### Article

Bridging the Agriculture Credit Gap: A Case Study of the Farmer Entrepreneurship Program of Jollibee Group Foundation

Jane Lynn D. Capacio, Emmanuel S. de Dios, and Rob van Tulder

#### Abstract

Access to credit presents a distinct problem for smallholding farmers and lenders alike. As a consequence, in the Philippines-as in many other developing economies-a sizable "agriculture credit gap" exists. This paper explores whether it is possible to rethink existing credit arrangements to support inclusive development goals. Our observations are based on a unique in-depth case study of an interlinked financing arrangement in the Farmer Entrepreneurship Program (FEP). This program is managed by the corporate foundation of Asia's biggest fast-food chain, Jollibee Foods Corporation (JFC). The lenders in this program are FEP partner-cooperatives that interlink credit, crop buying, and other interventions to enable smallholders to sell their products to JFC and other buyers. For inclusive interlinking to materialize, significant social investments are required from program partners. Using a progressive case study method, three subunits within the study explain how financing can be made available. We use these observations to draw out possible generalizations of financing mechanisms that may be used in other commodity chains. We identify partnerships, particularly long-term relationships, as indispensable requisites for institutional voids to be filled and financing to flow into rural areas. We recommend key government interventions, especially since some of the requisites are in the nature of collective or public goods.

### Key words:

interlinked contracts, inclusive value chains, agriculture credit, institutional voids, inclusive interlinked financing, credit gap

## Introduction

Credit assumes a crucial role when farmers are unable to exploit market opportunities owing to limited capital or because they are "locked in" an exploitative commodity value chain. But access to financing is often limited, because lenders are uncertain about borrowers' ability or willingness to pay. This is both a problem of information (i.e., what sort of borrower and what will be the use for the loan) and enforcement (i.e., what can be done to ensure repayment regardless of borrowers' inclination). Aside from such transaction cost issues relating to the lender-borrower relationship, lenders must include a host of other challenges when making risk calculations: the uncertainty of nature (e.g., weather, pests, hydrology), the lack of acceptable crop insurance, and in the Philippines, the small land size held by farmers, which affects their ability to reach viable economic scale.

Banks cite these risks and costs as reasons for their limited lending to the agriculture sector. This phenomenon is known as the agriculture credit gap, the difference between the credit requirements of the priority commodities and the financing supplied by banks. In 2014, the Agriculture Credit Policy Council (ACPC) in the Philippines pegged this gap at Php 366.6 billion. Another indication of this gap is the willingness of banks to pay the large penalties under the law1 for failing to comply with the requirement to lend at least 25% of their portfolio to agriculture and agrarian reform beneficiaries (ARBs). Since the enactment of legislation in 2009, banks have willingly paid a total of Php 10.3 billion in penalties. Although the law requires a 25% minimum of bank portfolios to be extended as loans to agriculture and fisheries credit (of which a minimum 10 percent to ARBs), in 2019, bank portfolios averaged only 1.1% in loans to ARBs and 11% to the rest of agriculture.<sup>2</sup> This indicates that banks confront a more serious problem lending to smallholders than in lending to agriculture more generally.

This situation underscores the need to revisit a basic question, "How can smallholding farmers gain access to sufficient agriculture credit?" An answer to this question carries obvious implications for long-term agriculture productivity and the resilience of agriculture value chains. We were fortunate to be engaged in and to closely observe a case that we consider "critical" and "revelatory" (Yin 2018), namely the Farmer Entrepreneurship Program (FEP) of Jollibee Group Foundation (JGF). The FEP was designed by the company to deal with some of the structural root causes of the credit gap, even as it strove to develop a more inclusive value chain from the perspective of a lead company or "institutional buyer" in a buyer-driven commodity chain (Gereffi, Humphrey, and Sturgeon 2005). We document how agriculture financing has been accessed by smallholders who are part of the FEP by describing the contracting mechanisms between the farmers' cooperatives (lenders) and the farmers (borrowers).

Implemented over a 16-month period, the case was developed as an action research project in which researchers at each step asked deeper questions and applied more precise methods, an approach also known as a "progressive case study" (Steenhuis and de Bruijn 2006). In the course of fieldwork and analysis, it became apparent that the credit arrangements we observed resembled what the literature described as "interlinked contracts." Interlinked contracts, "interlinked financing," "interlinked transactions," or "bundled contracts" refer to arrangements where parties transact in at least two markets on condition that the terms of the transaction are jointly determined (Basu 1983; Bell 1988).<sup>3</sup> Studies have looked into at least three types of interlinked transactions, namely: (a) where a landowner finances a tenant's consumption and working capital (Bardhan and Rudra 1978); (b) where an employer provides a consumption loan to farmworkers in exchange for a claim on their labor services at the time these will be required (Binswanger et al. 1984); and (c) where a trader-lender or commission agent extends a consumption credit and working capital to a cultivator in exchange for a claim on the harvest (Rao and Subrahmanyam 1985; Wharton 1962). Of the three, the interlinked credit-labor relation has received the most attention including empirical modelling, whereas the least documented has been that of interlinked contracts involving credit and crop output (Bell 1988; Teh 1991).

