private secretary keeps records of titles given, tributes and legal fees received, and the genealogy of the sultan. The Wajil, a group of aristocrats, is the most important of the titled staff. The queen is not necessarily the sultan's wife but any woman of high status. Constant internecine factional strife, private wars and conflicts are a key feature of Tausug polity. Traditional Tausug political life is based on an achieve-ment-oriented drive to accumulate personal power through acquisition of followers and friends. In traditional Sulu society, slaves were descendants of slaves, those captured in wars and piracy raids, or those purchased from slave traders and debtors. Slaves were called Ata. Ownership of slaves was a status symbol and was the source of economic and political power because slaves could provide labor, used as retainers, or sold or exchanged for other forms of wealth.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		In traditional Sulu society, the freemen were called tao maraydo (good people) and the commoners were differentiated into the ordinary commoners and the local gentry or notables. The latter were non-nobles but with limited prestige through wealth, kin-defined political position, or appointment to a minor office. This group included the orangkaya (non-noble rich men), mantili (office holders), and religious functionaries collectively known as paki or alim. Status distinctions were jealously guarded by means of the preservation of the kinship system. Other status markers were maintained such as the use of special gongs and gong rhythms at the death of a noble, the use of the processional funeral umbrella which had at least twelve tiers, and the observance of other burial practices. In marriage, status was delineated by the amount of the bride price: among nobles, the bride price was twice the amount of the bride price among commoners. Marriage above one's social station was generally allowed. Although nobles could have other wives from the commoner class, their first wife was usually a noble woman. Among the Tausugs, people are grouped according to birth, residence in a territory, attendance at a mosque, loyalty to a military		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		or political faction, ascription into an estate, and subordination to the legitimate holder of a politico-legal title. There is very minimal development of corporate organizations. Men in the community are closer to one another than to women. Alliances are aggregates of people tied to a common leader, for political actions or military agreements. Membership in alliances is the only effective means of political action. Tausugs conceive of friendship as a domain between equals. Friends are classified as follows: blood brother, good friend and casual friend. At the opposite end are the opponent and personal enemy. Other relationships: follower and leader; ally and neutral observer.		
POLITICAL ORGANIZATION/LAWS AND MORAL CODES POLITICAL STRUCTURES	[rhetorical modes: description]	There is no separation of legal, administrative and political spheres. The Tausugs maintain a segmentary or pyramidal state.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Political leadership resides in the "tau-ma-as" (headman) who is appointed by the Sultan from among the most prestigious and powerful men in the community. By royal decree, the "tau-ma-as" is called a "panglima." A headman is vested with political, judicial and at times religious powers. Conflicts are resolved by the headman who fulfills the duties of a sara (lawman). Fines, penalties and other legal prescriptions are imposed by him in accordance with the community's interests. As a representative of the people, the headman acts as the intermediary between them and the local provincial and national governments. The headman is empowered to appoint religious leaders like the "bilal," "khatib" and "imam". Traditionally, the position of "tau-ma-as" was hereditary. In recent years, however, the selection process has been democratized and many "tau-ma-as" have become popularly elected barangay leaders.		
LAW AND ORDER	[popular inscriptions of legal and moral codes such as proverbs, folk stories]	Secular and ecclesiastical laws comprise the Tausug legal system. Legal pronouncements are largely based on Qur'anic teachings and are shaped by Tausug mores.	[some scientific principles evidenced in legal system--e.g., rationality, causation]	[mathematics in law]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Religious leaders are consulted in settling local conflicts and social and political decision-making processes. The judicial process relies on the observance of the adat or custom laws.		
CULTURE RELIGIOUS PRACTICES		On Friday, a devout Muslim stops all activity before noon to prepare himself for the congregational prayer. Ablution is required before every prayer, otherwise the prayer has no meaning or reward. Ablutions are an elaborate process during which the individual washes his hands three times, gargles three times, blows his nose thrice, washes his face thrice, and washes his arms thrice (the right arm before the left). Then he sprinkles water just above his forehead. He then rubs the inside and outside of his ears and washes his neck. Finally, he washes his feet and ankles thrice (the right before the left), rubbing his fingers between his toes. Every Muslim is required to observe the five pillars of Islam, namely: 1. Profession of the faith: "There is no God, but God and Muhammed is the servant and messenger of God." This must be recited with heartfelt sincerity.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		2. Pray five times daily at designated hours, namely: before sunrise, noon, just after sunset, early evening, and before retiring to bed. 3. Zakat or compulsory giving of alms (charity). This is a kind of self-imposed tax amounting to 2.5% of one's income given to orphans, the poor, the old and infirm, persons who can't work anymore, strangers stranded in a place and without any means and the sick who have no financial support. 4. 30-day fast during Ramadan. Muslims abstain from food, drink, sex, and other earthly desires from early morning (3:30-4:30 a.m.) until sunset (about 6:15 p.m.). 5. Pilgrimage to the Holy City of Mecca. This is required of every Muslim who is financially and physically capable of making the pilgrimage at least once in a lifetime. "Pag-gunting" (cutting of hair) is another Islamic ritual. Before the "pag-gunting" a group of "pakil" (religious men) starts chanting the "barjanji" (a chapter in a Muslim book). Each of the religious men takes turns in reading or chanting two to three stanzas of the "barjanji". Incense is kept burning at the center of the "pakil" who are seated in a circle. "Pag-timbang" (literally, weighing) is another ritual. It is a ritual		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		gathering of children and adults. A whole-day affair, it is celebrated when a child is born on a bad day like the 7th of the month. It is said that such a child is a sattuwa ambaw or congenital thief, hence the need for the ritual. On the four Wednesdays of the lunar month of Sapal, "Panulak Bala" (Cleansing Day) is observed. During the "Panulak Bala" an imam splashes water on a group of people. The participants throw pebbles in the air. "Duwa-a-Salamat" is a thanksgiving ritual where lunch is served. During prayer, men and women are segregated to avoid distraction. All religious personages carry titles by the Sultan's decree. The "santili" goes from house to house to collect money for the mosque's maintenance. Drums made of cowhide, and gongs, are used to summon people to the mosque. The "kuntum" sees to it that the sacred premises of the mosque are free from "najis" or dirt. "Pagsunnat" is clitoridectomy performed by a panday (midwife) and an assistant, on all Muslim females as soon as they reach the age of three.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
CHILDBEARING BELIEFS AND PRACTICES	[literature for mothers]	A woman who is conceiving is given extra care and affection by her husband, her parents and her in-laws. Her husband humors her cravings no matter how unusual these are. In the seventh month of pregnancy, a woman undergoes a ritual called magbuhat. The panday does the ritual hilot (slight massage) of the woman's abdomen while praying that the fetus be in the right position for easy delivery. Parents-in-law and relatives are invited and served native cakes and a full-course meal. In the ninth month, the pregnant woman is advised to eat sayul nangka (jackfruit cooked as vegetables), dabong (bamboo shoots) and fish such as kosil (eel) for easy and quick delivery. A conceiving woman must not ridicule other people or natural objects. Visitors are warned not to tarry at the doorstep when pregnant women are inside a house because doing so would result in difficult delivery for them. Husbands are not allowed to help make coffins when their wives are pregnant because it is thought that this will shorten the life of the unborn child.	[maternal health care; feminine hygiene; family health care] The umbilical cord is cut off with a bamboo knife. <i>Scientific note: The knife should be sterilized.</i>	[computations involved in childbearing practices]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Nobody is permitted to bring ferns inside a house when there is a pregnant woman around since it would cause the child to develop the habit of crying. During an eclipse, the pregnant woman is made to take a bath in a mortar. As she pours water over herself, her husband hits the sides of the mortar with a pestle once or twice. This is done to prevent the appearance of blue or black spots on the face or arms of the baby. During an eclipse, the pregnant woman is made to sit outside the house with a frying pan on her head while her husband bathes her. Failure to observe rituals during natural events or calamities is believed to bring misfortune to the unborn child. When the mother's breasts start to secrete milk, she is not allowed to eat dark-colored food so she will not give birth to a dark-skinned baby. She is not allowed to eat crab or squid because these can cause deformities in the child or cause the mother to have a difficult delivery. She is also advised not to eat twin bananas lest she give birth to twins. Lara or native pepper is not allowed as the baby might become mapikat (eyes with mucus). Sua Iklug (lemon) is not allowed lest the baby		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		have thrush. She is also cautioned against too much water, eing-bug (rice gruel) and kaka-um mai-muh (sweet foods) because these can cause the fetus to become too large for easy delivery. Mothers who have jsut given birth observe a 40-day confinement. She can have a sponge bath (manghalas) ten days after she gives birth. But she cannot perform household chores during the confinement period to avoid bughat. Mothers who breastfeed their babies are advised by the local panday not to eat langka, guyabano and cereal like putan (malagkit or glutinous rice). These are considered to be indigestible food and the baby may develop a stomachache after sucking from the mother who has eaten any of these. The mother is also advised not to eat vegetables cooked with coconut milk as these can cause kabag or gas pain.		
ON DEATH AND BURIAL	Various terms for the dead include: "nawapat" for a member of the royalty; "miyatay" among commoners; "nabugtang" for individuals who in life killed others and is therefore an undesirable member of the community;	The Tausugs look at death as the beginning of eternal life. It is considered to be the separation of the nyawa or soul from the jasad or body. The jasad is turned to dust while the nyawa lives on in the afterlife. How a person behaves in this life is also how s/he will live in the afterlife.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
	"nasabil" for a Tausug who died in defense of his religious faith	The faithful are bound for sulga or heaven while non-believers and sinners will go to narka or hell before they are welcomed to heaven by the angel Riudan. Before burial, the following rituals are observed: magsau-sauk (fetching of water) ligu-un (bathing) which is done by the elders siyum-un (kissing) during which members of the family of the deceased and close friends may kiss the corpse before the final sprinkling of water pagsaput (shrouding) in which the corpse is wrapped in the kuku puti (unsewn cloth) sambahayangan (offering of prayers) by religious leaders and mourners During the burial or pag-kubud, the coffin is carried and interred head first. After the burial, the following rites are observed: magturkin (final advice given by the imam to the dead) magsarakka (the giving of charity to the pakil and mourners by the bereaved family) magbubu (sprinkling of water by the imam over the grave)		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		maglaksi (act of placing a bagaybay plant over the grave) magtunggu kubul (guarding the grave from ghosts called lutaw) magtunggu kulañgan (literally, to guard the dead as though he were alive) mag-pangadji (a nightly recitation of Qur'anic verses in honor of the dead, for about a week) maghinang pitu (7th day celebration) magtibaw kubal (grave visitations during bulan Tai'ti)		
ON FOOD	[literature, including songs, about food]	Food is considered a divine blessing which should not be wasted. Thus, the Tausug eats in moderation. While eating, boisterous laughter, singing, scolding, and quarreling are prohibited as these are considered a sign of disrespect to Allah. Native cakes and coffee are served during the <i>Hariraya</i> Pusa and Hadji. During the Dua--a salamat ritual, thanksgiving to Allah is shown by means of a feast during which guests are served a full-course meal and coffee and cakes. Rice and cassava are the staple food. Rootcrops such as camote, garlic, and ube, as well as bananas are for snacks.	Eating chicken will delay the recovery of a person afflicted with a skin disease. The sick should be given food which can be easily digested like thin rice gruel, milk and eggs. Some fish species like the lapu-lapu are thought to be bad for sick people. Food is classified as either mapasu (hot) or mahag--gut (cold). Food that is mapasu is believed to aggravate diseases or cause allergies, skin rashes, ugam (eruption in the mouth and lips) and bautot (?). Mapasu foods are fruits like durian, marang, wannu and bauknuh, crustaceans, crabs and lobster. The sick and convalescent should avoid these.	[mathematics of food preparation]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Camote tops, sili leaves, pechay, spinach and squash tops are the most commonly eaten leafy vegetables. Favorite green vegetables are patola, upo, squash, chayote, paliya and eggplant. Salads are made of cucumber, paliya and ferns which are eaten with buhuk or toasted coconut with dried fish and seasoning. Fish is daily fare. Meat and chicken are served only during special occasions. Vegetables from creeping vines are believed to cause disease to spread rapidly among sick people. Coconut milk is liberally applied to Tausug dishes. Coffee is a favorite beverage. Brown sugar is used to sweeten coffee but white sugar is served to guests. Grated cassava is made into bianbian which is like the Tagalog suman but unsweetened. Rice can also be made into tapung (rice flour) which is made into rice cakes like the hantak or kuskus, bulha, paklud, baulu and jato. Putan (malagkit) is a favorite cereal served during important occasions. It is boiled like rice and can be made into bituanan.	Cooking implements in Muslim households include a sangkalan or chopping board (maybe made from juni or teak and gagill or yacal); a small utak (bolo) for breaking coconuts and cutting meat, chicken and big fish; a knife laring or lahut for cleaning, paring and cutting vegetables; li-isan for grating panggi kahoy; and in some homes, a lusung (mortar) with a hah-lo (pestle) for pounding rice hulls and corn. Many homes have a kugutan (coconut shredder) and ligo (winnowing). Pandan leaves are placed inside the rice pot to give the rice an appetizing flavor. Banana leaves are placed over the cover to seal in the heat and ensure that the rice will be cooked thoroughly. <i>Note: Cooking practices are examples of applied science./ Food preparation is scientific practice.</i>	

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Bituanan is prepared by sauteing garlic, onions and dried shrimps. Salt and pepper are added to taste. The dish is eaten with grated coconut. Vegetables are boiled or sauteed. Spices include lemon grass, ginger, garlic, turmeric, sibuyas sulasi and lara. Gata or coconut milk is used for cooking nangka, marang, pusuh, kabasi and paliya. Boiled vegetables are usually combinations of chayote and pechay, stringbeans and eggplants, upo and camote tops, radish and stringbeans, mongo and sili leaves. Some vegetable dishes require the use of dried fish. Chicken is either made into tinola with vegetables like pechay and upo, or made into kare-kare with spices and gata. Fish is usually made into tinola, with lots of water for the soup. Liandang-landang is often cooked for the family's meals. The fish is cleaned and cut into desired pieces, rubbed with plain salt and pepper, then fried in hot fat. A recipe for small fish is paksiw. A mixture of crushed garlic, salt, ginger, vinegar, pepper and the cleaned fish is boiled until the fish is done.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Beef is made into piassak, roasted as in making barbecue. It can also be made into givling. This is beef sauteed with garlic, onions, and tomatoes and seasoned with salt and pepper. Water with coconut milk is added to cook it until tender.		
ON CLOTHING	[rhetorical modes: description, classification]	The sambra is a loose, collarless blouse with an opening at the center of the front bodice which is secured with a safety pin or brooch. This is worn daily around the house. It allows one to move freely and work with ease and comfort. It is worn over a tadjung or habul. The sablay is a loose blouse which reaches well below the hips. It has long sleeves and is open all the way down in front. A band (about 1 1/4 inch wide) is sewn all around the opening and serves as a collar when turned outward at the back of the neck. The front is fastened with two or three decorative pins or brooches. Gold coins with a safety catch at the back are sometimes used for the purpose. The sauwal habul is a pair of loose trousers made of soft material. A wide band at the top, called sambung, is folded over and rolled downwards to anchor the trousers in place at the waist. Both men and women wear this with the sambra, sablay and biyatawi.	[indigenous technologies in cloth-making and sewing/weaving]	[mathematics in weaving, sewing]

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The tadjung is a rectangular piece of cloth, usually batik, with ends sewn together. It is wrapped around the waist and reaches down to the ankles. The biyatawi is a blouse with a tight-fitting bodice and a flare at the waist. The neckline is a deep scoop and often frames a pendant on a gold chain around the wearer's neck. The biyatawi is also adorned with gold buttons. Thus it is the most expensive of Tausug women's garments. The jacket worn by the Tausug is quite short, about a few inches below the waist. It is collarless. the right side is cut so as to overlap with the left side. Three rows of buttons are sewn from the neckhole to the hem. At the side and shoulders are two rows of stitches resembling button holes. The pis is a square cloth about 30-36 inches on each side with geometric designs in various colors. It is folded diagonally to form a triangle and folded many times until it is only four inches wide. It is wound round the head to serve as a hat or cap or placed over the shoulder for fanning and wiping oneself. The white cap locally known as "kuppiya" is part of the traditional attire worn by the "pakil" during religious rites.		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		For the "hadjis", the "turban" is the standard headress. It comes in white, black and red. Women wear the "badju-kaput" decorated with tiny gold-plated buttons and paired with velvet "sauwal". The "badju kuput" is supplemented by the hand-embroidered "babul tiyahian" that comes in various colors and designs.		
ARCHITECTURE		The type of house reveals the status of its occupants: the bigger and the taller the house, the more affluent the occupants are. Most of the houses are constructed above water. Debris under the houses is washed away by the night tide. There are no toilets; the tide takes care of washing away fecal matter. The royal residence is walled and fortified. There is a massive gateway. A new house is built for each sultan because it is bad luck to live in the old one.	Most of the houses have roofing made of atup sani or nipa shingles, patung (bamboo splits) for flooring and tiactad (flattened bamboo poles) for walls. Bamboo or traditional walls are known to be strong and not easily penetrated by bullets. The kitchen is built separately from the main house to avoid the soot and smoke from the wood-burning abuhan or stove. The abuhan is a rectangular box placed against the wall. Its base is lined with several layers of banana stalks before it is filled with soil. [scientific principles in indigenous architecture] [environmental concerns]	[mathematics in indigenous architecture]
LITERATURE	[Tausug myhtology, legends, poetry]	Tausug mythology show a strong belief in a powerful and supreme God who must be obeyed and respected		

TAUSUG OF SULU

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		lest he cause the mountains to move and explode in anger, the winds to blow them down and the waters to rush in and flood their homes and settlements or kill all of them. But he is also a munificent God who has created all of nature for the human race to benefit from. Ancient Tausugs worshipped most life forms and all of nature as these were thought to be inhabited by divine spirits.		
MUSIC AND DANCE	[songs] Singing and chanting mark the celebration of the birth of the Prophet Mohammed. On the last night of a wake, there is chanting of the Sitti Maryon and the Dekir in praise of Allah.	The "gabbang" (bamboo xylo-phone) is used during social gatherings; it is usually accompanied by a "biyula" (violin) and two or more "magsisindil" (singers). Native songs are sung to the accompaniment of the "gabbang", "suling" (flute), "biyula", "sawnay" (reed pipe) and ambak-ambak" (accordion). "Pañgalay", a local dance, is a significant part of festivities.	[scientific principles illustrated in music making; scientific principles of dance]	[mathematics in Tausug music and dance]

Sources: Abdulla, Norma Abubakar. **THE FOOD CULTURE OF THE TAUSUG**. Manila: Centro Escolar University Research and Development Center, 1989.

Demetrio, Francisco. **ENCYCLOPEDIA OF PHILIPPINE FOLK BELIEFS AND CUSTOMS**. Cagayan de Oro: Xavier University Press, 1983.

Gowing, Peter and Robert McAmis, eds. **THE MUSLIM FILIPINOS: THEIR HISTORY, SOCIETY AND CONTEMPORARY PROBLEMS**. Manila: Solidaridad Publishing House, 1974.

Jundam, Mashur Bin-Ghalib and Jose Sabalvero. **TAUSUG**. Quezon City: Philippine Center for Advanced Studies Museum, 1979.

Madale, Nagasura. **THE MUSLIM FILIPINOS: A BOOK OF READINGS**. Quezon City: Alemar-Phoenix Publishing House, 1974.

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT CLIMATE/ WEATHER, TIME, DIRECTION AND STARS	[Rhetorical modes: description, narration, classification, cause and effect] [Stories and legends about natural phenomena]	Sa kawayanan ay may itim na baboy na may malaki at nagbabagang mata na lumilitaw na parang babala ng pagsungit ng panahon.	Paglipas ng tag-amihan, ang susunod ay habagat at ang ibig sabihin ay darating na ang tag-ulan. <i>Scientific note: True. In this place, the NE monsoon air mass is very dry while the SW monsoon is moist. There is a transition between the two seasons.</i> Pag nagkikidlat sa hilagaan at mababa ang ulap, tanda na malapit na ang tag-ulan. <i>Scientific note: This may be true. These may be clouds formed from the SW monsoon air mass.</i> Kapag panahon ng tag-ulan (Hunyo–Nobyembre), tahimik ang dagat at walang malalaking alon. <i>Scientific note: True. The NE monsoon is stronger than habagat in eastern coasts.</i> May darating na unos kapag may narinig na tila tunog ng tambol mula sa kalautan ng dagat o kaya'y tila malakas na pagtuktok ng damit sa ilog kung hatinggabi. <i>Scientific note: Not necessarily true although the sound could be that of a thunderstorm in the distance.</i> Ang palatandaan ng unos na darating ay ang porma ng dilim sa habagatan at amilanan. <i>Scientific note: This may be true. Dark clouds associated with monsoons usually approach from these</i>	[Mathematical principles as manifested in natural phenomena—e.g., velocity, speed, duration, height, etc]

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			<i>directions.</i> Magiging malamig ang panahon kapag naramdaman ang hanging mura o amihang mura. <i>Scientific note: True. The NE monsoon is a cold continental air mass coming from mainland Asia.</i> Kapag nakitang mapulang-mapula ang hilagaan, ang kasunod nito ay napakalakas na hangin. <i>Scientific note: Not necessarily true. Red horizons are associated with moisture or dust.</i> Kapag nasa laot ng dagat at nakakita ng dilim na biglang nabutas at nagliwanag ang gitna, ito ay palatandaan na magkakaroon ng napakalakas na bagyo. <i>Scientific note: If the eye of the typhoon is visible, then you are already within the typhoon area.</i> Pag panay ang hihip ng hanging hilaga, palatandaan na magkakaroon ng bagyo. <i>Scientific note: This is not necessarily true although because typhoons rotate in counter-wise direction, the typhoon wind is northerly before the eye reaches Angono.</i> Kapag namumukas at nagliliwanag sa pinanggagalingan ng araw sa amihan, palantandang lilipas na ang dilim at araw na. Kapag panahon na bumabagyo at ang malakas na hanging	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			amihan ay nanggagaling sa sinisikatan ng araw at tinugon ito ng hanging habagat (mas malakas ito sa nanggagaling sa silangan), ito ay palatandaan na titigil na ang bagyo. <i>Scientific note: True. Typhoon winds reverse directions after the passage of the eye of the storm. Typhoon winds blow counter-clockwise around the eye.</i> Kapag kakatwa ang kulay ng dapit—hapon na parang maputla o parang dugo na may kapanglawan, ito ay tanda ng pag-ulan. Kapag mapula ang paligid ng nilubugan ng araw, magiging mainit kinabukasan o walang ulang darating. <i>Scientific note: This may be true during the transition between the NE and SW monsoons when easterly waves prevail. During this period, weather systems move from east to west.</i> Kapag kimpal—kimpal ang ulap at bilug—bilog na nababasag na parang palayok, may darating na unos. <i>Scientific note: These may be rain clouds.</i> Magiging mahangin sa magdamag kapag ang ulap sa dakong nilubugan ng araw ay kapantay ng kabundukan at karagatan. <i>Scientific note: Not true.</i> Kung sa umaga'y kimpal—kimpal ang ulap na parang kaliskis ng buwaya, magkakaroon ng magandang panahon sa hapon.	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			<i>Scientific note: Usually true. Cirruncumulus clouds indicate a dry day.</i> Kapag umuulan at sa kaitaasan ay may nakitang malaki at malapad na ulap na may butas, ang ibig sabihin ay pulo—pulo ang ulan: may ulan sa Angono ngunit wala sa kalapit—bayan. <i>Scientific note: True. Convective clouds are usually isolated and gives scattered rainshowers.</i> Hindi ulan kung malinis, walang ulap, at mabituin ang langit. <i>Scientific note: Not necessarily true. In the tropics, it is possible to have clear morning skies but cloudy and rainy afternoons.</i> Maganda ang panahon kung mababa ang litaw ng mga bituin na parang nasa gilid lamang ng bundok at dagat. <i>Scientific note: In clear, dry skies, starlight is more defined.</i> Kapag makislap na makislap ang mga bituin at panay ang daan ng ulap sa mga ito, mataas ang tayo ng hangin at maganda ang panahon. <i>Scientific note: Usually true. Strong upper winds indicate slow development of clouds.</i> Kapag ang ibabaw ng tubig sa Laguna de Bay ay lumamig hanggang siko, samantalang ang ilalim ay pangkaraniwan ang klima, ito ay tanda ng pagsama ng panahon.	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Ang pag-urong ng tubig dagat o pagkati nang malayo ay nagbabadya na malapit na ang bagyo. Ang pagbabalik ng tubig sa dating lugar ay kasama ang pagdating ng bagyo at paglaki ng tubig. <i>Scientific note: This is characteristic of a storm surge especially for a strong typhoon.</i> Kapag nakakita ng pag-bulwak ng tubig na parang kumukulo at tumataas na may sukat na halos isang dangkal, parang pusaling putik na nangangamoy at kumakalat hanggang sampung metro o higit pa, palatandaan ito ng pag-ulan o paglaki ng tubig. Kapag ang tinatawag na kandila ng saging (nakabalot na dahon) ay hindi bumuka sa takdang araw na dapat itong bumuka, may darating na bagyo. Sa normal na panahon, masigla ang mga dahon ng punong sampaloc sa umaga at nanglulupaypay ito sa hapon. Subalit kapag sa tanghali pa lamang ay nanglupaypay na ang mga dahon ng sampaloc, palatandaan ito ng pagsama ng panahon. <i>Scientific note: This may be induced by the darkness due to thick cloud cover as a storm approaches.</i> Pag ang talahib at katuray ay namumulaklak, malapit na ang tag-araw. Palatandaan ng tag-ulan ang pamumunga ng duhat.	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Pag umitim na ang balahibo sa dibdib ng ibong kanaway, palatandaang malapit nang mag-habagat, paparating na ang tag-ulan. Kapag pumuti na ang dibdib nito, papaamihan na at paparating na ang tag-araw. Sa pagpasok ng tag-ulan, kapag sa magdamag ay halos sabay-sabay na kumokak ang mga palaka, nagbabadya ito ng sunud-sunud na pag-ulan. Kapag mainit ang panahon at nanigid ang langaw kalabaw, ito ay tanda ng pag-ulan pag-kalipas lamang ng isang oras. Sa hatinggabi, kapag may isang itik sa grupo ng mga itik na sumigaw ng malakas at papaitaas na kak, kak, kak, ito ay palatandaan ng pagdating ng masamang panahon. Palatandaan din ito diumano sa gansa. Kapag ang langgam ay nag-hakot ng mga mumo papunta sa mataas na lugar o papaitaas, sasama ang panahon. Kapag umakyat sila ng sunud-sunud sa bahay, ibig sabihin ay babaha. <i>Scientific note: Ants are very sensitive to weather changes. When they sense threats to their habitat like floods, they move to elevated ground.</i> Kapag nag-uulan at humuni ang kuliglig lupe, tanda ito	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			ng pagsikat ng araw. Kapag ang ibong piskador ay lumilipad nang nanunusog sa ilog, tanda ito ng pag-ulan. Ang paghuni ng ibong pakis-kis sa umaga ay nangangahulugang aaraw. Ang paglalawit ng lawalawa ng gagamba matapos ang ulan ay nangangahulugang aaraw na. Kung ang pusa'y natutulog ng paupo at ang kanyang noo'y nakatukod sa sahig at ang mukha'y nakatago, palatandaan ito ng pagsama ng panahon. Palatandaan din ng pag-ulan ang pagluluba ng kalabaw. Kapag panay ang paghihila-mos ng pusa, uulan. Kapag higit na mababa ang lipad ng mga ibon lalo na ang langay-langayan ang ibig sabihin ay babagyo. Sa gabi, kapag maraming kulisap ang nagliparan sa mga ilaw poste, malapit nang umulan. <i>Scientific note: Some insects are merely attracted by the light. Sometimes, some insects fly around lighted posts after, not before, rainfall.</i> Kapag ang kulisap bundok ay napadpad sa kabayanan, ito ay palatandaan ng hindi magandang panahon.	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Ang pagtuko ay parang orasyon pagdating ng ika-anim ng hapon. Kapag lumindol nang malakas, nababawasan ang pagkain ng mga itik tulad ng suso at sambwela. Humihinto din ang pangingitlog ng mga itik. <i>Scientific note: True. The reproductive cycle of ducks is adversely affected by the shock they experience as a result of earthquakes.</i> May pagkabalisa sa pagkilos at pag-ungol ng mga hayop tulad ng baboy at manok bago dumating ang isang lindol. <i>Scientific note: Animals are generally more sensitive than people to weather changes and the like. They can sense an earthquake even days before it actually takes place.</i>	
PRODUCTION/ LIVELIHOOD/ ECONOMIC ACTIVITIES FARMING	[Songs and stories related to farming]	Kapag ang bayabas ay namunga nang makapal, palatandaan ito na sasagana ang bunga ng mga halaman sa kati.	Kapag ang tinatawag na kandila ng saging (nakabalot na dahon) ay hindi bumuka sa takdang araw na dapat itong bumuka, may darating na bagyo. Sa normal na panahon, masigla ang mga dahon ng punong sampaloc sa umaga at nanglulupaypay ito sa hapon. Subalit kapag sa tanghali pa lamang ay nanglupaypay na ang	[Measures and formulae used in farming activities]

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			mga dahon ng sampaloc, palatandaan ito ng pagsama ng oanhon. <i>Scientific note: This may be induced by the darkness due to thick cloud cover as a storm approaches.</i> [Farming principles, methods and related topics]	
FISHING	[Stories and songs/fishlore] [Rhetorical patterns: description, classification, narration, process, cause and effect]	[Values, attitudes towards marine resources]	Sabi ng matatanda ang orasan ng mangingisda ay mga bituin tulad ng Timbang-timbangan, Krus na Bituin, Tatlong Maria, Mapulong at Supot ni Hudas. Sa paglitaw ng tinatawag na tala sa umaga, ang ibig sabihin ay alas kuwatro na ng umaga. Pag nangingitid sa dagat at nakitang ang Krus na Bituin ay parang nakatagilid, nangangahulugan din para sa kanila na alas kuwatro na ng umaga. Ang kompas ng mga mangingisda ay ang kalawakan ng langit at ang alon sa dagat. <i>Scientific note: This depends on the location but some constellations are useful for navigation and eventually may have temporal significance. Other indications of oceanographic conditions are utilized as a complement to wave conditions and their orientation.</i> Kapag maliwanag ang buwan, mahirap huliin ang ayungin (isang klase ng isda) dahil nakikita at naiwasan nila ang mga lambat na panghuli.	[Measures and formulae used in fishing activities]

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			<i>Scientific note: This depends on the location of the ayungin.</i> Palatandaan ng pagdami ng ayungin, biya at iba pang isda ang paglinaw ng tubig. <i>Scientific note: Other indications of oceanographic conditions need to be considered.</i> Kapag ang kuhol sa lawa ng Laguna de Bay ay umakyat o tumaas sa tulos na nakabaon sa lawa, sa mga halaman, tikiwan, waterlili at tuod, ito ay tanda ng pagtaas ng tubig. <i>Scientific note: This is not only a diurnal phenomenon but also an indication of the highest range of the high tide.</i> Ang paglitaw ng kilik o bunga ng mais ay tanda ng pagtaas ng tubig kung ito ay lumitaw sa mataas na bahagi ng punong ito. Kung ang kilik ay lumitaw sa mababang bahagi, hindi tataas ang tubig. <i>Scientific note: This may have some basis in fact.</i> Kapag lumayo ang tagak sa dagat at sa bukid dumako, magiging malaki ang tubig. <i>Scientific note: Possibly. There may be empirical basis for this.</i> Kapag ang asong bagong panganak na nasa lupa ay nagakyat ng kanyang tuta sa papag o itaas ng bahay, lalaki ang tubig.	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			<i>Scientific note: This may be true but other factors may also account for the dog's behavior.</i> Kapag ang alagang baboy ay umaakyat sa mga bakod –bakod, pader –pader o sa gilid ng mga tapayan, tataas ang tubig. Kapag lumipad nang mataas ang mga manok na parang nagu – gulat o kaya'y biglaan ang paglipad, tataas ang tubig. Kapag naglitawan ang mga bulati at sumampa sa mga pader, lalaki ang tubig. <i>Scientific note: This depends on the type of worm.</i> Kapag sa mababang lugar na – mugad ang ibong ulok, hindi tataas ang tubig. Kapag sa mataas na lugar namugad, tataas ang tubig. Kapag ang ulok ay namugad sa mga dulo ng dahon ng palay at ito'y kanyang pinagsasali – salikop, pinangitlogan, at prinutektuhan, tataas ang tubig. <i>Scientific note: The choice of habitat may in fact be an indication of tidal range.</i>	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
SOCIAL RELATIONS/ ORGANIZATION COURTSHIP AND MARRIAGE	[Courtship songs and poetry]	Hinaharana ang dalagang nais ligawan o kaya'y isang dalagang bakasyonista. Ang harana at pagtaupo ay marangal na paraan ng pamimin- tuho ng binata sa dalaga at isang publikong deklarasyon ng malinis na layunin sa panlili- gaw. Hindi puwedeng gawing biro ang mga kaugaliang ito. Ang paninilbihan ay pagpa- pakita ng sipag, tiyaga, at pagpapakumbaba ng binatang manliligaw. Labag sa batas ang pang- gagapang bilang paraan ng panliligaw. Ang nagtatapon ng pera o bigas sa dinaraan ng ikina- kasal paglabas nila sa sim- bahan ay makararanas ng kahi- rapan.		

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
CULTURE HEALTH AND SICKNESS	[Rhetorical modes: description, narration, classification, cause and effect]	Ang nuno sa punso ay may kapangyarihang magpamaga sa kahit anong bahagi ng katawan ng tao kapag ito ay natapakan, nasabuyan ng tubig o nasaktan ng tao sa ano mang paraan. Ang pagkonsulta sa mga albularyo at mga manghihilot ay ginagawa dahil mahal magpa-dukto at magpa-ospital. Hindi dapat maligo ang taong kapapahilot lamang dahil mala-lamigan ang katawan. PAGTUTULI : Ang hininga ng tubig ng ilog sa may bukana ng dagat ay nakapagpapalambot ng balat. Pagpapatawas sa albularyo NAUSOG O NABALES : Ang ilang simtoma ng pagkausog o pagkabales ay ang pagsakit ng ulo o tiyan. Nakapagpapagaling ang dahon ng ikmo o kaya'y laway ng nakabales. NAGAWAY : Palatandaan nito ay ang pagsakit ng isang bahagi ng katawan. Ito ay napapagaling sa pamamagitan ng pag-ipit ng posporo sa pagitan ng daliri ng may-sakit kasabay ng pag-	Ang mga daliri ng mga kamay ng tao ay kaugnay ng ibang parte ng katawan: 1. hinlalaki – ulo 2. pagitan ng hinlalaki at hintuturo – dibdib at puso 3. hintuturo – likod 4. pagitan ng hintuturo at hinlalato – sikmura 5. hinlalato – matris 6. palasingsingan – baywang 7. hinliliit – paa <i>Scientific note: This has been proven to be valid by reflexologists.</i> Ang balat, dahon, ugat at dagla ng mga punong Anono, Anonang at Anunu ay gamot sa sakit. Ang hanging mura o amihang mura ay nakapagpapaupo at nakapagpapasipon. <i>Scientific note: Possibly true. The NE wind is cold.</i>	

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		usal ng orasyon. Ang dahon at sanga ng mga dekorasyong alagaw sa Kalbaryo ay kinukuha sa paniniwalang ito ay gamot sa mga sakit. Sa ika-7 n.g. ng Sabado de Gloria, sa isang seremonyang gumugunita sa Muling Pagkabuhay, lumulundag ang mga bata sa paniniwalang ito'y nakapag-papatangkad. Nakapagpapalusog ng katawan ang tubig na isinasaboy sa mga tao mula sa pagoda.		
BELIEFS ABOUT ANTING-ANTING ETC.	[Folklore]	May naniniwala sa kapre, tikbalang, engkantada, duwende nuno sa punso, at kabalyero. Paglampas ng ika-6 ng hapon, ang ilog ay para na lamang sa maligno, sirena at ginintuang manok na bantay ng kayamanan ng ilog. Magkakaroon ng agimat at makapagpapaamo ng babae ang isang lalaking makasasalo sa kanyang bibig ng mutya ng saging. Pag naligaw sa gubat, baligtarin diumano ang suot na damit at matatagpuan ang tamang daan. May paniniwala sa bisa ng anting-anting.		

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Ang anting-anting ay dapat na gamitin sa mabuting paraan. Gatas ng inang nagpapasuso ng kanyang sanggol ang mabi-sang pangtanggal ng anting-anting lalo na yaong nasa loob ng katawan. Kapag nalunod ang isang bata, sinasabing kinuha siya ng sirena. Ang tunay na anting-anting ay ang matatag at malalim na paniniwala sa kapangyarihan ng Diyos, pagmamahal sa kapwa-tao at hindi pang-aapi o panglalamang sa kapwa sa ano mang paraan.		
RELIGIOUS PRACTICES	[Songs and stories]	PISTA NI SAN ISIDRO : Pinaluluhod sa harap ng simbahan ang mga kalabaw bilang pagsamba at pagdakila sa Makapangyarihan Diyos at pinabinidsyunan sa pari upang matatiling malusog. LINGGO DE RAMOS : Ang mga lambong at damit na inilalatag ng mga babae at lalaki sa Onsanahan at gayundin sa araw ng Huwebes Santo ay iniingat at itinatago sapagkat ito'y nagdudulot ng suwerte. Ang mga binindsyunang palaspas ay pinaniniwalaang		

TAGALOG OF ANGONO

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		proteksiyon laban sa kulong, kidlat at masamang espirito na gustong pumasok sa bahay. Sa isang seremonya sa ika-7 n.g. ng Sabado de Gloria, inuuga ang mga halaman upang ang mga ito'y tumubo nang mabuti at magbunga nang mas masagana. Ang paglakad ng pagoda sa dagat ay mahimalang nagpapasagana sa mga isda sa dagat.		

Source: Tiamson-Rubin, Ligaya G. SINING AT KULTURA SA BAYAN NG ANGONO.
Quezon City: Rex Printing Company, Inc., 1992.

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT CLIMATE/ WEATHER, TIME	[Stories and songs about natural phenomena] [Rhetorical modes: description, classification, cause and effect]	Kung umulan at may kidlat, dapat huwag hahawak ng pusa at baka tamaan ng lintik. Magigiba ang bahay ng taong naglalakad sa bagyo na may bumubuntot na pusa. Ang bagyo ay palatandaan na ang isang diyos o diyosa ay galit. Fairies are believed to appear at 12 midnight. When ducks fly above the house, there will be a typhoon. Kung maka-amoy ng masama sa sapa ay ulan. Pag ang hangin ay galing sa timog, may bagyo. Pag ang hangin ay galing sa hilaga ay paalis na ang bagyo. Pag nagsasalubong ang mga ulap ng tatlong araw ay magkakaroon ng bagyo.	During a thunderstorm, put an ax along part of the house to prevent lightning from striking the house. <i>Scientific note: If the point is to have a lightning arrester, it is better to use a lightning rod connected to the ground.</i> Clear, starry night skies mean a sunny day on the morrow while thunder and lightning precedes the cessation of heavy rains. <i>Scientific note: Lightning and thunder usually occur before and during a heavy rain of short duration (thunderstorm).</i> When large numbers of ants emerge from the ground, this means there is an impending typhoon or flood. <i>Scientific note: Ants are very sensitive to possible threats to their habitation. They transfer to elevated areas before the onset of floods.</i> The crowing of a rooster during a typhoon means the bad weather is about to improve. <i>Scientific note: Roosters can detect even slight weather changes -- i.e., before the more obvious signs appear.</i> Kung hapon at may sparrow na lumilipad nang mababa ay may darating na masamang panahon. <i>Scientific note: This is a common observation.</i>	

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Ang huni ng ibon ay palatan—daan ng magandang panahon. <i>Scientific note: Birds are sensitive to weather conditions and are generally chirpy during good weather.</i>	
DIRECTION AND STARS	(see above)	When the stars form a cross in the sky, there will be wars and much bloodshed. Kapag ang buwan at bituin ay magkasunod, mayroong masamang mangyayari. The appearance of a comet means war, pestilence or hunger.	When the stars are big and far apart, the day will be hot. If they are small in size and close to one another, the day will be rainy. <i>Scientific note: The opposite is more likely to be true. The appearance of big stars which are far apart suggest partly cloudy skies while numerous but smaller stars suggest clear skies.</i>	
PRODUCTION/ LIVELIHOOD/ ECONOMIC ACTIVITIES FARMING	[Stories and songs and other literary forms about farming] [Classification and description of plant species, farming tools, etc.] [Explication of process] [Cause and effect]	Kung magtatanim ng mais, dapat hubad para manipis ang balat nito. Sa pagtatanim ng niyog, dapat ay nakaupo para hindi gaaanong tumangkad ang puno, at binububuran ito ng bilog na bagay para marami itong bunga. Blow the tip of the banana flower when removed from the fruit so that the fruits will become big. When planting jackfruit, the farmer/planter must carry on	Ang kamote ay dapat itanim kung ang mga ulap ay bilog. <i>Scientific note: If the presence of clouds means rain, then this practice helps in making the camote plant grow well.</i> Plant fruit-bearing trees during a thunderstorm so they will bear more fruits. <i>Scientific note: Lightning leads to nitrogen-fixation or the release of atmospheric oxygen which is good for plants.</i> Kung magtatanim ng halaman, dapat	[Measures and formulae used in farming activities]

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		his back many children so that the tree will bear more fruits. Pepper must be planted at 12:00 noon so that the fruit will be very hot. A woman who is menstruating must not look at the palay or else the plant will become reddish. Drag the banana plant to be planted on the ground so that it will bear long fruit. Sa pagtatanim ng gabi huwag gagamit ng itak para maging masarap ang bunga.	hindi magalaw ang maliit na ugat para hindi ito mamatay. <i>Scientific note: The validity of the practice depends on the plant species, age when transplanted, and moisture content.</i> Nilalagyan ng abono ang mga halaman para tumaba. <i>Scientific note: Plants need nutrients in order to grow properly.</i> Plant rice during a new moon. If planted during a full moon, the plant will just flower so much but produce less grain. <i>Scientific note: This depends on whether the rice variety is photoperiodic.</i> Huwag kakain sa gitna ng taniman ng palay para maiwasan ang pag--atake ng mga hayop. <i>Scientific note: This has some practical value in the sense that food particles dropped onto the field may attract certain animals or pests.</i>	
FISHING	[Fishlore] (rhetorical modes same as above)	If you are going fishing and somebody shouts "pagpa hitsura dai makasira," you will not have any catch. When going fishing with a hook and line, don't bring salt or else you won't catch any fish. Stepping over the lambat (fishing net) means less catch.	Go fishing during dark (moonless) nights. <i>Scientific note: The validity of the practice depends on the target fish species.</i> Linalagyan ng pagkain ang pain. <i>Scientific note: One must be familiar with the best bait for the various fish species.</i> When using a hook and line, you must not walk over the line	[Measures and formulae used in fishing activities]

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Kung maghahanda ng lason para sa isda, walang dapat kikibo. Kung hindi, walang mahuhuli.	or else you will not catch any fish. <i>Scientific note: This may be in order to avoid casting a shadow on the line.</i>	
ANIMAL RAISING	[Animal stories and songs] [Process] [Classification and description]	Sa pag-aalaga ng baboy, kailangang mayroong pagong para malayo sa sakit ang baboy. When a dog first comes to the house, the container of the food it eats should be thrown away so that it will not defecate just anywhere. Sinusunog ang buntot ng sisiw para matapang kung sinasabong paglaki. The first time a pig is fed, the one who will give the feed must drink plenty of water so that the pig will eat less and drink more.	When a dog first bears puppies, one of them should be thrown away so that the others will live. <i>Scientific note: The practice is not required although it is true that where there are fewer puppies, each will have a bigger share of the mother's milk.</i> Kailangang maging malakas ang katawan at mabait sa hayop ang nag-aalaga. <i>Scientific note: One needs strength during times when animals need to be disciplined or put under control. But this should be tempered with kindness.</i> On the first day that a cat is brought to the house, it must be taken around the stove three times so that the cat will not defecate just anywhere and will always stay inside the house. <i>Scientific note: The cat must be made familiar with the new place and the stove (if native—i.e., with ashes) is most suitable for their fecal and uric waste. Cats like to cover their waste with soil or ashes.</i>	[Computing for age of animals] [Numbers consisting animal groupings]

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
SOCIAL RELATIONS/ ORGANIZATION COURTSHIP AND MARRIAGE	Paghaharana is practiced. The lady is also asked to sing. [Harana songs] The pantomina is a dance newlyweds perform during the reception. The groom tries to touch the hem of the bride's during the dance. While they are dancing, their relatives and friends pin money on their clothes. [rhetorical mode: description]	Finding/coming upon the rare tanglad flower is a sign of luck with the women. Ang mga magulang ang pumipili sa mapapangasawa ng kanilang anak. The young man asks for the consent of the girl's parents. If accepted, he then brings his parents to the girl's family. They bring food and drinks for the occasion. The groom usually takes care of the wedding expenses. Dapat magpakasal kung palaki ang buwan para asensado sa buhay. A full moon also means the couple will be blessed with many children. During the wedding ceremony, the veil and ring must not be allowed to fall lest the couple suffer bad luck. The candles must not be allowed to go out. It is said that the person whose candle is blown out will die first. During the wedding, the groom must wear something old, something new, and something borrowed. Kung magpapakasal, hindi dapat kumalansing ang aras para hindi palaaway ang mag-asawa.	[Teach genetics, family planning and other related topics]	[Math lessons can be based on folk notions of lucky numbers and the like]

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		If the mother of the bride cries during the ceremony, the bride will later on shed tears. In the reception that follows, the couple should take frequent sips of water so they will always be cool during the marriage. Someone should comb their hair so that they will always be at peace with each other. During the wedding feast, relatives wrap food in little packages and place them in different nooks and corners of the house to ensure the prosperity of the couple. During the feast, a widow or widower kin of either the bride or groom should not sit at the same table as the newly weds lest one of the couple be widowed early. If the first wedding gift opened by the newlywed produces a sound, the couple's financial stability is assured. When entering the house, a newly-wed couple walk side by side. If one is left behind, s/he will be dominated over by the other. On their first night, a couple should sleep facing each other. The one who turns his/her back on the other will precede the other to the grave. Hindi dapat sabay ikasal ang magkapatid sa loob ng isang taon.		