Closer scrutiny, however, reveals striking differences between the interlinked contracts described in the literature and the formal and informal practices (i.e., institutions as defined by North 1991) we observed in the FEP. Such differences include the following: (a) the main objective of the cooperatives (which are homologous to the trader-lender in the literature) is to source agriculture products, not to lend credit; (b) the linking of credit and crop purchase is only one part of a larger bundling that includes capacity building of smallholders to address gaps in human capital, technology, and access to multiple buyers; and (c) interlinking involves key actors contributing resources to capacity building, part of costs that can be called "social investments." Applying the progressive case study method to these findings and facts, we propose new concepts to support a theory of what may be called "inclusive interlinked financing" (Capacio, de Dios, and van Tulder 2018).

The main questions for the present paper are whether and how interlinked credit-output contracts can function as a means for farmers to access formal credit and whether it is possible for these to become inclusive. Findings from our case study suggest the need for a fundamental rethinking of extant frameworks in agriculture credit. This paper responds to the call made more than two decades ago to gather facts "on the nature and incidence of interlinking" (Bell 1988, 827).

The rest of this paper is organized as follows: section two briefly reviews a selected literature on agriculture credit that is relevant to the discussion; section three further explains the progressive case study approach embedded within an action research project in two loops; section four discusses our findings; whereas section five draws generalizations and makes recommendations.

# Agriculture Credit Markets in Less Developed Economies

There is a rich literature that considers the conditions under which credit markets can function in support of competitive and inclusive commodity chains. We can trace the beginnings of relevant studies to the 1970s that stress standard competitive frameworks (section 2.1). More recent studies on financial inclusion are also covered in this review (section 2.2). When the "information school"

gained prominence in mainstream economics, part of its offshoots included insights into interlinked contracts, which in some contexts have become the main mode of credit provision (section 2.3).

# The Beginnings From the Competitive Framework of Credit Markets

Before the 1980s, the standard "competitive framework" was used to analyze agriculture credit markets, with much of the literature focused on developed economies. The underlying idea was that prices in the form of rates of interest could and should convey all or most of the needed information to buyers and sellers (or lenders and borrowers). Although it was possible that a particular pair also traded in more than one market, that consideration was immaterial, since transactions in each market would take place at parametric and competitively determined prices that prevailed for everyone (Bell 1988). "Traditional economic theory views financial markets as no different from other markets and interest rate no different from other commodity prices" (Braverman and Guash 1986, 1258).

In less-developed economies, however, there was a prevalence of non-uniform and typically high interest rates in rural markets. From a competitive framework viewpoint, high prices and heterogeneous terms suggested the existence either of inadequate supply or of some monopoly power on the part of lenders. Consequently, subsidized interest rates became a central policy tool accepted in the literature. It was assumed that regulating low ceilings on rates of interest and providing loanable funds to rural financial markets would expedite countryside development (Braverman and Guash 1986). Governments then lent directly to farmers and stipulated the terms of lending. By the 1990s, however, the directed credit approach had become discredited. Shaw (1973) and McKinnon (1973) spawned a substantial literature that showed how credit subsidies (a) almost never reached the poor or the intended beneficiaries, (b) increased inequalities in lending, and (c) were unable to compensate for urban bias (see, e.g., Geron, Llanto, and Badiola 2016; Meyer and Nagarajan 2000).

#### Financial Inclusion

The end of the era of directed and subsidized credit led to studies on the effects of financial liberalization on agriculture. One of its offshoots is the still-growing body of work on financial inclusion, which refers to a process that ensures the ease of access, availability, and use of the formal financial system for all the members of an economy (Sarma and Pais 2011). Households that are denied credit in spite of their demand are deemed to be financially excluded (Dev 2006). Financial inclusion is considered to be one of the enablers of economic development (Demirguc-Kunt and Klapper 2012), and it is driven by microfinance, remittances, and mobile devices (Kanobe, Alexander, and Bwalya 2017). In the Philippines, financial innovations in the form of mutual guarantee schemes, cash flow-based lending, blocked group savings, and interlinked contracts (Lamberte et al. 1994), when used by formal lenders in rural areas, can also be considered as financial inclusion efforts.