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The elder sibling should be courted first. Walang pag--aasawahan ang magkamaganak kahit malayo. Hindi dapat magsuot ng itim sa kasal. One who is about to be married should not be working too hard because s/he is prone to accidents. Also, the groom should not travel on the eve of his wedding, or even visit the place where the wedding will take place, lest he meet an accident.		
CULTURE BELIEFS AND PRACTICES RELATED TO BIRTH AND CHILDBEARING	[Stories and songs] [Rhetorical modes: cause and effect, process, description, narration]	The sign of birth (labor) is the monsoon (new moon). The birth of a child is a cause for celebration as children are believed to be blessings from God. A pregnant woman must not go out of the house when there is an eclipse, which causes abortion. If a woman is pregnant she must not squat in order to avoid the rapid growth of the baby which will lead to a cesarian delivery. Kung buntis dapat laging may sinturon o "cord" na panghigpit sa tiyan para madali ang pangananak. A conceiving mother who steps over her prone/sleeping husband	[Maternal and child care] The mother who has just delivered a baby must eat malunggay cooked with buko in order to have much breastmilk. Bawal magbuhat ng mabibigat. <i>Scientific note: Childbirth is a strenuous activity and a woman may be physically weakened by it. While the body is recouping strength, strenuous activities like lifting heavy objects should be avoided.</i>	

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		will make him experience the feeling of conceiving. Idikit sa haligi ang tiyan at may sasabihin at pag araw na ng iyong iri ihawak sa asawa at nasa kanya ang sakit. Huwag tumayo sa pinto para hindi mahirapan sa panganganak. A pregnant woman must not look at a dead person. Huwag masyadong magproblema; iwasan ang di makabuluhang mga isip. A pregnant woman should not have her picture taken lest she or her child will suffer some misfortune. It is not advisable for a pregnant woman to be a sponsor at a wedding to competition between her child and the prospective children of the newlyweds. A pregnant woman who eats burnt rice will have a difficult delivery. If a woman looks beautiful during her pregnancy, her child will be a boy. If a pregnant woman craves sour fruits, her child will be a boy; if sweet fruits, it will be a girl. If a woman is laboring she should not hold her hips because pain will be on that part. Walang dudungaw maliban sa nagpapaanak para mabilis		

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		ang paglabas ng bata. The father should not go near the laboring mother. Huwag bibisitahin ng babaeng may regla ang may bagong panganak para maiwasan ang sakit ng tiyan. The umbilical cord of a new baby should be buried so that the child will not become "layas". After cutting the umbilical cord of the newly-born child, press the end of the belly cord on both cheeks of the child to create dimples and apply blood on the cheeks and lips to produce rosy cheeks and red lips. An empty bottle beside a baby will make him/her sleep soundly. The first fingernail parings of a baby must be kept inside a bottle. The first time a child is brought to another house, the owner of the house puts a coin/money in his/her dress so that when the baby grows up and borrows money he /she will not be refused. Pag bagong panganak, ang dapat ibalot sa bata ay ang kamiseta ng tatay o nanay para malapit sila sa isa't- isa.		

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Hindi dapat pahanginan ang ulo ng nanay kung bagong panganak. Huwag kumain ang nanay ng talong at puso at baka alpersiyahin ang bata. Huwag kumain ng malalamig at maaasim; kailangan ang unang paligo ay may mga herbal plants. A woman who has just delivered a baby should not take a bath.	[Proper nutrition]	
ON HEALTH AND SICKNESS	[Rhetorical modes: description, classification, cause and effect]	If you hear the sound of a night bird (kikik), this means a sick person is being visited by an aswang. The folk healer or arbularyo plays an important role in community life. If a person has a cold, he/she must not take cold drinks. Taking a bath during inappropriate hours results in the loss of blood. Taking a bath on Tuesdays and Fridays will cause body pains. Kung may patay sa pamilya, bawal maligo, kumain ng mga bilog, inihaw, at gulay na gabi. The panties worn by a girl during her first menstrual period should be rubbed on the face of a boy, so that pimples will not appear.	Rapidly alternating hot and cold weather causes epidemics. <i>Scientific note: When weather conditions, including temperature and the like, change too rapidly, the human body may not be able to adjust quickly enough and thus fall the uncontrolled spread of certain infectious diseases.</i> The doctor is sought in times of illness. If a person has a fever, he or she must be washed with alcohol and cold water. <i>Scientific note: A fervid temperature is brought down by sponge baths. Alcohol has a cooling effect. Warm water is advisable to avoid chills.</i> [More health and nutrition lessons]	[Dosages, measures, etc.]

PICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
ON DEATH AND BURIAL		A bullet in the coffin will prevent the aswang from attacking the corpse. Ang huni ng kikik o pang— gabing ibon ay nangangahu— lugan na may mamatay. Kung managinip na naalis ang mga ngipin, isang kaanak ang mamamatay. Ang managinip na nakikikain sa handaan ay tanda na may mamamatay. Huwag lilingon pagkaalis ng patay; kung lilingon ay may susunod na mamamatay. Ang gagamitin sa patay ay hindi dapat ilipat o dalhin sa ibang bahay; kung hindi ay may susunod na mamamatay. If during a burial procession you pass a brook, a piece of wood taken from the coffin must be thrown into the brook to avoid another death in the family. Once placed inside the coffin, the dead person must not be removed or transferred to another coffin or another member of the family will die soon. Don't have two coffins brought to the house. When there is a dead person, don't sweep the dirt inside the house or somebody in the	The corpse should be bathed with vinegar. It should be cleaned 24 hours after embalming. <i>Scientific note: This is done to avoid the spread of germs from the corpse.</i>	

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		family will die, too. Pag inaalís na ang kabaong ng patay, dapat ang mga kaanak ay huwag titingin sa likod para maiwasan ang pagkamatay ng ibang kaanak. Kung ilalabas ang kabaong dapat huwag sasabit sa anumang bahagi ng bahay at may susunod na mamamatay. Wearing black means continuous suffering.		
ON FOOD PREPARATION	[Literature about food] [Rhetorical modes: description, process]	Hindi dapat umawit kung nagluluto dahil hindi matutuloy ang kasal nito. If cooking in oil, avoid many onlookers so the oil will not be consumed immediately. When somebody leaves the house early, those who are eating must turn their plates so that "graces" will be maintained. Sa handaan, ang unang mesa/hapag ay dapat kumpleto ang kakain, para hindi kukulangin ang handa. Sa paghahanda kailangang magdasal. Mag-krus muna bago kutsarahin ang kanin sa palayok para matagal maubos ito.	To tenderize meat, add 3 match sticks when boiling. <i>Scientific note: Phosphorous has a tenderizing effect.</i> Kumpletuhin ang sangkap sa pagluluto. <i>Scientific note: This will make the food flavorful and, in some cases, more nutritious.</i> Huwag masyadong lutuin ang mga gulay. Dapat balanse at masustansiya ang pagkain. <i>Scientific note: When vegetables are overcooked, they become less tasty and sometimes lose their nutrients (as these may evaporate).</i>	[Measures and formulae used for cooking and preparing food]

BICOLANO OF BACOLOD, SORSOGON

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Lagyan ng asin sa ilalim ng mesa bago maglagay ng pinggan. When frying, knock the rim of the frying pan three times to avoid bubbling of the oil. When rice is half cooked put salt over the cover of the pot to fully cook the rice.		

Sources: Hermosa, Eleanor Eme. Site Report for Bacolod, Sorsogon. **LEARNING FROM LIFE: AN ETHNOGRAPHIC STUDY OF FUNCTIONAL LITERACY IN FOURTEEN PHILIPPINE COMMUNITIES.** UP-ERP-DECS-BNFE Project, 1994.

SOME PHILIPPINE BELIEFS AND PRACTICES RELATED TO FERTILITY. Manila: DECS Population Education Program, 1976.

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT WEATHER AND CLIMATE DIRECTION AND STARS	[folk literature about the stars and other natural phenomena] [rhetorical modes: description, narration, cause and effect, classification, etc.]	Kapag nagtipon ang mga bituin, magandang magpatayo ng bahay. When there is lightning, one must not laugh so that a leech won't come near. When a pig coughs, it means that it will rain for a week. <i>Scientific note: No. When a pig coughs, it is a sign that the pig may be sick.</i> Kung magpangirab, mag-wisik ng suka para mapalayo ang kidlat. Don't eat and go near a mirror when there is lightning. When one spots a "falling star" near the sea, it will rain. <i>Scientific note: "Falling stars" are meteors. They do not affect weather conditions like rain.</i>	Kapag nakataas ang big dipper mainit and klima; pag nakataob, uulan. Morning stars are a useful guide. <i>Scientific note: True.</i> Kung maghilay ang southern cross, uulan; kung magtadlong, iinit. <i>Scientific note: It is possible that aqueous material in the atmosphere can refract light in such a way that there is an apparent misalignment.</i> Kung ang ubong sang adlaw tama ka pula kag daku, malapit nang umulan./When the sunset is very red and lasts a while, it is about to rain. <i>Scientific note: This may be true. The red spectrum of sunlight can be scattered by larger cloud droplets or dust particles.</i> Kung ang araw ay napapalibutan ng maitim na ulap, merong ulan. <i>Scientific note: Usually true. Dark clouds are usually rain clouds.</i>	[mathematical principles like speed, velocity, direction, etc.]

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			Kapag dalawang metro ang layo ng anibg mo sa iyo, alas diyes (10:00) na. <i>Scientific note: This depends on the time of year and latitude.</i> Ang unang tilaok ng manok ay 1:00 ng umaga; kapag marami, 3:00 o 4:00 ng umaga. <i>Scientific note: Hindi naman eksakto sa oras pero totooang mas marami at mas mabilis ang tilaok ng tandang kapag malapit nang mag--umaga.</i> The migration of birds are a guide to the weather/season. <i>Scientific note: Yes. There are migratory birds which transfer from one area/region to another depending on the season of the year.</i> The salimbatayan (bird) signals the onset of rains of typhoons. <i>Scientific note: In some cases, yes. Birds have a keen sense of weather changes.</i>	
OTHERS	[earth lore]	Love the trees. Save the earth.	To save the earth, environment preservation must be promoted.	

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
PRODUCTION/ LIVELIHOOD/ ECONOMIC ACTIVITIES FARMING	[stories and songs about farming] [rheorical modes: description, classification, explication of process, cause and effect, etc]	When planting corn, one must not wear a coat so that the corn won't become small. Also, one must refrain from laughing so the kernel will grow close together. While planting corn, one should pray the Our Father. One should believe in God's providence. An offering to the ancestral spirits should be made before and after a harvest. Bago maglagay ng binhi, kailangang taniman ng tanglad ang unang hanay para maraming "gipi" ang "panggas" dahil ang tanglad ay maraming gipi (saba).	Sustainable agriculture Go back to compost farming. Seasonal farming Organic farming Belief in land preparation and not in superstitions <i>Scientific note: All the methods enumerated above are scientifically valid.</i> Read the almanac as guide in farm activities. <i>Scientific note: This may have scientific basis. It depends on the type of almanac. Many events recorded in almanacs are observations through the years. Some have scientific basis.</i> Water comes from trees. <i>Scientific note: In a way, yes. Trees facilitate water movement to deeper parts of the soil.</i>	[measuring devices for the farm] [also formulae used]

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
FISHING	[fishlore] [rhetorical modes: classification, description, cause and effect, etc.]	Kapag bumili ng "taga" sa palengke, ilagay sa bunganga ang taga at tumalikod, at ang kasama ang dapat magbayad para marami ang mahuhuling isda.	Be quiet when fishing. <i>Scientific note: Silence is generally observed for most fishing which do not involve driving fish to a net.</i> Go fishing when there is a full moon for a better catch. <i>Scientific note: This depends on the target species.</i> Use termites as bait. Attaching pubic hair to the bait will attract much fish. <i>Scientific note: This depends on the target fish.</i> Offer food near where you want to fish. <i>Scientific note: Fish feeding areas might eventually aggregate fish.</i> The migration of birds is considered when determining the right moment for fishing. <i>Scientific note: Some fish species are seasonal. Taking into account movements of migratory birds may be useful for determining the right season for fishing.</i>	[measures and formulae used]

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
ANIMAL RAISING	[animal lore]	Every family must have a carabao, which is considered the right hand of man. Kapag buntis ang hayop, huwag magpakain sa balisbisan dahil magiging babae ang anak.	Pag bumili ng biik dapat malaki and unahan ng buntot, malapad ang dulo, at magkalayo ang dalawang unahang paa. <i>Scientific note: Ito'y mga tandaan ng hayop na lakihin kung may magaling mag-alaga.</i> Don't feed pigs at night so that they won't contract diseases (bugason). Don't feed pigs in the afternoon lest they contract diseases. <i>Scientific note: Pigs should be fed regularly, usually during the day. But they can also be fed at night.</i> Huwag lagyan ng tubig na may sabon and pagkain ng baboy. <i>Scientific note: Totoo. Ang sabon ay masama sa sistema ng hayop at maaaring makalason.</i> Don't feed pigs under the gutter of the house. <i>Scientific note: Yes, because when it rains, the food will be flooded and wasted.</i>	[computations/formulae used --e.g., determining age of animal, measuring feed, etc]

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
SOCIAL RELATIONS/ ORGANIZATION COURTSHIP AND MARRIAGE	[songs and poetry for courtship] Ang pamamanhikan ay ginagawa 2-5 months bago ang kasal.	Do not meet with/face visitors if there are many things to be done. Ang pamamanhikan ay ginagawa dalawa hanggang limang buwan bago ang kasal. Pag namanhikan, dapat may dalang pagkain at regalo ang lalaki at ang kanyang pamilya. Sa okasyon ding ito tumatanggap ang babae ng regalo. The pabagti is the meeting of parents to find out if they like/ approve of each other. Huwag painumin ang lalaki sa banga dahil baka siya magayuma. The harana and the giving of flowers are two customs related to courtship. The groom must spend for the wedding. Ang babae ang dapat umuwi sa bahay ng lalaki kung wala pa silang bahay dahil mas "mayor" ang lalaki. Pagdating sa bahay ng bagong kasal, bigyan ng isang basong	[population education]	

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		tubig at tapikin ang baso para hindi malasin. Suklayin ang buhok ng mag-asawa para hindi sila mag-away. There is a ritual called pangayo where the man's parents formally call on the girls' parents to seek their consent to their son's proposal of marriage with their daughter. The parents of both parties arrange everything when their children are not yet of age.		
CULTURE BELIEFS ON BIRTH AND CHILD REARING	[lullabies]	Visitors should not stop at the doorstep so that the baby will be delivered without difficulty (diretso ang paglabas ng bata). Boil water in an earthen pot and cover it with banana leaves; then let the pregnant woman break the pot. Do not step over the rope of a grazing carabao; otherwise, when you give birth the umbilical cord shall be cut, which will result in your death. Magpanyo kung-hapon para huwag malagyan ng "umawa" ang bata.	A woman who has just given birth cannot take a bath yet. Kapag ang bata ay "kubag" o "nagabalasbas", hilutin para dumiretso./ If the child is a hunchback, s/he should be massaged at once to correct the condition.	

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Indi sagad pongko para indi magdamol ang pointe./A pregnant woman should not squat or sit often. If the baby is a girl, a mother will have a more difficult time during delivery. A mother must be made to drink the "inunan" or placenta of a carabao for easy delivery and avoid collapsing after giving birth. Sabay kainin ang lahat ng pagkain para hindi mabinat. The mother should pound (magbayo) five days after giving birth so that she won't have a relapse. Hikaw--hikaw (ihaw sang manok nga duha ka bilog kag dungangan sang sangkap) sulundon kon indi ikaw mag--sunod sini, palaging magkaka--sakit ang iyong anak./ The child must be given a special type of chicken broth or soup so that s/he will have strong resistance against sickness. Ginger root is a cure for illnesses of the mother.		

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		A piece of red thread increases the baby's courage and fighting spirit.		
ON HEALTH AND SICKNESS	[rhetorical modes: classification, cause and effect, etc.]	If the patient's feet and hands are cold, he/she has "tuyao" (spirits) and thus must consult faith healers and be given ginger. A couple cannot engage in any sexual activity if there is a child in the house who has measles. Huwag kumain ng natirang kanin para hindi mabinat. On menstruation: Tumalon ng tatlong baitang ng hagdanan para tatlong araw lang ang menstrual period. Maligo sa ulan at lumangoy para regular ang menstruation. During your first menstrual period wash your face with blood to have smoother skin. Don't take a bath when you have your menstrual period because your pores are open. Pagsabak sang uling kag pag-palibot sang pito ka beses para hindi mapasmu.	Kung may tigdas, dapat uminom na malamig at uminom ng itlog (7 bilig). To strengthen the body and the heart, take a walk every morning. Kung mayroong may tigdas, lagyan ng apoy ang pintuan para hindi lumala ang may sakit, lalo na kung mag-asawa. The surroundings must be clean. One must be clean. Relaxation of body and mind is necessary for good health. Get rid of boredom. Look around your surrounding for relaxation. Keep the normal temperature of food. If it's too cold, germs will accumulate in the food. If it's too hot, the teeth may break and the	[Dosages; formulae used]

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			urinary tract may not be able to take it. The rainy season brings sickness/ diseases. The nipples should be swabbed with an egg mixture to prevent their darkening in color.	
ON DEATH AND BURIAL		Slaughter a carabao on the day of the burial. All contributions must be spent on the dead. Do not look back when going to the cemetery; this may be taken to mean that you want somebody else to die as well. The rope used to lower the coffin into the grave must not be returned to the house for it already belongs to the dead. It is a sign of disrespect to bathe and comb one's hair if there is a wake in the house. Flowers must be thrown on top of a coffin being buried. Ang asawa (lalaki) ay hindi dapat "magkutkut" (magbunkal)	After the burial, go home directly and wash your hands with pomelo juice. There are many germs that cause various diseases in the cemetery.	

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		sa patay dahil ito ay masama. When someone dies in the family, one must not kill or cook chicken, stringbeans or malunggay so that no deaths will follow. When someone dies in the family, squash must not be cooked so that no deaths will follow. When there is death in the family, don't cook vegetables which come from vines. If a girl is pregnant, she must not attend a burial.		
COOKING AND FOOD PREPARATION	[rhetorical modes: description, classification, explication of process, etc.]	Put a sign of the cross over the rice before serving. When praying Our Father don't say Amen so that the food will last. Huwag mag-ihaw ng urang at ayanghas kay lubagon ang ulo mo sang sapot. Eat what is set/laid on the table.	Put a spoon and fork in the pot when cooking meat. Do not overcook vegetables so that the nutrients will remain. Vegetables must be sauteed so that they will be more nutritious. Green and leafy vegetables, fresh fish, rice, banana, mango, jackfruit, and papaya are recommended food. Pork and sugar cause diabetes. <i>Note: Only in excessive amounts and when one is predisposed to</i>	[liquid measures used for cooking; computations made]

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
			<i>diabetes.</i> Milk is a complete food. Vegetables and legumes have complete food nutrients. Cassava leaves are nutritious.	
MISCELLANEOUS BELIEFS/VALUES		Look back when walking; a devil may be following you. Love your community and other people. One value emphasized is nationalism. One must work. Mas pagpapalain ka kung susundin mo ang mga kasabihan. May mga tamang kasabihan at walang mawawala kung susundin mo. Ang pagsunod sa utos ng matatanda ay nagpapatagil ng buhay. Too much leisure can break your life. Vices will ruin one's life.		

ILONGGO OF MAGBALLO, NEGROS OCCIDENTAL

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Peace and democracy are ideals. Do your own thing. Follow the law for the laws of the government are also God's.		
ARCHITECTURE		Put coins in holes intended for posts or in the four corners of the house, as payment to the spirits of the ground. A blessing ceremony, during which holy water is poured on the posts of the house is observed.	A house should be near the water supply and surrounded by trees and plants. Without nature, we are vulnerable to diseases and death.	

Source: Magos, Alicia. Site Report for Magballo, Negros Occidental. LEARNING FROM LIFE: AN ETHNOGRAPHIC STUDY OF FUNCTIONAL LITERACY IN FOURTEEN PHILIPPINE COMMUNITIES. DECS – BNFE – UP – ERP Project, 1994.

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT CLIMATE/ WEATHER AND TIME	[Stories/legends about nature/natural phenomena]	When there is a Daiao or Kadaiao (full moon), people stop working so that they will not anger the diwata. On the Gimata (first day the moon is seen), people stop working lest they get sick. During a Bacunaba o Bacunawa (eclipse), a big snake is believed to be swallowing the moon or sun. Noise is made to drive away the snake. The Andarao or Andahas are hot vapors which come out in the afternoon and make the sky reddish. The people believe that this is the blood of a person who will die or be injured by evil spirits out in search of persons to devour. Women throw ashes under their houses to blind these evil spirits. When farmers and women weavers hear the Dalug—due or Dalug—dug (thunder), they immediately stop working lest they be cursed. A Linog (earthquake) is believed to be caused by the movement of the breasts of a giant woman. It is also believed to drive away illness. When a bagio (storm), the Amihaan (east wind) or the Habagat (west wind) visits the country, the people stop working for about nine days. They believe that the winds clean the atmosphere and carry away various illnesses.	[Teach what typhoons, earthquakes and other natural phenomena are from the scientific point of view (including concepts like force, velocity, etc.)] <i>Scientific note on the Andarao or Andahas: It is true that red skies are the effect of the refraction of sunlight by atmospheric moisture.</i> <i>Scientific note on winds: Technically, the amihaan comes from the northeast while the habagat comes from the southwest. However, mesoscale effects may modify these directions. And it is true that winds clean the atmosphere.</i>	[Teach mathematical concepts manifested in natural phenomena like speed, velocity, direction, height, duration, etc.]

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
LIVELIHOOD/ ECONOMIC ACTIVITIES FARMING	[Farm lore]	Traditional farmers do not use the plow because they believe it will disturb the natural composition of the soil and will anger the spirits who live in or who own the land. Farmers plant corn when the rice harvest is small. Farmers also plant rootcrops, bananas and vegetables to augment their income. Before clearing a piece of land, a farmer offers a white- or red-feathered chicken to the diwata. After the rituals, the farmer and his companions may eat the chicken but should not leave leftovers. A pagbutang (ritual) is also offered during a drought. This appeases the spirits who can cause rain to come. During harvest, the pagbutang is also observed.	[Discuss more efficient but environment-friendly farming methods]	[Modes of measurement used in farming]
FISHING	[Classification and description of sea resources] [Stories about the sea]	The most popular method of fishing is the fish-coral method and the use of the fishing net. Many people go to shallow sea coasts to gather edible seashells for home consumption as well as for extra income.	[Discuss economically and environmentally viable fishing methods] [Kinds of fish and other sea species]	[Computational skills required in fishing and related activities] [Modes of measurement used]

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
HUNTING	[Description and classification of hunting implements] [Stories about hunting]	The principal hunter has to offer something together with his hunting paraphernalia to the spirits who are believed to own and control wild animals. No one should bring salt with him when hunting because this will insult the spirits. Nobody should play with the teeth, bones, hair and horns of wild animals caught because the spirits will be offended.	[Discuss environmental issues related to hunting like preservation of wildlife] [Discuss animal and plant species]	[Mapping] [Teach mathematical principles like direction]
SOCIAL RELATIONS CHILD REARING	[Fairy tales and other stories for children]	The baby's immediate social environment are the members of the nuclear family. The mother and the older daughters are usually the ones who give much care and attention to the baby. The father minds the baby in the absence of the mother. Ways of weaning: 1. separating the baby from the mother for some weeks until the baby learns how to chew food 2. putting hot pepper on the mother's nipples 3. teasing the child before others When playing with the baby, family members encourage the baby to imitate different kinds of finger play, to smile, to pronounce words and to dance.	[Discuss health issues concerning children]	

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Fairy tales or frightening stories are told to put a child to sleep. Authoritarianism is practiced as a method of disciplining the child and the father is perceived as one who wields authority. Whipping, pinching and scolding are common methods employed to make the child obey. As punishment, the child is deprived of new clothes, toys and play. Children who participate in adult discussions are perceived to have bad manners. A child does many errands for the family and is given more responsibilities in the latter part of childhood like fetching water, gathering firewood, harvesting and gathering rice and corn, making copra and gathering edible seashells. It is thought that baby boys who wear girls' clothes and play with toys for girls will become girlish and baby girls who wear boys' clothes and play with toys for boys will become boyish. A girl's ears are pierced and boys are circumcised as they enter womanhood and manhood, respectively. An uncircumcised boy is ridiculed. The male adolescent and the female adolescent act as father and mother respectively	[Teach biology/physiology of adolescence]	

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		with respect to the training and care of their younger siblings. The family has a high regard for children who are able to reach high school and college. Adolescence is considered the most sexually active period in the life of a Basaynon. An adolescent who laughs, giggles or makes a lot of noise when near a person of the opposite sex is sexual attracted to that person. Segregation according to sex is emphasized during this period. The adolescents also receive a great deal of advice about controlling their sexual urges. The young try to enjoy their adolescence as much as they can. Girls make themselves beautiful and attractive while boys often go out of the house at night. A boy is allowed to smoke but has to earn his own money to buy cigarettes. A boy is also expected to pay for his own personal expenses from his own earnings.		

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
ADULTHOOD		Adults are expected to participate and cooperate in barangay or community affairs and are perceived to be knowledgeable and dependable in the observance of community affairs.		
OLD AGE		Some signs of old age: 1. more gray hair 2. weaker muscles 3. fewer teeth 4. having grandchildren 5. acquisition of authority The old people are caretakers of young children in the home when older children are at school and the parents are at work. They also watch rice, corn and copra being dried under sun. They also cook meals if they can still manage to do so. They are consulted on weather conditions, travelling, ailments, disputes and marriage. Old people are sensitive to harsh language.	[Discuss physiological signs of old age and necessary health care]	[A math lesson could revolve around the concept of when a person is considered old]
KINSHIP	[Genealogical accounts] [Words which refer to relationships] [Teaching definition: what is a family]	There are two major kinship groupings in the Basey society: the nuclear and the extended family. The nuclear family consists of a married couple with their children and others who might be adopted and who reside in their household. A Basaynon feels equally related to his father's kin group as he is related to his mother's.		

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Basaynons encourage at least one of their male children to take on their mother's maiden name when there is no one in their family left to carry their surname. Parents and grandparents always see to it that their children or grandchildren get to know their other relatives. Some of the activities or venues which enhance kinship ties are: 1. family reunions and exchange of pamaskohan or Christmas gifts 2. barrio or town fiestas where visiting relatives make it a point to call on host relatives 3. births, baptisms, weddings and funerals 4. membership and active participation in organizations 5. vacations to Basey, especially by children, so they can visit their relatives Types of kin groups: 1. The immediate extended Basey family – this is formed when a family has at least one child who marries. This type of extended family is composed of two nuclear families. 2. The Basey consanguineal extended kin group – relatives trace their blood relationship to a common ancestor		

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		3. The affinal extended kin group – this is formed by the addition of male or female spouse to a consanguineal extended kin group through marriage of children 4. The ritual or the ceremonial kin-group – there are three ways of becoming relatives by sponsorship, namely: - marriage ceremony - baptismal ceremony - confirmation ceremony Three observable practices among Basaynons which show their closeness or intimacy: - pag-buhi – taking care of children who are orphaned, born out of wedlock or adopted - pakig-hagto – this means treating someone like a brother or a sister. The relationship is enhanced by continued social interaction. - in-group and out-group feeling of Basey society – the former refers to relatives by consanguinity, affinity or ceremonial ties while the latter refers to non-relatives Factors which are believed to affect the future of children: - panalangin or blessings - gaba or curse		

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Female siblings, considered weaker than the male siblings, are given the lighter house—hold chores. The younger sisters look up to older ones for examples of right conduct at home, in school and in the community.		
CULTURE BELIEFS AND PRACTICES RELATED TO BIRTH AND CHILDBEARING	[Lullabies]	A pregnant woman should not run up and down the house during an eclipse because she might die, deliver prematurely or give birth to a deformed child. A pregnant woman shouldn't block the door or else she might experience a difficult delivery. The husband of a pregnant woman should not dig pits for house posts, cut big trees, drink too much hard liquor, have illicit sexual relations and engage in other activities which would anger or upset his wife because these may cause a miscarriage or make the child seriously ill. A woman who eats twin bananas might give birth to twins. This is considered a punishment from the Basaynong (a spirit).	[Teach biological concepts like genetics etc.] [Teach maternal and child care]	[Computing for age of fetus]

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
BELIEFS AND PRACTICES RELATED TO DEATH AND BURIAL		The coffin is made to pass over the heads of children who sit on the stairs so that they will not die soon. The coffin is brought out of the house through a window so that no other deaths will occur in the same house. No tear from a member of the bereaved family should drop on the inside of the coffin or else the soul of the dead will become restless.		
RELIGIOUS PRACTICES	[Religious stories, songs]	Most Basaynons are Roman Catholics. Religious rites are zealously observed and there is a high regard for priests. The ancient worship was animist. Natural objects and phenomena were revered in a practice called paglehe. Objects held sacred included practically everything in nature which affects personal, family and community activities. Paglehe was observed by means of work stoppages on days when unusual natural phenomena occurred. Basaynons believe that there are different spirits which inhabit the atmosphere. They move with caution as a sign of respect in order not to disturb the spirits. Children and young people are always told to behave properly outside their homes. They are warned against shouting, laughing boisterously, giggling and running around in haunted places lest they be taken away by offended spirits.		

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		When cleaning the house at night, the dirt should not be taken outside because the spirits might be blinded when the dirt gets into their eyes. Dreams about riding a banca, having lice on one's head, and having one's teeth pulled signify the death of a family member. Such dreams should not be told to anyone except the Tambalan who can offer prayers to the spirits so that the family will be spared from misfortune. When a person dreams that an alligator seized him, he should not go down his house the whole day. Nor should he go to the river or ocean lest his dream come true. When one dreams about snakes or human refuse, this means that he is going to receive money soon.		
ARTS: MAT WEAVING	[Teach description] [Teach explication of process]	Weaving ticug mats is a skill possessed by most women in town. As early as seven years old, young girls are taught how to weave ticug mats. Ticug mats are made out of locally available ticug (straw-like) plants which grow together with rice stalks. The materials are selected and classified according to the desired color. They are woven into mats which are then used as the background for embroidering artistic designs like flowers, maps of the Philippines, love birds, cocks and other animals,	[Teach color]	[Teach algebraic and geometric concepts using mat-weaving designs]

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		as well as pictures of important persons in society. Those who have put up cottage industries have diversified their products into embroidered rug mats, wall decorations, bedspread substitutes, ladies' handbags, beach mats, room dividers, and the like. Work alliances among mat weavers in the different barangays are organized. In most cases, these mats are sold to those who have embroidery skills.		
ARCHITECTURE		A ritual should be performed in order to ask guidance from the spirits to build the house in the right place. It is important that the house should not block the passage of spirits. Otherwise, the spirits may cause evil and misfortune to befall the dwellers. When building a house, the front door must face the east. It is said that this will give the house good lighting and fresh air. Also, sunrise or the east are believed to be symbolic of blessings from the spirits and departed relatives. When a house faces the west, the house dwellers are prone to sickness or even death. The west is suggestive of the setting down of the sun, an exit from light to darkness. The number of steps of the stairs must be an odd number so that evil or misfortune will	<i>Scientific note on east orientation of houses: Sunlight, which comes from the east, sanitizes the home and warms the inside air. This air will then rise and is replaced by colder outside air.</i>	[Teach geometry, mathematical formulae, modes of measurement] [Math lessons may be based on folk concepts of lucky numbers in architectural structures like stairs]

WARAY OF BASEY, SAMAR

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		not befall the dwellers. A medicinal plant, called panha-ole, is planted on the same day the posts are planted, near the southeast corner of the house. People believe that the plant will assure them of protection from sickness and misfortune.		

Source: Jadloc, Zosimo. HISTORY AND KINSHIP IN A WARAY COMMUNITY.
U.P. Dissertation, 1988.

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
NATURE/ ENVIRONMENT TIME	[Meanings associated with time]	Time is understood by most Looban residents as a continuum (panahon), as distinguished from time measured by the clock. A much shorter portion of time or panahon is saglit. This is still viewed as part of the continuum. Some people still tell time by looking at the position of the sun or by activities done during the day. Some jobs should be done at a particular time.	One can tell the time by looking at the position of the sun. [Other modes of telling the time]	[Mathematical concepts can be taught using traditional/popular ways of measuring time]
SOCIAL RELATIONS/ ORGANIZATION CHILD-REARING	[Children's stories]	Independence among Looban children is encouraged early. The child is taught early to be an effective earner. Schooling is not given much importance. Boys join gangs and engage in gang wars while the girls are more or less restricted to the home. If a male teen-ager stays at home and helps in the household chores instead of hanging out with other boys, he is considered effeminate or weak.	[Health care for children]	[Math concepts illustrated in children's games]

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Gossiping is one form of activity wherein neighborhood relations are articulated. Residents recognize three levels of emotions/behavior in HIYA which are the following: 1. Panginigimi – hiya characterized by the inability of the individual to speak out or to state what he feels. 2. Atubili – hiya arising from hesitation to proceed even if the facts are known to the person. 3. Alapaap ng kalooban – part of the etiquette for social interaction among people who are acquainted with each other but are not yet intimate friends.		
CULTURE BELIEFS AND PRACTICES RELATED TO BIRTH AND CHILDBEARING	[Cause and effect] [Classification of illnesses: according to cause and treatment]	The birth of a child is welcomed as a gift from God. Some housewives frown on the use of condoms. During conception: 1. the woman craves for things, usually fruits	Contraception practices: 1. rhythm 2. coitus interruptus 3. use of condom 4. pills 5. cream A comadrona (midwife) is sought to deliver the child or in her absence, an old woman	[Measures/dosages for medicine]

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
COURTSHIP AND MARRIAGE	[Songs and poetic forms for courtship]	Pamamanhikan and dating are part of courtship. Marriage in Looban takes place when: 1. the girl and her parents consent to the proposal of the boy. 2. the girl is already pregnant. 3. the boy and the girl decide to have a wedding prior to living together. Living together without marriage is common practice.	[Population education; biology]	
COMMUNITY TIES		Normative links reinforcing rapport among community members: 1. Utang na loob – debt of gratitude is one of the most important sources of group cohesion. 2. Pakikisama – this is used by older members to test a new recruit. 3. Pakikiramay – concern over the difficulties or misfortunes of another. The older the person, the more authority he has. During festivities neighbors are expected to help one another.		

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		2. the woman takes advantage of the husband by being demanding 3. men believe that if the desires of the woman are not met the child in the womb might die The gravida (as the pregnant woman is known) should not put firewood crosswise while cooking because her baby will be born breech or suwi. The baby will resemble the object which fascinates the mother during her pregnancy. When the husband does repair work in the house, the woman may have a miscarriage or a very painful delivery. Wrapping a bandana around the gravida's neck may cause the umbilical cord to coil around the baby's neck during delivery. A pregnant woman should not visit the bereaved (when somebody dies). This may cause premature delivery or death of the mother. Hilab (extreme pain inside the belly) can be cured by having the person who caused the hilab make the sign of the cross with his saliva over the stomach of the victim.	with experience in delivering babies. After delivery, the hilot takes a handful of pounded ginger and rubs these on the patient's hands, stomach and soles. A brew of boiled garlic is given to the mother to keep her blood pressure at normal levels. Scientific note: Garlic has been proven to be an effective antidote to high blood pressure. Illnesses of mothers are attributed to the weather and drafts to which one may be exposed while asleep or when taking a bath. Other causes of illness are breastfeeding when one is tired, hungry or emotionally distressed; overfeeding the baby; indigestion; neglect; teething; extreme heat; low resistance against cold and rain; and heredity. The mother is prohibited from eating langka (jackfruit) because it can cause indigestion; squash because it can cause gastro-intestinal diseases; and eggplants because they can cause beri-beri. Scientific note: Of the pagdidimon rituals mentioned, the sponge bath and the saklab have been medically proven to be beneficial. Babies are given tiki-tiki extract or sugared water. Bitter-tasting substances are applied to the mother's	

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		The mother should not go around the neighborhood without a headcover or talukbong to prevent the baby from catching cold. The woman should not sit on the floor without a mat because the masamang hangin will enter the uterus and induce severe stomach ache or uterine cramps. In a comadrone-assisted delivery, the laboring mother is given raw eggs and sarsaparyia (a sofdrink) to help in the contraction of the uterus and facilitate delivery. After this, she is made to walk around the room before lying down to deliver. In a hilot-assisted delivery, the mother is made to drink a concoction of boiled sulasi (a kind of plant) to ease her delivery. A good substitute for sulasi is the talantangan (another plant), the bark of kamias or balimbing and oregano. The mother is given a native onion to chew to hasten the expulsion of the placenta. Right after delivery, if a small amount of ash is sucked in by the baby, the baby will be strong and healthy.	breast to hasten weaning. These substances are makabuhay juice, ginger, garlic or sometimes pepper. These can draw the child away from the mother's nipples.	

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Immediately after the placenta is expelled, the hilot calls two persons, usually the husband and mother of the woman. They clasp their hands over the patient, put their feet against the side of her pelvis and pull each other, thus applying the necessary pressure on the pelvic region. They believe that this will restore the pelvic bones which have expanded during the delivery to their normal position. This practice is known as kaba. The placenta should be burned under the gutter of the house. Doing this will make the child resistant to colds and make him/her cool-headed during crisis. Just throwing the placenta away may cause misfortune. Burying the placenta with paper and pencil can make the child alert and intelligent. Sexual relations between husband and wife are postponed because it is believed that these can curtail the flow of the mother's milk. Coconut milk is taboo because this is said to spoil the mother's milk. The mother must not ingest cold food because these can cause pains in the joints or stomach disorders.		

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		Amulets such as heads of grass-seeds, wrapped ginger or crocodile's teeth are hung around the baby's neck to ward off illness. Four rituals associated with pagdidiimon (post-natal care): 1. pagligo – sponge bath using water that is brewed with leaves of the following plants: tagundi, sambong, salay, mamalis, talbak, makabuhay, mamayong and anumang. 2. hilot or massage – done daily and in different areas of the house because the shift in places will cause the illness to transfer from one part of the body to another. 3. saklab or roasting – the mother, without clothes, is laid inside an improvised enclosure of mats and blankets and a pot of boiling water or heated stone is placed between her legs. This induces perspiration. 4. suot – is similar to the saklab except that the mother partakes of a quantity of herbal medicine. The rituals are believed to: 1. prevent pasma or binat 2. close all the pores of the skin which opened 3. prevent body pains 4. provide warmth for the		

LOOBAN, STA. ANA, MANILA (MULTI-ETHNIC)

THEME	COMMUNICATION ARTS	CIVICS AND CULTURE	SCIENCE	MATH
		body and heal the womb A bigkis (binder) is put around the baby's waistline to prevent the baby's stomach from bulging.		
ARCHITECTURE	[Classification] [Description]	Types of dwelling: 1. Barong-barong – a small boxlike structure made of different kinds of discarded materials like card boards, pieces of wood from crates, flattened tin cans, and burnt galvanized iron sheets. 2. Semi-concrete – made of wood and galvanized iron sheets for the roof.	[Related concepts like space, mass, etc.]	Some houses are triangular and some are semi-circular. To make up for limited space, houses are built from 1 1/2 to 2 stories high.

Source: Jocano, F. Landa. SLUM AS A WAY OF LIFE. Quezon City: University of the Philippines Press, 1975.

3

LESSONS FROM THE MASS MEDIA: EXPLORING ALTERNATIVE PEDAGOGIES

This chapter discusses the propagation of community knowledge by means of mass media programs. Because of rapidly increasing populations and explosive information growth, the value of mass media as educational tool can no longer be ignored. In Third World countries like the Philippines, the exponential increase in student populations and the scarcity of conventional educational resources like teachers, classrooms, textbooks, and the like, are forcing more and more educators to acknowledge the need for nonformal modes of education.

But perhaps more important than the quantitative concern in the shift to nonconventional pedagogical modes is the concern for the relevance of the educational system to the target populations. Florangel Braid, in a paper titled *Multi-Media Channels: A Megatrend in Education 2000* (1993), sees the use of mass media in formal, nonformal, and informal education as a cogent response to the need for alternative learning systems implicitly recognized in the world declaration on Education for All in Jomtien, Thailand as early as 1970. According to Braid, educational sectors now recognize that the traditional formal system is "too rigid and structured to be able to respond....to immediate issues and needs" of particular communities. This is especially apparent in crisis situations like the Mt. Pinatubo eruption and the consequent dislocation of the communities living around the area. Such a situation requires more creative and relevant curricula for learners in that community, not least because conventional classrooms no longer exist.

Furthermore, says Braid, "the education sector today is confronted with a major task of democratizing access to education." This means reaching out to communities marginalized by geographic distance (among others) from urbanized centers where the schools are. Various studies show that a distressingly high percentage of Philippine barangays do not have public elementary schools. About a quarter of existing public

elementary schools meanwhile do not offer all grade levels. At the same time, a confluence of factors causes some 500,000 children to drop out of school every year, often before they have reached the retention level for literacy and numeracy skills.

According to Braid, "the disenfranchisement of these children can be again traced to overdependence on the traditional delivery channel--the classroom." One way of addressing this which a number of educational institutions worldwide (including First World countries like Australia, Canada and the U.S.) are beginning to make use of, is distance education or open learning. Characteristic of this mode is the physical separation of teacher and students and the "consequent use of various communication media for the learning process to take place." In addition to bridging the physical gap between teacher and learner, distance education has been found to be much more learner-oriented (than the conventional classroom) such that what is taught is often more closely intertwined or directly related to the daily activities of the learners in their communities.

For Braid, whereas the traditional classroom relationship between teacher and student is rigidly hierarchical, static and one-way, "media channels make the learning process participatory and experimental." She cites as examples the realistic study of social and historical issues by means of radio and video documentaries and the interactive exchange among computer users and those engaged in tele- and video-conferencing. But even where sophisticated mass media technology is not readily available, technologically simpler media like the radio can be much more participatory and integrative than the traditional classroom lecture. In Learning from Life, the centrality of a community radio and a community newspaper in two developmental Philippine communities is documented. As reported and as will be discussed in this chapter, the effective use of these media by non-literate townsfolk in working for a common cause and for developing literacy skills, proves that these are much more accessible and empowering educational tools than those currently being used in the formal school system.

A final argument for the adoption of the mass media in continuing education projects is the finding, validated in Learning from Life, that an important factor in explaining retention rates among school dropouts is their access to mass media like newspapers and the radio.

In this chapter, we document the use of radio, television and popular print media forms like comics and illustrated pamphlets for

promoting community knowledge. The relationship between alternative knowledge systems such as those included in this study, and unconventional pedagogical modes like the mass media, is a special concern. We maintain that the paradigm shift that undergirds our advocacy of community knowledge in Philippine classrooms, whether formal or nonformal, necessitates the adoption of alternative pedagogies.

The radio, print and television programs discussed are not to be taken as exemplars or models but rather as samples which will enable us to make recommendations regarding the use of mass media in ventilating community knowledge and integrating it with currently recognized literate knowledge. Two aspects of the mass media programs and materials are investigated: (1) content and forms, and (2) methods. The following specific questions are asked:

1. What is/are the objective/s of the program/material?
2. What aspects (themes) and forms (skills, values) of community knowledge are included and emphasized?
3. What/Who are the sources of this community knowledge?
4. Who/What sector is the intended audience?
5. What is the format used for presenting community knowledge?
6. What is the language used?
7. What is the audience impact of the program/print material?

In the concluding section of this chapter, we include a brief description and analysis--culled from Contexts, Constraints and Possibilities of Literacy in Marginal Philippine Communities--of the dynamics between literacy practice and community knowledge in two communities with a community newspaper and community radio. This provides a foil to the more mainstream uses of mass media discussed here, as well as a model for integrating community knowledge and modern technology in ways that empower both the individual and the collective.

Radio Component

Four radio programs, all aired on radio dzRM, were monitored, namely: (1) *Sari-Sari Inc.* (9-10 a.m., Mondays to Saturdays); (2) *Ate Susan sa Likod Ninjo* (11-12, 12:15-1 in the morning, Mondays to Saturdays); (3) *Natatanging Paksa, Atbp.* (2-3 p.m., Mondays to Fridays); and (4) *Ang Ating Kultura* (3-4 p.m., Mondays to Fridays).

Except for the fourth program which aims to promote traditional cultural forms like old songs (e.g., *Alitaptap* by Tony Santos and his Rondalla, *Ala-ala Kita* and *Habambuhay* by Ruben Tagalog, rondalla music) and to provide cultural information (e.g., about the Tagalog as a cultural group), these programs purvey information on social concerns like health and the environment.

Tuesday episodes of *Sari-Sari Inc.*, hosted by Norma Remo, are devoted entirely to health issues identified from phoned-in and mailed questions/complaints from listeners. A physician-reflexologist explains the pathology of the ailment (e.g., acne, cramps, rheumatism, nausea) in non-technical terms and outlines a mix of home remedies and medical advice. In general, he prescribes four traditional cures for a variety of common disease, namely: (1) *pito-pito* herbal tea (a combination of herbal leaves or seeds of the *banaba* or soursop, mango, *alagaw*, *pandan*, guava, *anis* and *kulantro*); (2) vitamin E cream; (3) castor oil; and (4) reflexology.

On other days, particularly in a section titled *Alam Ba Ninyo*, other social concerns like protection of the environment are discussed. In one episode, the host discussed the recent scientific discovery that azzola, small aquatic ferns used by traditional Filipino farmers for various purposes, can be used to cleanse rivers of toxic waste.

Ate Susan Sa Likod Ninyo, hosted by Susan Layos, has two sections: *Gabay-Unlad* which deals with livelihood issues, and *Kaalaman sa Araw-araw* which discusses health and nutrition, among others. In a feature titled *Ulat Pangkalusugan*, a guest from the Food and Nutrition Research Institute (FBRI) of the Department of Science and Technology (DOST) discusses popular health and nutrition concepts like vitamins and nutritional tips, including simple technologies. The latter include putting leafy vegetables in water, wrapping them in banana leaves, or putting them in a clay jar or a damp *kaing* (basket) covered with a damp sack. Other small-scale technologies for maintaining the freshness of vegetables and fruits without using formalin are discussed in the show.

Natatanging Paksa, Atbp., hosted by Delia Rocha and Minda Castañeda, also focuses on health and home (specifically food preparation) and the environment. Sample topics are avoiding and/or treating side effects of medicines, simple techniques of food preparation, the use of natural insecticides like *kakawate* and *madre de cacao* plants, and the construction of compost pits.

A strong community knowledge component underpins the health and nutrition segments of all three programs. This is apparent in the promotion of traditional technologies and practical remedies for common problems. These functional knowledges constitute a large body of community knowledge and have been maintained by repeated demonstrations of their efficacy which are then shared with others by word of mouth (Doronila 1995).

That these technologies make use of cheap and readily available materials and easy-to-remember methodologies makes them particularly suitable for the ordinary folk who constitute the bulk of the audience of these radio programs. Indeed, it may well be pointed out that what motivates the programs' advocacy of these traditional and popular technologies is a consideration for the economic background of their audience rather than a desire to ventilate these knowledges and integrate them with the dominant literate knowledge system.

The program's main sources of information are published reports from the Department of Health and Department of Science and Technology, and other "official" sources. According to the host of one program, the concern is for publicizing the "right" information or knowledge with some kind of scientific basis.

This insistence on promoting only practical or functional knowledges which have been "validated, tested, and promoted" by the experts may account for the reduction of community knowledge to disparate elements like sayings, songs, historical tidbits, and "food for thought." As purveyed by these radio programs, community knowledge does not seem to be an integrated and whole knowledge system which has developed within the context of community practice. Arguably, the promotion of traditional technologies that have been "validated" by various agencies (e.g., DOST, DOH) in these radio programs may eventually lead to the real integration of literate and community knowledge. It is important, however, to accord equal recognition to both knowledge systems so that their integration will be more meaningful and creative. One way of doing this is to do more research on and to emphasize the long tradition in Philippine communities of the use of such natural insecticides as *kakawate*, for example.

It is also necessary to provide a much more wholistic context for the understanding of traditional technologies and how these have evolved. For example, in the program *Sari-Sari, Inc.* where *pito-pito* and other

traditional concoctions, and reflexology, are promoted, it might be relevant to explain the folk medical philosophy behind these health practices. In one episode, such a context was provided in the form of the guest reflexologist's explanation of wholistic health which assumes the interrelatedness of the physical and spiritual dimensions of the human organism.

The primary advantage of the show's magazine format (a combination of several short segments about various topics interspersed with music, time- and station-checks, and news and public service announcements) over classroom lectures, for instance, is that it sustains listeners' interest without causing information fatigue. The listeners are thus able to better take note of and to remember the procedures and related information the show aims to teach them.

On the other hand, because many topics are taken up in one episode and these are presented in discrete segments, it is possible that these bits of information will seem disjointed or fragmented. A possible modification may be for the show to concentrate on one topic at a time even while various modes of presentation are used (e.g., a forum or panel of resource speakers for one segment, followed by a feature story about the same topic in another segment, with songs or proverbs about or related to the subject matter in between).

The station's and the programs's use of Filipino contributes a great deal to the efficacy of these programs. It is noteworthy that the hosts of all programs explain concepts (e.g., GATT, beta-carotene, Vitamin C) in Filipino, and translate technical terms from English to Filipino.

The station in general, and the programs in particular, do not have concrete evidence that their programs are well-received and are pedagogically effective since they do not conduct studies on audience impact. Some indication of the participatory nature of these shows may be gleaned from the phoned-in questions and letters mailed to the program. However, there is a need to involve people and target communities more not just as listeners but also as sources of information and/or discussants of the various issues tackled in these programs.

Print Component

Materials for the print component come from the Technology and Livelihood Resource Center (TLRC), the Philippine Information Agency (PIA), and the Traditional Medicine Unit of the Department of Health

(TMU-DOH). Three of these are pamphlets on the use of herbal medicine for common illnesses while two others deal with cottage industries like soap-making and vegetable farming. The materials on herbal medicine include TLRC's nine-part module on *Spices and Herbs*; a pamphlet titled *Gabay sa Paggamit ng 10 Halamang Gamot* produced by the TMU-DOH; and a pamphlet titled *Ang Mga Halamang Gamot* prepared by the PIA.

The first is intended to be a viewer's guide to a television episode on the same subject. This is TLRC's school-on-the-air titled *Negosiyete* which aims to develop livelihood skills among people who cannot afford to enroll in short-term courses sponsored by the agency. The module has nine parts (corresponding to nine television episodes on the subject) which all together resemble a lesson plan. The first part introduces the topic and gives examples of plants that are both medicine and spice.

The second part discusses the propagation of the following plants: 1) *lagundi* (*Vitex negundo* L.), 2) *sambong* (*Blumea balsamefera* L.), 3) *yerba buena* (*Mentha cordifolia* L.), and 4) *tsaang gubat* (*Carmona retusa* L.). This module reports a number of scientific researches which have found that: 1) *lagundi* leaves are effective for asthma, fever and phlegm; 2) *sambong* leaves are a diuretic for people who have high blood pressure; 3) *yerba buena* leaves have an analgesic effect against headaches, stomachaches and toothaches; and 4) *tsuang-gubat* leaves relieve stomachaches, diarrhea and gas pains.

The third part of the module focuses on large-scale production of herbal plants. Like the second part, it enumerates the materials and equipment needed for and the twelve steps in field planting. Natural planting methods such as the avoidance of pesticides because these may contaminate the herbs, are endorsed.

Harvesting and preservation methods are outlined in the fourth part. These are relatively easy to remember, as are the instructions for propagating the plants. Also, the materials, such as empty jars and charcoal, are cheap (and may be recycled) and readily available.

The next four parts of the module are allotted to steps in the preparation of ginger lozenges, *lagundi* syrup, *akapulko* ointment, and herbal tea blend. Each section begins with a brief introduction, followed by an enumeration of things and materials needed, and then the procedure. For example, the module for the preparation of *lagundi* syrup first relates that scientists have found that boiled *lagundi* leaves are an

effective cure for asthma, fever and phlegm. It is suggested that *lagundi* is better as a syrup. Ingredients and equipment for preparation are: honey, water, an enamel-lined sauce pan, a knife, some filter paper, a funnel, a chopping board, a stove, a ladle, and empty medicine bottles. The procedure is simple and easy to follow, consisting as it does only of chopping the leaves, boiling 10 tablespoons of these in 4 glasses of water for 50 minutes, straining the mixture, adding honey at a quarter measure of the total amount of *lagundi* extract, boiling the mixture again in an enamel-lined saucepan for 15 minutes or until it thickens, and storing the syrup in appropriately labelled clean medicine bottles.

The concluding section of the module includes instructions for the proper use/application of herbal medicine.

TLRC's school-on-the-air and the modules cater mainly to the D-E group or those who cannot afford to pay the training fee for the regular courses. Authorities or experts on particular technologies, usually from the University of the Philippines (UP) in Los Baños, UP Diliman, the Departments of Science and Technology and Trade and Industry, and private agencies, are invited to act as resource persons.

Each module ends with questions relevant to the lesson for the day.

These questions encourage the module readers (and the *Negosiyete* viewers) to understand the lesson better or to go back to it if they have not fully understood it. These questions also enable TLRC to gauge whether they are reaching their audience since readers are asked to send their answers to TLRC. If the readers have answered all questions correctly for a given module, TLRC sends them a certificate of course completion. According to TLRC, as of 1994, certificates have been given to 33,000 people all over the country.

Also to facilitate comprehension, technical terms (e.g. the two different kinds of cuttings, what a mist bed is) are explained simply and a rationale for each procedure is provided. The module has a conversational tone that seems to address each reader individually. The medium is Filipino. These two factors contribute to the greater understanding of the lessons and assimilation of skills and information among the module users. The illustrations (e.g. herbal plants, mist bed, steps in preparing akapulko ointment) likewise facilitate comprehension.

Gabay sa Paggamit ng 10 Halamang Gamot by the Traditional Medicine Unit of the DOH, like the TLRC module, is arranged into several parts. According to the introductory section, the manual is an

attempt to rediscover traditional cures to common diseases as a first step in making good health more accessible to the masses and to lessen the country's excessive dependence on imported (and expensive) pharmaceuticals.

The manual provides information on propagating, harvesting, preserving/stroing, preparing and administering ten medicinal plants: *lagundi*, *tsaang gubat*, *herba buena*, *sambong*, *niyug-niyogan*, *akapulko*, *bayabas*, *bawang*, *ulasimang bato* and *ampalaya*. The name of the plant is given first: common name first, followed by its scientific name, and then its local names in the various Philippine languages. The information on each plant is given in eight parts: 1) *Pagkilala*, which includes a description of the plant; 2) *Pagtatanim*, which gives information on how to plant it; 3) *Pag-aalaga*, which explains how to take care of it; 4) *Pag-aani at Pag-iimbak*, which provides harvesting and preservation/storage procedures; 5) *Para sa*, which names the diseases/illnesses the plant is effective against; 6) *Paghahanda*, which includes preparation procedures; 7) *Paggamit*, which provides information on proper usage, including the correct dosage for people of different ages; and 8) *Paalala*, which emphasizes important points regarding proper usage/application. Also provided are colored pictures of the plants.

Several important reminders are emphasized, as follows: 1) do not use chemicals to drive away pests and insects to avoid leaving toxic residues in the plants; 2) in cooking medicinal plants, use *palayok* (clay pots) and leave it uncovered while it is boiling; 3) use only the parts of the plants identified in the manual; 4) follow the correct dosage and the methods for preparation; 5) use only one kind of medicinal plant for each illness or symptom; 6) stop using herbal plants if there are allergic reactions; and 7) consult a doctor if there is no change after two to three days of using medicinal plants.

The information provided in *Gabay* is drawn from extensive studies done by the National Integrated Research Program on Medicinal Plants (NIRPROMP), National Science and Development Board, Philippine Council for Health Research and Development (PCHRD), U.P. Herbarium and Traditional Medicine Unit of the Department of Health.

To reach a wide audience, the manual is handy in size, contains attractive illustrations, presents information in simple and concise terms, and uses Filipino as a medium. The manual is available for free. It addresses a widespread need for knowledge about health and illness,

especially information about ready and effective cures. It emphasizes not just skills (i.e. how to use and prepare medicinal plants) and general information (i.e. what kind of medicinal plant can cure a particular illness), but also the value of using locally available medicinal plants. At the same time, there is an attempt to integrate local and traditional health practices with modern health practices such as consulting a medical professional for sound medical advice.

Mga Halamang Gamot, produced by the PIA, lists herbal plants for 17 common diseases/illnesses, and the medicinal plants effective against them. The diseases include falling hair, worms, high blood pressure or hypertension, asthma, fever, poisoning, toothache, diarrhea, itchiness, burns, boil, sprain, arthritis, cuts and wounds, stomachache, cough, and headaches. A brief explanation of the causes and complications of each disease is given.

In another section, 58 herbal plants are named and illustrated, along with the disease they are effective against. Information on preparation and usage is presented in a chart. Preventive measures like a well-balanced diet and exercise are also emphasized.

As with the other two pamphlets, the medium used in *Mga Halamang Gamot* is Filipino, except for technical terms which do not have exact equivalents and are thus retained in English. The production of this manual was made possible through the collaboration of the Department of Science and Technology (DOST), the Bureau of Plant Industry (BPI) of the Department of Agriculture (DA), and an herbalist from UP Diliman.

The manual also promotes other traditional cures. For example, it advises the readers to rub or wash a person with fever with any of the following: warm water, water with vinegar, and water boiled with the leaves of tamarind, *kamyas*, and *balimbing*. It also tells the readers to consult a doctor if, among others, the fever lasts up to three days.

The fourth print material included in this study is a quarterly publication of the PIA titled *Paano?* According to the introduction, *Paano?* was conceptualized in order to help people reduce their daily expenses by teaching them how to produce certain basic necessities like soap, and how to preserve food more effectively. Instructions are provided for both the household and commercial production of these goods. The manual is written in Filipino, and instructions are concise and straightforward. There are also drawings illustrating each procedure.

This manual is a publication of the Creative Services Division of the Philippine Information Agency, with the assistance of the Industrial Technology Institute and the Technology and Livelihood Resource Center.

The fifth set of print materials included in this survey consists of pamphlets on "community science" produced by TLRC in the 70s and 80s to promote some cottage industries. There are nine titles, as follows:

1. *Punla*, a series focusing on the planting of vegetables and other sources of food;
2. *Hain*, a series on the preparation, cooking and preservation/storage of food;
3. *Sikap*, a series on recycling of garbage;
4. *Agap*, a series on the different sources of energy and natural resources;
5. *Alaga*, a series on animal husbandry and poultry-raising;
6. *Biyaya*, a series on fishing and other water resources;
7. *Sibol*, a series on the planting of fruit-bearing trees;
8. *Lunas*, a series on health and treatment of common illnesses; and
9. *Atbp.*, different pamphlets promoting thrift, housekeeping and livelihood.

All of the pamphlets are written in Filipino. Each is an 8-page publication, presented in a way that both youngsters and adults can appreciate and understand..

All of the five sets of print materials discussed above have strong community knowledge components, particularly in their advocacy of technologies familiar to and long practised by Philippine communities. However, as with the radio programs discussed earlier, the recognition accorded these technologies springs in large part from the fairly recent recognition given them by scientists and other specialists. While this scientific validation calls attention to the basic soundness of a good number of traditional practices, not enough recognition is given to the field practitioners (i.e., the farmers and folk healers) whose work first validated them.

The focus of these materials is on enterprise development and livelihood technology. While this is a basic concern of the target audience, there is a need for a more wholistic treatment of this aspect of community

life. For instance, the general lifestyle of target communities should be taken into account when advocating a particular livelihood project. Also, support systems should be provided for the development of a particular enterprise. Collaborative or cooperative forms of participation need to be encouraged more to avoid duplication of production and to make it more responsive to community needs.

Television Component

A number of educational shows on television have community knowledge components. These shows can be classified into two, according to what aspect of community knowledge they emphasize. The first type of show, consisting mostly of children's programs, focuses on values and traditional lore. The second type which consists primarily of livelihood shows, focuses on the technological aspect of community knowledge.

Among the former is the children's program *Batibot* which promotes Filipino indigenous culture by featuring folklore, local heroes, traditional values, and local sights and sounds. The show's mainstays are animal characters derived from folklore and local elders (e.g., *lolos*). There is usually a puppet show featuring the life of a Filipino hero or heroine, whether historical or mythic. Folk literature is celebrated in the form of riddles or *bugtong*, poems or *tulas*, and stories or *kuwentos*. Traditional musical forms are also featured. The show aims to teach children basic literacy and numeracy skills (how to count, for example) in Filipino, and to inculcate traditional Filipino values.

The weekly show *Tsikiting Patrol* features various Philippine localities and publicizes not only their present histories but also townlore. The perspective is historical. Four children serve as the show's hosts. A different locality is featured weekly and the four, singly or together, interview community elders like the town mayor. They visit important town centers including factories and restaurants and interview their owners about local technologies (e.g., shoe-making in Marikina). These interviews are made interesting by the footages of the process being described verbally. Like *Batibot*, the show is conducted in Filipino.

The second type of television program with a community knowledge component includes such livelihood shows as *Negosiyete* (11-11:30 Mondays to Fridays on Channel 7) and *Tele-Aralan ng Kakayahan* (2:30-3:00 Mondays to Fridays on Channel 4). *Negosiyete*, the Technology Livelihood and Research Center's school-on-the-air has the

theme "Habang nabubuhay, nag-aaral." A number of livelihood projects are discussed in the show, including crafts like poster-making and drying and preserving flowers. The show's format is the lecture-demonstration type with the host and a resource person discussing and illustrating the methodology for the project of the day or week. The first part of the show is an introduction, followed by an enumeration of materials required, and then the step-by-step illustration of the methodology. The latter shows the resource person at work with the host asking him/her questions to clarify the procedure and the rationale for each step, and get information about the availability of the materials required.

Tele-aralan is similar in intent and format to *Negosiyete*. But an important difference in *Tele-aralan's* promotion of livelihood projects that utilize local and recycled materials like old newspapers (for a Japanese rock garden). Resource persons are from the Cottage Industry Technology Center (CITC) of the Department of Trade and Industry. Entrepreneurs also serve as resource persons. Success stories are also featured in the show.

Technically speaking, these livelihood shows do not promote indigenous or local technologies in the same way that the print materials discussed earlier do. The focus is on modern technologies and modes of operating businesses, although it may be said that materials are local. Though this is in a sense an integration of the local and traditional with the modern and literate, it replicates the problematic global practice of valuing local communities only as source of raw materials. And while the modern technologies featured are relatively simple, they sometimes require special equipment and skill. Industries being promoted are export-oriented, unlike the skills promoted by the radio programs described above for example which concentrate on household technology and management.

There is an apparent need for a study of how indigenous and literate knowledge systems in Philippine society may be meaningfully integrated. This includes problematizing the effect of mass media technologies on both the shape and the substance of the community knowledge which they ventilate. For example, although television enjoys the advantage of being able to combine image and sound in ways that closely approximate reality, it is not necessarily a better medium (than radio or print) for certain kinds of knowledge. Its technological sophistication entails greater production costs--a fact which makes television more dependent

on advertising which in turn can have an adverse effect on programming. Add to this the fact that, in spite of the development of satellite technology, television still does not reach many far-flung communities due to, among others, the absence of electricity.

For the kind of educational program envisioned by this study, we need to evolve more user-friendly (i.e., inexpensive and uncomplicated, requiring little or no specialized knowledge) technologies. We also need to learn how to use existing technologies in more creative and innovative ways. Two developmental communities provide us interesting models towards operationalizing these two imperatives.

The Case of Inipon and Corona: Mass Media For and By The People

Inipon. Inipon is an agricultural community in Quezon province with eleven (11) people's organizations (e.g., women, fisherfolk, youth, workers) federated into a People's Congress. Next to the Catholic Church, dzJO, a local radio station owned by the Bayanihan Broadcasting Corporation (BBC), is a central institution. With its participatory or community-based broadcasting, it has been able to mobilize the people in a number of important community development projects like campaigning against illegal loggers and protesting human rights abuses.

Like most radio stations, dzJO is an information-oriented station, devoting 69.35% of its total weekly broadcast time to news, public affairs and public service programs, all aired in Filipino. It also has a magazine farm program which provides updates on market prices, farm technology, farm news and weather forecasts. A third program is a forum for young people to discuss issues that concern them.

According to the station's news manager, a former ice cream vendor, the thrust of dzJO programming is 'consciousness-raising' and people's mobilization. Community members are directly involved in broadcast production and program planning. One program particularly remarkable in this respect is *Radio School*, a weekly school-on-the-air started in 1977. Community members are involved in identifying topics/issues for discussion, prioritizing these topics, actual production, evaluation, and reflection. "Listening groups" of 8-25 participants meet weekly to analyze and comment on the issue and the discussion aired by the station. The facilitator and documentor of the group then prepare a

report for submission to the station which will then air the group's comments. After 52 sessions (one year), participants are given certificates of course completion. To date, there are 30 such listening groups in Inipon.

According to Doronila (1995), this participatory broadcasting process is underpinned by the idea that "community broadcasting requires culture sensitivity and humility--willingness to listen and learn from the people (rather than only being listened to), acknowledging the wisdom of the local folk, even the unschooled." In this way, "dzJo illustrates the untapped potentials of radio for functional literacy and continuing education. It offers new hope especially to adults who have repeatedly 'failed' in the traditional 'paper and pencil' approach as even non-literates *can participate in various learning experiences in participatory program planning and production.*" This is true on two levels: (1) in terms of content which in this instance is community knowledge in the broadest sense of the term; and (2) in terms of pedagogy whereby various levels of literacy and numeracy are taught in innovative and participatory ways.

Following Doronila's analysis, the integration of traditional and literate knowledge takes place on several levels. She reports:

"First, by airing all programs in Filipino, traditional and literate knowledge achieve equal status and become available for comment, comparison, criticism and closer analysis by everyone. Power relations are thus altered: between literates and non-literates; between those articulate in Filipino and those articulate in English; between Filipino and English which is viewed as more prestigious; between traditional and literate knowledge.

"Second, by encouraging literate practice (e.g., through letters on the air, written feedback from listening groups participating in the school-on-the-air program, writing of poems, dramas, riddles, folk songs, etc.), traditional knowledge has the possibility of entering the written tradition, and therefore history and the intellectual tradition. At the same time, when people write their hitherto oral knowledge, the possibility of 'holding on' to their knowledge becomes greater, to use, modify, transmit, expand or even discard [it] as they see fit."

Doronila cites as example a letter (in Filipino) sent to the provincial governor by the People's Congress, asking him to take action, with their

participation, against illegal logging and dynamite fishing. These are two anti-environment activities adversely affecting the economic as well as the socio-cultural life of the community. "In this letter, various pertinent local ordinances and Constitutional provisions are cited (perhaps earlier discussed over the radio), as well as related statistical and other information." These constitute the literate knowledge to which the community has access. "But in this same letter, information coming from traditional community knowledge and reported by the people themselves are also included: where the fish lay their eggs, what the fish eat (which are being destroyed by continuous erosion and flooding), kinds and numbers of trees brought down by the floods in the area."

As Doronila points out, "Through literate practice, the two types of knowledge acquire equal status and relevance, both reinforcing the arguments advanced by the letter-writers for their social project which is to put a stop to illegal logging and dynamite fishing."

Corona. Corona is a fifth-class municipality in Rizal province. Like many marginal communities, it is beset by unemployment, overpopulation, drug addiction, and environmental degradation. This last is a special concern for this coastal community. Like Inipon, Corona has a strong people's organization which grew from a confederation of small fishermen which an NGO helped organize and develop. Realizing the need for mass support to arrest the total destruction of Laguna Lake, their main source of livelihood, the confederation expanded its membership to various sectors. Now, their concerns include current national issues such as the regulation of the fishing industry in the Philippines and the transformation of agricultural areas into industrial zones.

Impelled by the desire to achieve total human development and equitable social development, the people's organization encourages participation at all levels, regardless of educational or other qualifications. According to Doronila, "Limited formal education among the members has not posed a hindrance to active participation in the various undertakings of the organization. The present head of the organization's communication program is an elementary school drop-out at Grade 2 who taught himself to read and write in the course of his participation in the organization's activities. Continuing education including functional literacy is integral to the organization's activities although there is no separate literacy program."

Indeed, each organizational activity is structured as a venue for training and developing specific skills that will improve individual lives even as community goals are realized. Leaders and members are trained in organizing, problem-solving, advocacy, and social mobilization. A scholarship program, made possible by linkages with some schools in Metro Manila, can be availed of by students who wish to pursue further studies. There are a number of seminars (e.g., on ecology) and training in specific skills like accounting and book-keeping. There are even art classes for the young people.

An important venue for the acquisition of literacy skills required by the conscientization and mobilization activities of the people's organization, is the community newspaper called *Kalayagan* (meaning "sail") managed by the Research, Education and Development Program (REDP) of the organization. Like radio dzJO in Inipon, this community newspaper is participatory at all levels. "Representatives from each area gather updates and write news or feature stories on events and activities in that area. Even children are encouraged to participate through their illustrations, and the distribution of the newsletter."

To improve their communication skills, the people established linkages with a Manila-based school that taught them publishing technology and related technologies like photography, research, and slide-production. These have enabled the community folk to produce multimedia communication materials that enable them to achieve social projects as well as develop their cultural heritage.

Doronila classifies the communication materials from Corona--all in Filipino--according to level of complexity of content and presentation, thus: 1) photographs and explanations of symbolic compositions of fisherfolk using available materials (e.g., leaves, sticks and stones) done at a workshop; 2) leaflets announcing calls for mass mobilization and participation; 3) the script for a slide presentation on Laguna Lake; 4) several issues of their community newsletter; 5) sample guides for running seminars on various topics; and 6) a primer (with slides) on the fishing industry of the Philippines.

These materials point to some very important considerations in the integration of traditional and literate knowledge. According to Doronila, "Traditional knowledge is found in the choice of symbols, folk metaphors, local information, riddles/sayings, locally produced poems and stories; literate knowledge is found in the technical and historical information and

legal matters." The integration of these two sets of knowledge takes place at several levels.

First, there is the textualization of traditional knowledge in drawings and illustrations, folk metaphors and riddles, and poems and stories. Second is the mix of traditional knowledge and modern knowledge in texts (similar to the letter written by the Inipon folk). Third and perhaps most significant is the process of symbol-formation whereby folk metaphors are adopted by the organization to articulate current realities in the community. These metaphors include:

lawa (lake) for life (*buhay*)

araw (sun) representing *pag-asa* (hope) and *lakas* (energy/strength)

lambat (net) symbolizing *tiyaga* (patience) and also

paghahayuma (community organizing)

sagwan (oar/paddle) for *sulong* (to move forward)

katig (outrigger) for *kabalikat* (network/alliance)

propeller referring to *batayang kalagayan*, *batayang paniniwala*, *batayang pagkilos* (situational guide, basic principle, guidelines)

The adoption of folk metaphors to express new concepts and realities includes as well the formulation of new words and word combinations, or neologisms like: *sama-aralan* (group study), *tala-kaalaman* (literally "note-knowledge" but referring to notebook), *tawid-kaalaman* (literally to cross-life, the word used to refer to subsistence activities); and *kita-ralin* (literally, see-study, the word for illustrated notes or presentations). We quote in full Doronila's semantic analysis of these terms, to wit:

These forms of expression are generally to be found in oral Tagalog (which is the principal base language and the home language of Corona community folk) in which the fisherfolks' traditional knowledge is encoded.

In general, the usual method of translation to English or even to "modern" Filipino to refer to "modern" objects and concepts is to use the English term (e.g., notebook for English or *notbuk* in the re-spelling in Filipino), but one consequence is the loss of the meaning of what the object is for (e.g., a notebook is for written notes of **knowledge**). By coining the new word, *tala-kaalaman*, the exact and essential meaning of

notebook is captured. But this is not all. The term for **notebook** in strict Tagalog translation is *tala-aralan*. if one analyzes this term further, it suggests "notes for study" or "notes that one records from a source," perhaps from an expert or a teacher; in short, *tala-aralan* signifies notes of received knowledge. Instead, the new term used is *tala-kaalaman* (notes on knowledge) which would have a more general meaning than just received knowledge. Aside from this knowledge, it could include, for example, a record of one's own insights, one's own reflections and ideas; in short, this term does not privilege only received knowledge but one's own knowledge as well.

For the relatively modern concept of **subsistence**, the usual method of translation would be again to use the English term (usually written in italics) or the Filipino re-spelling (subsistens), both of which do not convey the meaning of the concept to those not familiar with the definition of the term in the first place. The new word *tawid-buhay* conveys the exact and essential meaning of the concept, while preserving the metaphor, "a bridge to maintain life" which is embedded in the concept of subsistence. This metaphor is not new to Tagalog speakers because there is already a similar and generally used word, *pantawid-gutom* (literally, cross-hunger, to refer to small amounts of food to take the place of a larger or regular meal where this is not available).

According to Doronila, what these terms call attention to is a kind of double translation in which the metaphoric character of the oral language is preserved in its written form. Thus is a "subtle" integration of traditional and literate knowledge realized.

Yet another important quality of the communication materials listed above is their pedagogical effectiveness in raising the levels of literacy of the community members, in deepening the informational load, and in expanding the worldviews of the people through history and geography (by means, for example, of information about neighboring towns and tributaries flowing into and from the Lake). This is made possible by the sequential arrangement of the materials according to increasing levels of difficulty. Thus, "the non-literate organization members have an opportunity to be gradually introduced to literate practice through this sequential presentation, aided by slides and oral narration in the more

complex presentations." In this way, the truth of the site report (quoted by Doronila) is borne out, to wit:

Even limited formal education among some members seems never to have dramatically hindered any undertaking of the organization. In fact, leaders do not consider illiteracy or low educational attainment as a problem. Becoming literate perhaps only happened to be a requirement in order to get things done.

Thus is the dichotomy between form and content, or pedagogy and philosophy, in education work shown to be merely provisional. Where the educational project seeks to be relevant, participatory and empowering for learners, it is not enough to alter only what is taught but also how it is taught.

COMPARATIVE ANALYSIS, CONCLUSIONS AND GENERAL RECOMMENDATIONS

This study has sought to illustrate how community knowledge, which has often been marginalized and misrepresented as backward and dysfunctional knowledge, can be integrated into functional literacy programs in Philippine communities. This project began with the realization that much of the failure of current educational programs to educate and lead our people to progress, has to do with the fact that school knowledge often alienates people from themselves and their communities. Rootless, they are unable to absorb and be nourished by the new values and modes of doing and being. They are unable to grow.

There is a folk adage that says, "*Ang hindi marunong lumingon sa pinanggalingan ay hindi makakarating sa paroroonan.*" In a sense, this explains this study's insistence on going back to the roots of our people's knowledge. Ours is neither a nostalgic nor a solitary journey. Many Filipino scholars now acknowledge the continuing validity of folk and popular worldviews and lifeways. In the second chapter of this study where we present curricular grids integrating indigenous knowledge into conventional subject areas like communication arts, civics and culture, science, and math, we include as well notations by social and natural scientists regarding the sociological and scientific validity of specific practices in specific communities.

Towards a Cross-Cultural Understanding of Community Knowledge

An important organizational principle of the study, as seen in Chapter II, is community type. Following the typology of communities articulated in Learning From Life, we have classified the communities included here according to general lifestyle. This provides a larger context for understanding the dynamics of community life even as the individuality of each community is maintained. It is apparent from the curricular grid for each community that specific cultural practices and

technologies need to be examined in the context of the worldview and general conduct of life in each community. At the same time, a cross-cultural comparison may be made across not only communities of a similar lifestyle but also communities of differing lifestyles but which share conditions of marginality. This is necessary in order to chart a more accurate course towards national development--more accurate because it does not skirt important divergences among cultures and thus erase them from the map.

In a paper titled *Towards Cross-Cultural Knowledge through Cross-Indigenous Methods and Perspectives* (1979), the late Virgilio Enriquez discusses the concern for the articulation of a "universal knowledge" in modern academic disciplines, especially Psychology. Without eschewing the value of "generalizability," Enriquez stresses the need for "cross-indigenous" perspectives and methods for the formulation of a broad knowledge base, or cross-cultural knowledge. This involves affirming specific cultures as sources of knowledge the viability of which must be determined by the people themselves according to the realities which confront them.

Following the model provided by Enriquez, we can make a preliminary analysis of the traditional and popular beliefs and practices in the various Philippine communities in this study and highlight several convergences.

Thread # 1: Folk Spirituality

The first is the belief in mystical forces, including gods and goddesses, spirits, and ghosts. This is immediately apparent not only in the conventionally spiritual areas of community life, like religious practice, but even in such material/technical areas as farming, fishing, and health care where the propitiation of supernatural beings is repeatedly preached and ritually practised. Viewed from the outside and using as frame of reference dominant analytic categories, this spirituality is often equated with superstition. But more discerning scholars suggest alternative analytic paradigms.

In his monograph titled Images of Agriculture: Problems, Issues and Trends in Technology Transfer (1994), Manuel F. Bonifacio cites the predominantly negative reception by many scholars of the fact that Filipino farmers "tend to wait or pray rather than use common sense or technology to solve or curb the problem." This attitude, says Bonifacio,

fails to appreciate the farmers' sensitivity and corresponding pragmatism vis-a-vis the unpredictability of nature. Because of this, farmers are in fact less likely to exploit natural resources as this is seen as tampering with God's design.

Maria F. Mangahas, in a monograph titled Indigenous Coastal Resource Management: The Case of Mataw Fishing in Batanes (1993), provides a similar perspective for understanding the observance of taboo, magic, and ritual in indigenous fishing communities. According to Mangahas, these have to do with a worldview or attitude where the fish are seen not just as food or resources to be exploited for profit but also as part of a natural order of things to which the fisher and his/her actions also belong. Moreover, because it is always uncertain and often risky, fishing is perceived as a sensitive negotiation with nature.

Michael L. Tan interprets mystical theories of illness causation in Philippine communities along the same vein. In Usug, Kulam, Pasma: Traditional Concepts of Health and Illness in the Philippines (1987), Tan includes among such theories contagion and pollution, mystical retribution, fate, and soul loss. He notes that these are not entirely metaphysical categories because "they have an inner logic based on or reflective of material realities, particularly in the social sphere." For example, notions of contagion and mystical retribution are underpinned by a recognition of the interactive relations among members of the same community and of continuity among relationships. Thus, "strong elements of social control appear in these theories, advocating conformity to social norms." In the case of beliefs in fate, or fatalism as it is pejoratively referred to, Tan cites various studies by Filipino scholars that recuperate the *bahala na* attitude as one which strengthens individuals to cope with adversity and which in fact serves as impetus for them to take full responsibility for their actions, no matter how uncertain the outcome.

In fine, the belief in the mystical governing a number of practices in various Philippine communities points to constructive values and modes of behavior.

Thread # 2: Ecological Balance

A second common thread that runs through many beliefs and practices across the communities included in this study is their appreciation of nature as a complex system which must maintain its

equilibrium at all times. As mentioned above, this concern for ecological balance is often tied up with the belief in mystical forces. In farming and fishing activities, for example, there are a number of rituals advocating sacrifice or sharing with those less fortunate of part of the harvest in the belief that doing so will assure the farmer or fisherman of abundance. Moreover, traditional farming and fishing methods (e.g., the Mangyan mode of swidden agriculture and the Sama mode of shark-hunting) emphasize the need to hew closely to natural rhythms as marked by the seasons, for example. Coupled with the use of traditional technology, this prevents the excessive utilization of natural resources as these are given time to replenish themselves.

The current concern for sustainable development has in fact led many agricultural scientists to review traditional technologies and methods. These include an indigenous soil-conservation technique in Matalom, Leyte called *cemento-cemento* or *kahun-kahun* (see Balina et al. 1992); farmers' indigenous health practices for carabaos in Daro, Jaro, Leyte (see Gabunada et.al. 1992); an indigenous rice seedling establishment method called *dalaksi/dapuksi* in Låguna de Bay (see Vega and Villancio 1992); the indigenous use of *hapi-hapi* as a method of controlling imperata and restoring soil fertility of sloping cogonal areas (see dela Rosa and Tabada 1989); the Hanunoo farm maintenance and seed storage system (see Castro 1992); and various types of swidden agriculture in various Philippine communities (see Pollisco 1992). These are only a few of the studies included in the 1992 Workshop on Indigenous Knowledge and which have since been added to by a growing number of agricultural experts.

Traditional agricultural practices are the product of farmers' long years of keen observation of the workings of nature, especially those that pertain to weather and climate. Thus, it is not surprising that ethnoastronomy, for example, is one of the areas covered in this study. Dante L. Ambrosio, in his paper titled *Astronomiya sa Pilipinas: Mga Bituin, Mga Alamat* (in *Diliman Review* 42:2 1995), defines ethnoastronomy as the tradition of astronomy, including various cognitive maps of the natural environment, indigenous to a community. The existence of an array of names of constellations and of legends and folktales about these constellations affirms the close attention ordinary community folk accord this aspect of their environment.

Indigenous health practices likewise embody a strong awareness of nature. Among traditional health practices can be seen the ascription of illness to what Tan calls "naturalistic" causes like natural phenomena, diet, humoral pathology, and organic processes. The belief in natural phenomena like earthquakes and eclipses as causes of illness calls attention not to the suggestibility of the folk mind (as commonly thought) but to his/her strong awareness of the systemic character of the environment, including human life. Thus, there are many proscriptions against violating natural categories like putting unlike things together, and advice about coping with weather and seasonal changes. Theories about dietary factors in health and illness, on the other hand, revolve around the aphorism "you are what you eat." This involves not only the identification of which foods are beneficial to the human body and which ones are harmful, but also injunctions about how to eat or behave in front of food. Generally, excessive eating is not encouraged and wasting food is frowned upon. Hence, the prevention of exploitation of food resources.

Finally, theories revolving around humoral pathology emphasize the maintenance of the balance of forces (hot and cold, wet and dry) both inside and outside the human body. According to Tan, these theories "are clearly associated with concepts of 'balance' in nature" as shown by congruencies in planting practises requiring people with "cool palms" to plant the seedlings, house-building rituals involving the careful calendaring of construction on lucky days and not unlucky days which are "mapasu" or hot, and health practices that avoid compounding the unnatural heat of the body (as a result of strenuous physical activity) for example, by ingesting "hot" foods. Like farming and fishing practices which emphasize natural balance, these health practices stress moderation.

Thread # 3: Shared Inner Self

A third common principle that underpins many folk and popular practices is the affirmation of strong social ties, including those binding the family, friends, neighbors, and larger socio-political groupings. A brief survey of the various types of social organizations in the communities included in this study will show a marked emphasis on the communal (e.g., the Maranao *agama*, the Sarna *komkoman* and *pehak*, and the extended family system of lowland Christian groups) whose wholeness is perceived to be a product of the assignment of specific roles to all members of the community as well as their internalization of common

moral and behavioral codes. This has been discussed in many a sociological study and has been ascribed to what Frank Lynch has labelled smooth interpersonal relations (SIR) "which is purportedly acquired and preserved principally by *pakikisama*, euphemism and the use of a go-between." Virgilio Enriquez and other proponents of Sikolohiyang Pilipino dispute this formulation, citing the more cogent concept of shared inner self (SIS)--embodied in the word *pakikipagkapwa*--which is rooted in the deeper concept of *kapwa* and *dangal*. According to Enriquez (1992), "while SIR is often referred to as simply a means of avoiding conflict, SIS goes further as it stems from collective values shared with the whole of humanity and the deep respect for the dignity and inherent worth of the human being."

Enriquez explains *pakikipagkapwa*--which in his view is central to Filipino social behavior--as a complex socio-psychological and moral concept which includes/subsumes and/or is subsumed by a number of other concepts shared by the different communities included in this study. One is *kagandahang-loob* or shared inner nobility manifested in acts of generosity and graciousness (or more simply, largeness of spirit). Another is *karangalan* which refers to honor and self-respect not contingent upon wealth or status. According to Dr. Enriquez, this refers to "the inner strength of a person that allows him [her] to face the rich and the mighty with confidence and resolve" and it is this which governs much of Filipino social behavior rather than *hiya* which refers to shame or propriety.

A third related concept is *kalayaan* which is freedom to be and to do "not determined by the parameters afforded by law but by necessity." A fourth concept is *katarungan* or social justice which goes beyond legal rectitude. According to Enriquez, because the evolution of the law in the Philippines has been by and large determined by concepts of justice and social order imposed by foreign colonizers, "the first element of the Filipino concept of *katarungan* is an indictment that the law is not always just." Other elements are a recognition of *karapatan* or right, *katotohanan* or truth, and *katwiran* or reason.

Once *katarungan* based on *katotohanan* and *katwiran* is realized, *pagkakaisa* or consensual unity comes about. For Enriquez, *pagkakaisa* is the highest level of interpersonal interaction and is the full realization of *pakikipagkapwa*. It is realized by means of dialogue where all parties involved in a situation are heard. A compromise, or amicable settlement, is thus arrived at. Ideally, amicable settlements should be forged amid

conditions of equity and fairness. But because of the unequal distribution of power in many Filipino communities (arising for example from the class structure), and the value for *kapayapaan* or peace, settlements often do not really redress the injustice committed against one party. In this sense, *pagkakaisa* as defined above remains an ideal. "The lower levels of interaction, *pakikisama* and *pakikibagay*, become the compromise norm."

This summary of Enriquez' exegesis on shared inner self or *pakikipagkapwa* as the core value in Filipino social interaction finds ample proof in the data provided about many Filipino communities in this study. More importantly, Enriquez's analysis serves as a model for understanding patterns of individual and social behavior in ways that do not reductively label them as constitutive of the "flawed" or "damaged" character of Filipino culture. It is not the study's goal to paint an idyllic portrait of folk and popular knowledge systems. But we do wish to underscore the study's bias in favor of a re-visioning of these knowledges from the point of view of the "indigenous." We need to understand them using as framework the patterns of community life which have given rise to these knowledges and to which they give meaning.

Some Pedagogical Imperatives

This shift in perspective necessitates pedagogical changes as well. This is axiomatic. The inclusion of community knowledge in current curricula will result in structural and therefore, pedagogical alterations. For one thing, the parameters of the conventional subject areas are expanded and the demarcating lines are erased by the need to be more integrative in one's approach to these knowledges. To insist on teaching specific beliefs and practices as isolate fragments, complete unto themselves, and only in the context of one subject area, is folly.

Secondly, there is a need to adopt more participative learning strategies. In fact, whether learners' participation is affirmed or not, it will naturally come about because the knowledge being studied is familiar to the learners themselves and in a sense, they are the experts on this knowledge. Instead of feeling defensive, the teacher should try to actively elicit her students' responses to the subject matter. In this way, the learning process becomes two-way, or dialogic and dynamic.

In Chapter III, we documented some mass media techniques for evolving more participative pedagogies. Its broad reach and its participatory potentials recommend the mass media approach to

educational projects. From our discussion in the preceding chapter, it is clear that for this potential to be realized, the language of mass media programs promoting community knowledge must be Filipino or the local language, the language of the learners. The first reason for this is that knowledge is best rendered in the language in which it is encoded because much of its meaning derives from the language itself. Secondly, to use the language of the learners is to empower them to lay claim to the knowledge not only by understanding it but also by critiquing it if necessary.

(That this study was conducted and written primarily in English is in fact one of its limitations--a limitation brought about by the fact that our sources were also written in English. But we remain convinced that no matter how expert the social scientist or ethnographer is in evoking and in encoding the data, because the data is translated from the language in which it acquires not only form but also meaning, some substantive alteration will have taken place.)

The ability to critique or to constructively evaluate something, does not come easy, even where the subject matter is familiar. Critical-mindedness has to be fostered in people by, among others, providing them with specific frames of reference within which to view the subject matter. This means contextualizing community knowledge (1) in the past or in the traditions which gave rise to it, as well as (2) in the present or in the current realities that beset a community.

In her analysis of the dynamics of community knowledge in Inipon and Corona (see Chapter III of this study), Doronila explicitly identifies the latter as the engagement of the community in social projects for which they need to harness their knowledge, both oral/traditional and literate.

According to Doronila, given the dominance of the written word (or of the literate tradition), the orality of much of people's knowledge has precluded or limited the ability of people to harness it, to take control of it for self- and community-empowerment. A cursory look at the attempts (including this study) to record oral traditions with their "immediacy and particularizing context in the form of persons involved in the practice, and the time and place in which it is done" reveals that such attempts have resulted in the objectification, decontextualization or abstraction, and thus fragmentation of these traditions. But this need not always be the case.

As the Inipon and Corona examples show, traditional knowledge can be successfully integrated with literate knowledge, subject to certain conditions, including the use of their own language. Also, the inscription

of traditional knowledge can prove to be advantageous in the sense that it is an opportunity for people to hold on to their own knowledge, for them "to use, modify, transmit, expand or even discard as they see fit." The value of recording oral traditions finds ample proof in the existing records of oral literatures which are today threatened with extinction as the bards and chanters die without heirs. But clearly, for these literatures to preserve their resonating power, there is a need to depart from literary conventions (e.g., formal conciseness and coherence) and adopt some of the conventions of orality. It is possible to combine both traditional and literate knowledge in new forms, using new word-combinations to express new concepts and incorporating the characteristics of the oral expression into the written mode.

One other lesson we learn from the Inipon and Corona experience is the need to adopt/develop modes of literate production that rely on technologies which are available and familiar to the people themselves. The use of highly sophisticated technology, or technology requiring very specialized skills, should be avoided. At the moment, in Philippine marginal communities, radio seems to be the most accessible of media. But given the insertion of radio companies in capitalist systems, it might be difficult to harness this medium for educational purposes.

There is a need to develop indigenous mass media or forms of mass communication. In terms of print, for example, perhaps indigenous printing presses using local materials and technologies may be developed, as conventional equipment cost so much. Poster-making can be encouraged. Pedagogically, posters are very effective as the interplay of text and image stimulates equally creative responses. Also, it is a collaborative endeavor that can generate a lot of discussion and exercise a number of literacy skills like identifying salient points, arranging these in logical/persuasive order, establishing relationships, and the like.

Generally, teaching/learning methodologies for the curricula presented in this study need to be particularly creative and interactive. Clearly, the traditional lecture mode will be most inappropriate to the kind of classroom we envision. Lecturing presupposes that the source of authority and knowledge is the teacher. How can this be so where the subject matter is the people's knowledge? Clearly, the teacher has to play the role of facilitator more than that of oracle or priest.

Moreover, the validation of community knowledge cannot be confined to the classroom. The walls between the classrooms and other

areas of community life will have to crumble. For is community knowledge not community life in the reflective mode? And so field trips to the rice paddies, seashores, and kitchens, to name only a few areas, will have to be made. Demonstrations by members (and non-members) of the class skilled in certain technologies may be conducted. Roundtable discussions or focused group discussions can be organized. And the latter need not be inside the conventional classroom, during hours inconvenient for adult learners with livelihoods to take care of. There can be discussions on-the-air which everyone can tune in to while working and then small group discussions at a later time. Each group's response to the discussion on-the-air can then be the basis for the subsequent discussions on-the-air.

As demonstrated in Inipon and Corona, this last method increases by no small measure access to education in that even the conventionally illiterate can participate. At the same time, people are encouraged to develop their literacy skills as their interest in the subject matter and in being able to participate more actively is perked. And because the emphasis is on collaborative rather than individual learning, the learning process becomes easier. Also, the topics for discussion are necessarily issues current in the community (e.g., environmental concerns)--current because they concern everyone and because they are central to community life and progress.

Redefining Literacy, Knowledge and Development

And so we come full circle. Initially in this study we put forward the commonly held view that being educated, in the specific sense of being functionally literate, automatically leads to development. Put more finely, this equation means that people "should be able to read and write to be able to fully realize their potential as individuals and as members of their community" (Han 1993). But this is not axiomatic. The relationship between literacy, knowledge and development is not neutral, linear, and transparent.

We have called attention here to the limits of defining knowledge and literacy only in certain ways and not in others. In the case of literacy, for example, Benjamin Han in his site report on the Sama of Bohel Umos for Learning From Life, argues that if literacy meant simply to read and write, and that is all that is required for community development, then how do we account for the fact that the Sama which remains primarily an

oral culture, has not only survived but also flourished for centuries, adapting to the new ways of the world without losing any of the old values which hold the community together? This is also true of the mountain tribes in Sagada whose basically oral culture is on all counts highly sophisticated and complex, as illustrated so graphically by the centuries-old rice terraces, their large body of folk literature, and their well-organized socio-political and economic structures. At the other extreme, so many Philippine communities remain impoverished and underdeveloped in spite of the existence of schools and the literacy of a significant percentage of the population (e.g., the Waray of Samar, the Bicolano of Sorsogon, the Pinatubo Aetas).

From the foregoing it is clear that knowledge and literacy are not in themselves empowering. And there is no one model for development. A complex of social meanings and practices related to these concepts must be accounted for. For one, while UNESCO has defined literacy as "a continuum of abilities and concepts within which it is possible to locate individuals according to the same generally accepted set of standards or levels" (in Doronila 1995), it is now becoming increasingly apparent to educators all over the world that there can be "no single measure" for literacy. Kassam and Masisi (1976, quoted in Doronila 1995) point out that reducing functional literacy to a technical conception "oversimplifies and distorts social reality by ignoring the dynamics and complexities of the human context and the intersubjective world."

In No Single Measure (1989, cited in Doronila 1995), a study of literacy in Australia, Rosie Wickert "concludes that literacy assessment should not only identify what people can't do but also what they can do or need to do for specific purposes and contexts." In particular, she cites the results of her nationwide survey of Australian literacy teachers, tutors and organizers which indicate 1) the inappropriateness, even impossibility, of identifying a standard upper or lower limit of literacy ability; and 2) the need to describe literacy ability in terms of purposeful tasks within a particular society, or according to the social context in which literacy occurs. Indeed, even Webster's dictionary (1988) includes as meanings of the word *literate* "having extensive knowledge, learning or culture," and "knowledgeable or capable, e.g., economically literate."

Broadly defined, **knowledge** is "the certainty that phenomena are real and that they possess specific characteristics." Thus, "knowledge includes not only factual statements but [also] practices, norms, attitudes,

values, beliefs and general perspectives or world views." (Doronila 1995) Such a definition does not make a distinction between oral and/or traditional knowledge and literate and/or modern (i.e., technical) knowledge. As Doronila points out (in the Congressional Oversight Committee Report on Education and Development 1995), in ideal circumstances, there should be no conflicting relations between these two sets of knowledge, as the first will simply be rendered in written form by the introduction of a script or alphabet. But this has clearly not been the case in the Philippine experience. To quote Doronila,

...the forcible introduction during colonization of a new literate tradition [in a foreign language]...has developed a form of literacy as well as literate and educational practice which negates and alienates us from our traditional knowledge, with value consequences on our conceptions of ourselves, of the world, of our place in it, and of the kinds of skills and competencies developed in the population. This is particularly true of the poor and less educated who have never truly mastered the new language(s) and the knowledge which it encodes.

Doronila asserts that the shallow roots of our literate knowledge in schools explains why the capacity for reflective, creative and abstract thought is developed, if at all, only after long years of formal schooling. She says, "In the absence of the rootedness of our knowledge in our history and oral tradition, it becomes necessary to acquire ever higher levels of formal education to make up in 'height' what we lack in depth."

And yet, as much of our data in this study show, our people do have a long tradition of knowledge that has worked for them and enabled their communities to thrive in ways that so-called modern knowledge has not enabled them to do, precisely because modern knowledge has proven to be inaccessible to them in more ways than one. We only have to recover traditional knowledge and see whether it is still viable for our present realities. To do this, we have to first of all learn to recognize the knowers. We have to learn to look beyond the conventional titles of and qualifications for being learned and reestablish ties with the wise men and women of our communities, with the common folk whose claim to wisdom is experience and close attention to the lessons of experience. And so we count among them the farmer, the fisherfolk, the women, even children, and the "unlettered."

There is much that we can learn from them, as many of our so-called experts are finally beginning to admit. Speaking of farmers as knowers, for example, Bonifacio explains the renewed interest in what Filipino farmers know as a result of the realization that farmers, though often formally unschooled, are experts whose agricultural knowledge is borne of direct experience and rational methodologies developed over a long period. They are not "passive recipients of technologies" but "initiators of technology." Furthermore, says Dr. Bonifacio,

To fully utilize the experiences of farmers in hastening their adoption of new technology, their expertise must not be taken in isolation. Rather, they must be pooled. In addition, the historical context of these experiences must be established because understanding traditional farming practices is only possible when these are properly contextualized.

In the sense only of rendering our traditional knowledge in ways that can enable us to reevaluate them more systematically, with a deeper sense of the context in which they function, it is perhaps necessary to record them in written forms, as we have done in this study. Certainly, for this knowledge to be granted the recognition it so richly deserves from educators and scholars, it needs to enter the literate tradition. At the same time, for the literate tradition to do folk and popular knowledge justice, we need to adopt new literacy practices--i.e., new ways of thinking and *doing research: of asking questions, formulating research methodologies, and interpreting data.*

Briefly put, scholars and educators need to be more self-reflexive if they wish to learn from the wisdom of the people. We need to re-examine our assumptions about learning and to adopt new, more learner-centered (or people-centered) learning methodologies. The Western paradigms we are so steeped in will not see us through in this project to reclaim our cultural heritage as Filipinos, as more and more of our social scientists are discovering to their chagrin. In the words of the editors of Pamamaraan: Indigenous Knowledge and Evolving Research Paradigms (1994), "It is only when the Filipino *mananaliksik* is able to reach the level of *pakikiisa* (with the people) [that s/he is able to] gain access to and is entrusted by the *tao* with our *katutubong kaalaman*."

Only by rediscovering our people's knowledge through genuine dialogue where both researcher and subject, teacher and student, are

equals, will the reconstruction and redefinition of literacy, knowledge and education for and by the people, become a reality.

5

SPECIFIC RECOMMENDATIONS

In this chapter we present specific recommendations for the development of a non-formal literacy program rooted in community or people's knowledge. In addition to indicating how the curricular grids included in the study may be used, we include suggestions for the development of support systems for the integration of the various forms of knowledge in the community as basis not only of educational projects but also of social projects that aim for total community development.

We affirm the general principles that underpin this study, as follows:

1. Literacy, at its best, is not just a technological instrument but cultural action for liberation from conditions that stifle both individual and communal growth.
2. Relevant education, therefore, is education that is concerned with the people's needs, realities and aspirations as well as their knowledge of how these can best be met.
3. Such an educational process must be genuinely participative at all levels, from the determination of project goals, to the formulation of lesson plans or modules, to the conduct of classes.

Given these basic principles, we recommend the following:

1.0 Validation of curricular grids included in this study by the people themselves/Development of curriculum grid per community where the Philippine Nonformal Education Project will be implemented based on data provided by people themselves.

1.1 Objectives:

- 1.1.1 To determine the accuracy of the data
- 1.1.2 To update the data and make it more relevant to current realities in the community

- 1.1.3 To help participants determine which forms and aspects of community knowledge they wish to focus on, given their needs and aspirations
- 1.2 Procedure/Methodology: Roundtable discussion
- 1.3 Participants:
 - 1.3.1 Curriculum planners
 - 1.3.2 Teachers and program facilitators
 - 1.3.3 "Wise" men and women of the community (e.g., *baylans*, healers)
 - 1.3.4 Interested community folk representing different occupations
 - 1.3.5 Concerned scientists (who will provide the scientific notes to specific practices)
- 1.4 Output: Updated curricular grid
New curriculum grid per community
- 2.0 Use of the grids in the identification of educational goals and specific literacy-numeracy skills to be developed
 - 2.1 Objectives:
 - 2.1.1 To ensure the integration of educational goals with community needs and aspirations
 - 2.1.2 To accurately identify skills which the community folk need to develop to realize their educational and community development objectives
 - 2.2 Procedure/Methodology: Focused group discussion; interviews; participant-observation
 - 2.3 Participants:
 - 2.3.1 Curriculum planners
 - 2.3.2 Teachers or program administrators
 - 2.3.3 Community leaders (representing all areas of community life)
 - 2.4 Output: Taxonomies of literacy-numeracy skills for every level (i.e., basic literacy, adult literacy)

3.0 Use of the grids in the formulation of modules or lesson plans for each level (basic literacy, adult literacy, self-learning), with the help of the people

3.1 Objectives:

- 3.1.1 To prepare specific modules integrating community knowledge and literacy skills needed in community life
- 3.1.2 To involve the participants in the development of lesson plans as part of the educational exercise: i.e., this is one literacy skill they can develop so that they can ensure that lessons are relevant to them and their community development goals

3.2 Procedure/Methodology: Focused group discussion; workshop

3.3 Participants:

- 3.3.1 Curriculum planners
- 3.3.2 Teachers (Users of the lesson plans)
- 3.3.3 Community leaders who will participate in the literacy program

4.0 Adoption of participative pedagogical methods

4.1 Objective:

- 4.1.1 To ensure that the delivery of lessons as designed will involve the participants in all areas
- 4.1.2 To maximize the beneficial results of the literacy program by adopting learner-centered strategies

4.2 Suggested pedagogical strategies:

- 4.2.1 Use of local language
- 4.2.2 Use of mass media, both conventional and indigenous, in the production process of which learners or participants in the literacy programs will share
- 4.2.3 Use of collaborative learning methodologies like workshops and discussion groups
- 4.2.4 Experimentation with traditional literary forms for the expression of current realities

- 4.2.5 Getting out of the conventional classroom into the rice fields, kitchens, wet markets, etc.

5.0 Preservation and systematization of folk knowledge by means of participatory research with the people themselves

5.1 Objectives:

- 5.1.1. To strengthen people's awareness of the rootedness of their knowledge
- 5.1.2 To enable people to take pride in their own culture
- 5.1.2 To learn from and adopt folk technologies to meet present needs without exhausting or exploiting resources (sustainable resource use and management)

5.2 Suggested activities:

- 5.2.1 Archival work
- 5.2.2 Interviews with and codification (with their consent and approval) of the knowledge of wise persons in the community, including *baylans*, healers, epic chanters or bards
- 5.2.3 Codification (in the local language) by the people themselves of their beliefs, values, and practices for their own use and that of their children and grandchildren in school
- 5.2.4 Establishment of "cultural centers" (in each community) organized, managed and used by the people themselves; such centers may include libraries and museums as well as training centers where weavers, for example, can teach children their art.

WORKS CITED

- Acuña, Jasmin E. et. al. 1993. *Towards a new paradigm for science and mathematics* (and other articles). In EF CURRICULUM JOURNAL, April-June.
- Ambrosio, Dante. L. 1995. *Astronomiya sa Pilipinas: mga bituin, mga alamat*. In DILIMAN REVIEW 42: 2.
- Bonifacio, Manuel F. 1994. IMAGES OF AGRICULTURE: PROBLEMS, ISSUES AND TRENDS IN TECHNOLOGY TRANSFER. U.P. Department of Sociology and Philippine Council for Agriculture, Forestry, and Natural Resource Research and Development, Los Baños, Laguna.
- Braid, Florangel. 1993. *Multi-media channels: a megatrend in education 2000*. In PROCEEDINGS OF THE NATIONAL SEMINAR ON ENHANCING QUALITY EDUCATION THROUGH MULTI-MEDIA APPROACH. At the Philippine Social Science Center, Diliman, Quezon City.
- Doronila, Ma. Luisa C. 1991. *A critique of development education among Philippine NGOs*. In EF CURRICULUM JOURNAL April-September.
- _____ and Acuña, Jasmin E. 1994. LEARNING FROM LIFE: AN ETHNOGRAPHIC STUDY OF FUNCTIONAL LITERACY IN FOURTEEN PHILIPPINE COMMUNITIES. Quezon City: Department of Education, Culture and Sports Bureau of Nonformal Education and UP Education Research Program.
- _____. 1995. CONTEXTS, CONSTRAINTS AND POSSIBILITIES OF FUNCTIONAL LITERACY IN MARGINAL PHILIPPINE COMMUNITIES. Hamburg: UNESCO Institute of Education.
- _____. 1985. In de Dios, Emmanuel, ed. IF WE'RE SO SMART, WHY ARE WE NOT RICH: ESSAYS ON EDUCATION AND ECONOMIC SUCCESS. Congressional Oversight Committee Report on Education and Development. (In press).
- Enriquez, Virgilio. 1979. *Towards cross-cultural knowledge through cross-indigenous methods and perspectives*. Reprinted in SIKOLOHIYANG PILIPINO: TEORYA, METODO, GAMIT. Edited by Rogelia Pe-Pua.

-
- _____. 1992. *Kapwa and struggle for justice, freedom and dignity*. In FROM COLONIAL TO LIBERATION PSYCHOLOGY: THE PHILIPPINE EXPERIENCE. Quezon City: University of the Philippines Press.
- Eranista, Jojo et. al. 1991. *An education program for the Agtas by the Agtas of Heneral Nakar, Quezon Province*. In EF CURRICULUM JOURNAL January-March.
- Frankenstein, Marilyn and Arthur Powell. 1994. *Towards liberatory mathematics: Paolo Freire's epistemology and ethnomathematics*. In POLITICS OF LIBERATION: PATHS FROM FREIRE. Edited by Peter McLaren and Colin Lankshear. New York and London: Routledge.
- Han, Benjamin. 1993. *Site report for Bohoh Umos, Tawi-Tawi*. For LEARNING FROM LIFE: AN ETHNOGRAPHIC STUDY OF FUNCTIONAL LITERACY IN FOURTEEN PHILIPPINE COMMUNITIES. Edited by Doronila and Acuña.
- Mangahas, Maria. 1993. INDIGENOUS COASTAL RESOURCE MANAGEMENT: THE CASE OF MATAW FISHING IN BATANES. U.P. Center for Integrative and Development Studies.
- Obusan, Teresita B. and Angelina R. Enriquez, eds. 1994. PAMAMARAAN: INDIGENOUS KNOWLEDGE AND EVOLVING RESEARCH PARADIGMS. Quezon City: University of the Philippines Asian Center.
- Parajuli, Pramod. 1990. *Politics of knowledge: models of development and literacy*. In PROSPECTS Vol XX, No. 3.
- Pe-Pua, Rogelia, ed. 1989. SIKOLOHIYANG PILIPINO: TEORYA, METODO, GAMIT. Quezon City: University of the Philippines Press.
- PROCEEDINGS OF THE 1992 WORKSHOP ON INDIGENOUS KNOWLEDGE AND SUSTAINABLE DEVELOPMENT IN THE PHILIPPINES. Silang, Cavite: International Institute of Rural Reconstruction.
- Tan, Michael L. 1987. USUG, KULAM, PASMA: TRADITIONAL CONCEPTS OF HEALTH AND ILLNESS IN THE PHILIPPINES. Quezon City: Alay Kapwa Kilusang Pangkalusugan (AKAP).

Tiamson, Alfredo, ed. 1980. PROCEEDINGS OF THE FOURTH NATIONAL FOLKLORE CONGRESS.

Wignaraja, Ponna. 1991. Towards praxis and participatory development. In PARTICIPATORY DEVELOPMENT: LEARNING FROM SOUTHEAST ASIA. Edited by Wignaraja et al. Tokyo: United Nations University Press.

LIST OF ETHNOGRAPHIC SOURCES

- Abdulla, Norma Abubakar. 1989. THE FOOD CULTURE OF THE TAUSUG. Manila: CEU Research and Development Center.
- Albon, Bella. 1973. FOOD AND CULTURE: A SYSTEM OF PRODUCTION AND CONSUMPTION IN A BISAYAN VILLAGE. (Unpublished Thesis.)
- Aliposa, Teresito A. 1986. RESETTLED TBOLI RESPONSES TO INTEGRATION PROGRAMS. (Unpublished Dissertation.)
- Allison, Karen J. 1984. THE SAMAL OF TAWI-TAWI: A VIEW FROM THE ISLANDS. (Publication No. 15). Dallas: International Museum of Cultures.
- Anima, Nid. 1985. HEADHUNTING TRIBES OF THE PHILIPPINES. Quezon City: Cultural Foundation for Asia.
- Arens, Richard and Gregorio Luangco. 1982. FOLK PRACTICES AND BELIEFS OF LEYTE AND SAMAR. Tacloban City: Divine Word University Publications.
- Banta, Luisa. 1985. CHANGES IN THE SOCIO-CULTURAL LIFE OF THE ALANGAN MANGYAN: A COMPARISON OF THE TRADITIONAL ALANGAN AND THE MARGINAL ALANGAN IN MINDORO. (Unpublished Dissertation.)
- Barba, Elena. A STUDY OF THE SOCIO-ECONOMIC AND EDUCATIONAL SITUATION OF THE MARANAOS.
- Bedell, Leslie. 1987. THE TIGWAHANON: AN ETHNOGRAPHY OF THEIR ACCULTURATION.
- Borja, Cleotilde. 1972. THE LIFE CYCLE OF THE PAMPANGOS THROUGH FOLK BELIEFS. (Unpublished Thesis.)
- Botengan, Kate Chollipas. 1976. BONTOC LIFEWAYS: A STUDY IN EDUCATION AND CULTURE. Manila: CEU Research and Development Center.
- Busterillos, Nena. FOOD MANAGEMENT PRACTICES OF HOMEMAKERS IN THE RURAL AREA. (Unpublished Thesis.)
- Cabotaje, Esther Manuel. 1976. FOOD AND PHILIPPINE CULTURE. Manila: Research and Development Center.

- Canieda, Rose, *The Concept of Illness*. Mamitu, Saber, *Magic and Folk Medicine*. Dirampatan, Petri, *The Making of Pamomolong*. Tiamzon, Alfredo, *Folk Medicine Bibliography*. 1979. (Data Papers No. 3, Ethnographic Series.) PAPERS IN MINDANAO ETHNOGRAPHY. An Occasional Publication of the University Research Center, MSU, Marawi City.
- Casiño, Eric S. 1976. THE JAMA MAPUN: A CHANGING SAMAL SOCIETY IN THE SOUTHERN PHILIPPINES. Quezon City: Ateneo de Manila University Press.
- Castañeda-Quimpo, Catherine. 1990. THE KALINGA DIET AND TRADITIONAL FOOD BELIEFS OF PREGNANT AND LACTATING WOMEN: AN ETHNOGRAPHY. (Unpublished Dissertation.)
- Cawed, Carmencita. 1972. THE CULTURE OF BONTOC IGOROT. Manila: MCS Enterprises, Inc.
- Chanco, Martha Carmen Flor. 1980. FEAST AND RITUAL AMONG THE KARAO OF EASTERN BENGUET. (Unpublished Thesis.)
- Coseteng, Alicia M.L. and Gemma A. Nemenzo. 1975. FOLK MEDIA IN THE PHILIPPINES. Quezon City: University of the Philippines Press.
- Dalisay, Soledad. 1990. FOOD CONCEPTS AND PRACTICES DURING PREGNANCY, PUERPERIUM AND LACTATION IN TWO FISHING VILLAGES. (Unpublished Thesis.)
- Demetrio, Francisco R., SJ. 1970. DICTIONARY OF PHILIPPINE FOLK BELIEFS AND CUSTOMS. Cagayan de Oro City: Xavier University.
- _____. 1991. ENCYCLOPEDIA OF PHILIPPINE FOLK BELIEFS AND CUSTOMS, VOLUMES I AND II. (Revised Edition) Cagayan de Oro City: Xavier University.
- Dizon, Jesus A. 1973. THE HILOT IN ORIENTAL MINDORO.
- Dumont, Jean-Paul. 1992. VISAYAN VIGNETTES: ETHNOGRAPHIC TRACES OF A PHILIPPINE ISLAND. Quezon City: Ateneo de Manila University Press.

- Estacio, Adelina. 1969. MGA KUWENTONG BAYAN, SALAWIKAIN, BUGTONG, PANINIWALA AT PANININDIGAN NG MGA NANINIRAHAN SA BARYO BALIWAG AT ANG BISA NITO SA PANGKABUHAYANG, PANLIPUNAN AT PANRELIHTYONG BUHAY NG MGA TAO. (Unpublished Thesis.)
- Fernandez, Doreen and Edilberto Alegre. 1988. SARAP: ESSAYS ON PHILIPPINE FOOD. Quezon City: Hiyas Press.
- Fortin, Joseph R. and Leon Rico, Jr. 1978. TINGUIAN. Quezon City: Philippine Center for Advanced Studies Museum.
- Francisco, Bernardo et al. 1979. *Higaunon Subanon Papers* (Data Paper No. 1, Ethnographic Series.) PAPERS IN MINDANAO ETHNOGRAPHY. An Occasional Publication of the University Research Center, MSU, Marawi City.
- Glang, Sahid and Manuel Convocar. 1978. MAGUINDANAOAN. Quezon City: Philippine Center for Advanced Studies Museum.
- Gloria, Heidi. 1985. ETHNOHISTORY AND CULTURE CHANGE AMONG THE BAGOBOS. (Unpublished Dissertation.)
- Gowing, Peter G. and Robert McAmis, eds. 1974. THE MUSLIM FILIPINOS: THEIR HISTORY, SOCIETY AND CONTEMPORARY PROBLEMS. Manila: Solidaridad Publishing House.
- Gutierrez, Maria Colina. 1961. THE CEBUANO *BALITAO* AND HOW IT MIRRORS VISAYAN CULTURE AND FOLKLIFE. Cebu City: University of San Carlos.
- Hapas, Adjarail. 1993. FOLK ISLAM IN SULU: A STUDY OF CHANGE AND DEVELOPMENT. (Unpublished Dissertation.)
- Hart, Donn V. 1975. COMPADRAZGO: RITUAL KINSHIP IN THE PHILIPPINES.
- Hollsteiner, Mary R. 1975. SOCIETY, CULTURE AND THE FILIPINO (Vols. 1-3). Quezon City: Ateneo de Manila University Press.
- Israel, Carolyn. 1973. A LIFE CYCLE STUDY OF A TAGALOG FISHING COMMUNITY.
- Jadloc, Zosimo. 1988. HISTORY AND KINSHIP IN A WARAY COMMUNITY. (Unpublished Dissertation.)

- Javier, Edgar G., SVD. 1987. THE MANGYANS: PROGRESS THROUGH CHRISTIAN COMMUNITY BUILDING. Manila: Divine Word Publications.
- Jocano, F. Landa. 1971. GROWING UP IN A PHILIPPINE BARRIO. Holt, Rinehart and Winston, Inc. Reprinted in the Philippines by G. Miranda and Sons.
- _____. 1973. THE ETHNOGRAPHY OF TAGALOG LIFE CYCLE (Data Paper No. 4.). Some Preliminary Descriptions. Quezon City: Department of Anthropology, UP Diliman.
- _____. 1976. THE HILIGAYNONS: AN ETHNOGRAPHY OF FAMILY AND COMMUNITY LIFE IN WESTERN BISAYAS REGION. Quezon City: Asian Center, UP.
- _____. 1982. THE ILOCANOS: AN ETHNOGRAPHY OF FAMILY AND COMMUNITY LIFE IN THE ILOCOS REGION.
- _____. 1975. SLUM AS A WAY OF LIFE. Quezon City: University of the Philippines Press.
- _____. 1971. SYSTEM OF CLASSIFICATION AND DIAGNOSIS OF DISEASE AMONG THE TAGALOGS IN BAY, LAGUNA.
- _____. 1976. TUBURAN: A CASE STUDY OF ADAPTATION TO PEASANT LIFE IN A BISAYAN BARRIO. Quezon City: UP-NSDB Integrated Research Program, Office of Research Coordination, UP.
- _____ and Carmelita Veloro. 1976. SAN ANTONIO: A CASE STUDY OF ADAPTATION AND FOLK LIFE IN A FISHING COMMUNITY. Quezon City: UP-NSDB Integrated Research Program, UP Diliman.
- Jundam, Mashur Bin-Ghalib. 1983. SAMA. Quezon City: Asian Center, UP Diliman.
- _____. 1983. YAKAN. Quezon City: Asian Center, UP Diliman.
- _____ and Jose B. Sabalvaro. 1978. TAUSUG. Quezon City: Philippine Center for Advanced Studies Museum.
- Kamid, Magaloyan. 1982. THE KABPAGASAL: A MAGUINDANAON FOLK RITUAL AND ITS RELATION TO ISLAM. (Unpublished Thesis.)

-
- Kikuchi, Yasushi. 1984. *MINDORO HIGHLANDERS: THE LIFE OF THE SWIDDEN AGRICULTURISTS*. Quezon City: New Day Publishing.
- Kohnen, Norbert and Perta Kohnen. 1986. *IGOROT: TRADITIONAL WAYS OF LIFE AND HEALING AMONG PHILIPPINE MOUNTAIN TRIBES*.
- Lagdamen, Nimfa. 1980. *CHILDREARING PRACTICES AMONG THE MAMANUAS OF PANGAYLAN, SANTIAGO, AGUSAN DEL NORTE*. (Unpublished Thesis.)
- Lopez, Violeta B. 1976. *THE MANGYANS OF MINDORO: AN ETHNOHISTORY*. Quezon City: University of the Philippines Press.
- Madale, Abdullah. 1976. *THE REMARKABLE MARANAW*. Quezon City: Omar Publications.
- Madale, Nagasura T. 1981. *THE MUSLIM FILIPINOS: A BOOK OF READINGS*. Quezon City: Alemar Phoenix Publishing House, Inc.
- Magos, Alicia P. 1986. *THE IDEOLOGICAL BASIS AND SOCIAL CONTEXT OF MA-ARAM PRACTICE IN KINARAY-A SOCIETY*. (Unpublished Dissertation.)
- Manuel, Esperidion A. 1980. *CONFLICT OF NATIONAL AND CUSTOM LAW IN CENTRAL MINDANAO*. (Paper Read at the 11th Seminar of the Mindanao-Sulu Culture Conference, Central Mindanao University, Musuan, Bukidnon.)
- _____. 1973. *MANUVU SOCIAL ORGANIZATION*. Quezon City: Community Development Research Council, UP Diliman.
- Maquiso, Teresita R. 1987. *NUEVA ECIJA'S MATERIAL CULTURE* (Monograph Series No. 1). Nueva Ecija: CLSU Publications House.
- Ministry of Education, Culture and Sports. 1984. *THE CHILDREN OF LAM-ANG: THE FOLK CULTURE OF THE ILOCOS REGION*. Manila: Educators Press.
- _____. 1976. *SOME PHILIPPINE BELIEFS AND PRACTICES RELATED TO FERTILITY*. Manila: Popular Education Program, MECS.

- Miranda, Dionisio M., SVD. 1989. *LOOB: THE FILIPINO WITHIN*. Manila: Divine Word Publications.
- Morales, Daisy. 1979. *A PRIMER ON THE NEGRITOS OF THE PHILIPPINES*.
- Nabayra and Kurais II. 1979. *Mandata-mansaka and Sama Delaut* (Data Paper No. 2, Ethnographic Series.) PAPERS IN MINDANAO ETHNOGRAPHY. An Occasional Publication of the University Research Center, MSU, Marawi City.
- Opeña, Ludevina. A BRIEF ETHNOGRAPHY OF THE BUKIDNON.
- Ortigas, Irene. 1977. *THE SOCIETY AND CULTURE IN THE RURAL PHILIPPINES*. Quezon City: Alemars Phoenix Publishing House, Inc.
- Parado, Generoso. 1989. *MGA PAMAHIING PILIPINO*. Manila: Rex Book Store.
- Perez, Rodrigo, Rosario Encarnacions and Julian Dacanay Jr. 1989. *FOLK ARCHITECTURE*. Manila: GCF Publications.
- Quizon, Adela. 1966. *ANG MGA PAMAHIIN NG PANGASINAN HINGGIL SA BABAE*. (Unpublished Thesis.)
- Realubit, Ma. Lilia. 1986. *A SOCIO-LINGUISTIC STUDY OF BIKOL VERBAL FOLKLORE*. (Unpublished Dissertation.)
- Rocero, Mamerta. 1982. *ETHNOBOTANY OF THE ITAMES OF CAGAYAN PROVINCE, PHILIPPINES*.
- Rola, Dionisia and Lourdes de Castro. 1980. *FISHLORE OF WESTERN VISAYAS*. UPSSHRC Research Project.
- Romo, Clemencia. 1978. *CHILDREARING PRACTICES AMONG THE BUKIDNON*. (Unpublished Thesis.)
- Sabalvaro, Jose B. and Mashur Bin-Ghalib Jundam. 1978. *BADJAW*. Quezon City: Philippine Center for Advanced Studies Museum.
- Saber, Mamitua and Abdullah Madale, eds. 1975. *MAJORITY-MINORITY RELATIONS IN THE PHILIPPINES*. Manila: Solidaridad Publishing House.
- Scott, William Henry. 1988. *A SAGADA READER*. Quezon City: New Day Publishers.

-
- _____. 1966. ON THE CORDILLERA: A LOOK AT THE PEOPLES AND CULTURES OF THE MT. PROVINCE. Manila: MCS Enterprises, Inc.
- Sherfan, Andrew D. 1976. THE YAKANS OF BASILAN ISLAND: ANOTHER UNKNOWN AND EXOTIC TRIBE OF THE PHILIPPINES. Manila: Fotomatic, Inc.
- Shimizu, Hiromu. 1989. PINATUBO AYTAS: CONTINUITY AND CHANGE. Quezon City: Ateneo de Manila University Press.
- Sumagayan, Amina. 1982. THE CHANGING ROLE OF MARANAO WOMEN IN A MARANAO RURAL SOCIETY. Quezon City: Asian Center, UP.
- Sycip, Felicidad. FACTORS RELATED TO THE ACCEPTANCE OR REJECTION OF INNOVATION IN SWINE AND POULTRY PRODUCTION IN THE RURAL AREAS. (Unpublished Dissertation.)
- Tao, Saladdin. THE LIFE CYCLE OF THE BADJAOS: A STUDY OF EDUCATION AND CULTURE.
- Tiamson-Rubin, Ligaya G. 1992. SINING AT KULTURA SA BAYAN NG ANGONO. Quezon City: Rex Printing Company, Inc.
- Wallace, Benny. 1967. GADDANG AGRICULTURE: THE FOCUS OF ECOLOGICAL AND CULTURAL CHANGE.
- Warren, Charles P. 1964. THE BATAK OF PALAWAN: A CULTURE IN TRANSITION. Chicago: Philippine Studies Program, Dept. of Anthropology, University of Chicago.
- Ymzon-de la Costa, Grace. 1990. BEYOND THE HOSPITAL: A STUDY OF COMMUNITY-BASED MEDICAL PRACTICE AND COMMUNITY-BASED HEALTH PROGRAMS. (Unpublished Dissertation.)
- Zabilla, Gladys. 1974. CUSTOMS AND CULTURE IN THE PHILIPPINES. Japan: Charles E. Tuttle Co., Inc.

LIST OF EXPERTS CONSULTED

A. On farming and animal behavior

Dr. Nicanor C. Fernandez
Department of Soil Science
College of Agriculture
University of the Philippines in Los Baños

Dr. Valentino G. Argañosa
Department of Animal Science
College of Agriculture
University of the Philippines in Los Baños

Dr. Elpidio C. Coligado
Department of Animal Science
College of Agriculture
University of the Philippines in Los Baños

B. On fishing beliefs and practices

Dr. Porfirio Aliño
Institute of Marine Science
University of the Philippines in Diliman

Prof. Maria F. Mangahas
Department of Anthropology
College of Social Sciences and Philosophy
University of the Philippines in Diliman

C. On health and nutrition

Dr. Alfonso Lagaya
Traditional Medicine Unit
Department of Health

Prof. Ruben Martinez
Traditional Medicine Unit
Department of Health

D. On weather and climate

Dr. Israel Bentillo
Department of Meteorology
National Institute of Geological Sciences
University of the Philippines in Diliman

LIST OF RADIO AND TV PROGRAMS
AND PRINT MATERIALS

Radio Component

- 1) *Sari-Sari Inc.*
9-10 a.m., Mondays to Saturdays
dzRM
Host: Norma Remo
- 2) *Ate Susan sa Likod Ninyo*
11-12, 12:15-1 a.m., Mondays to Saturdays
dzRM
Host: Susan Layos
- 3) *Natatanging Paksa, Atbp.*
2-3 p.m, Mondays to Fridays
dzRM
Hosts: Delia Rocha and Minda Castañeda
- 4) *Ang Ating Kultura*
3-4 p.m., Mondays to Fridays
dzRM
Host: Betty Roxas

Print Component

- 1) *Viewers' Guide to Negosiyete (On Herbs and Spices)*
Technology and Livelihood Resource Center
- 2) *Gabay sa Paggamit ng 10 Halamang Gamot*
Traditional Medicine Unit
Department of Health
- 3) *Ang Mga Halamang Gamot*
Philippine Information Agency
- 4) *Paano?*
Philippine Information Agency

- 5) *Pamphlets on Community Science*
Technology and Livelihood Resource Center
- a. *Punla*
 - b. *Hain*
 - c. *Sikap*
 - d. *Agap*
 - e. *Alaga*
 - f. *Biyaya*
 - g. *Sibol*
 - h. *Lunas*
 - i. *Atbp.*

Television Component

- 1) *Batibot*
10-10:30, Mondays to Fridays
RPN 9
- 2) *Tsikiting Patrol*
10-10:30, Sundays
GMA 7
- 3) *Negosiyete*
11-11:30, Mondays to Friday
GMA 7
- 4) *Tele-Aralan ng Kakayahan*
2:30-3, Mondays to Friday
PTV 4

What kinds of knowledge should be given value in society? What kinds of knowledge should be taught in and validated through its schools? Is it correct to assume that folk or indigenous knowledge, which is based on actual community life, is inferior to Western or textbook knowledge and should therefore not be recognized and included in educational programs, whether formal or non-formal? Who are the knowers? Do they include only the academically trained experts? What about the people themselves who in the course of their daily lives have learned not only to survive but also to preserve and conserve the resources upon which their survival depends?

These questions, raised by a growing number of scholars from the Third World, serve as the framework for this forward-looking study titled **RECONSTRUCTING EDUCATIONAL KNOWLEDGE: Incorporating Community Knowledge In Functional Literacy Programs**. In particular, the value of the study lies in its systematic documentation of traditional and popular knowledge in various Philippine communities, using integrative curricular grids for ready use by teachers and curriculum planners. It also presents experts' analyses of this body of knowledge for their practical, scientific and socio-cultural value. Finally, it provides participatory models for research in and the teaching of community knowledge.

Patricia Brazil Arinto, the author, is an Instructor of English and Comparative Literature at the University of the Philippines in Diliman. She has a B.A. in Communication Arts (Magna cum laude) from U.P. College Tacloban and an M.A. in Comparative Literature from U.P. Diliman. Her areas of specialization include women's studies, particularly feminist literary theory and criticism, Third World and emergent literatures, and English language teaching. As a teacher, researcher and activist, she has a long-standing interest in the continuing growth and improvement of education in the Philippines. This is her first book-length published work.