Geron, Llanto, and Badiola (2016) developed a framework of financial inclusion that separates the demand and the supply sides of agriculture credit. The demand for credit is met when smallholders can access financial services because, among others, they have the required collateral, have sufficient cash flow to repay the loan, and are offered loan products that are custom-fit to their financial needs. The supply of credit is met when formal financial institutions lend to smallholders because the risks are minimized, costs associated with lending to smallholders are lowered, and formal financial institutions understand the credit needs of smallholders and are able to design appropriate loan products. This dissection yields an insight into the various factors impinging on the demand for and supply of credit that can prevent these from resulting in transactions that can be termed as "inclusive." It also illustrates why, contrary to what the competitive paradigm assumes, the level of interest rates alone is an imperfect indicator of efficiency in situations where one or more institutional factors or requisites are deficient.

#### Interlinked Contracts

Around the time the directed credit approach fell into disfavor, analytical tools for studying the economics of information—and how to deal with information asymmetries—gained ground in mainstream

economics. The information school allowed scholars to study agriculture credit relations, particularly informal finance mechanisms observed in less developed economies. The premise is that lenders cannot tell from a group of observationally similar borrowers who are good and bad borrowers (Stiglitz and Weiss 1981), which makes lending risky and costly. Akerlof's (1970) seminal work on asymmetric information was a starting point for succeeding studies. In it, he notes that in many economic transactions, information regarding the quality of the commodity being traded is unequally available between the transacting parties. Incentives for misrepresentation exist for the party with more information to the extent that acquisition of information is costly for the less informed party.<sup>5</sup> Through the lens of incomplete and/or imperfect information, interlinked transactions can be seen as a means for reducing the problem of asymmetric information between lender and borrower (Bell 1988; Hoff and Stiglitz 1990) and as an internalization of the externality from the credit market to the contingent market (Braverman and Guash 1986).

Although much writing on interlinked contracts has focused on the credit market, other writers highlight the motives for interlinking and the nature of the information problem such contracts seek to address. If interlinking is undertaken mainly to lower the risk of strategic default in borrowing (Bell 1988; Hoff and Stiglitz 1990), then it gives lenders the means to screen borrowers, incentivize repayment, and strengthen enforcement of repayment (Hoff and Stiglitz 1990). If interlinking is meant to facilitate trading activities or secure marketable output (or labor), then it is best explained as a means for the trader-lender (or employer-lender) to acquire products (or services). The latter insight seems especially relevant to the Philippines, where a protracted agrarian reform dissolved share-tenancy relations and led to dispersed property among many smallholders. "The demise of the traditional landlord-tenant relationship ruptured ties involving credit. A new set of ties has evolved in the meantime involving large traders requiring reliable and low cost sources of rice, as well as farmers with continuing needs for both financing and transporting output from farm to market" (Teh 1994, 18). The post-agrarian reform rise of interlinked credit-output contracts may thus be understood as an adaptation that approximates the risk-allocation and incentive functions that shareholding used to fulfill (see, e.g., Cheung 1969; Lamberte et al. 1994; Newbery and Stiglitz 1977; Teh 1991).

Key concepts from the information school help explain the existence of interlinked contracts. These include (a) screening of borrowers and contractual performance (2.3.1) and (b) reduction of transaction cost and risks and other incentives for bundling (2.3.2). Most studies have focused on links between credit and labor services under conditions of tenancy, but for this study, the interlinked credit and trading dimensions in a post-agrarian reform environment are more relevant given ARBs' and other smallholders' need for credit, buyers, logistics, and other services, which their former landlords provided prior to land reform.

## Screening and Contractual Performance

Interlinked contracts can be viewed as means to screen borrowers and encourage contractual performance (i.e., address the problems of adverse selection and moral hazard, respectively) (Bell 1988). Despite a high degree of social interaction in farming areas, which reduces the cost of identifying the relative riskiness of potential borrowers (Hayami 1988), there will still be nontrivial differences in lenders' ability to screen borrowers (Esguerra 1993), with some lenders having an advantage over others by having better information about loan applicants. Interlinked agreements reduce the cost of sorting good from bad borrowers by inducing borrowers to behave in ways that reduce the risk of default (Teh 1994). Compared to a straightforward loan, for example, credit combined with a supply commitment positively selects for borrowers who seriously intend to use the loan for production purposes and are therefore more likely to repay. It is in the same sense that interlinked transactions have also been referred to by scholars as collateral substitutes (e.g., Esguerra 1993).

This may be especially relevant in early periods post-agrarian reform when land has been transferred to the tiller but still cannot be mortgaged or sold. In such a situation, by providing added security to lenders, loans tied to a supply commitment are a second-best arrangement that facilitates lending to borrowers who would otherwise have no access to formal credit. Still, the second- or nth-best nature of such contracts should be evident. Smallholders could lose credit access under such arrangements if, for example, they chose to diversify into other crops or decided to switch to non-farm activities. A borrower would then have to seek other credit sources, which means spending

on search costs and being unable to exploit productive opportunities if he fails to find a new lender (Esguerra 1993). In this sense borrowers tend to be "locked in" such long-term arrangements unless comparable alternatives are available.

If on the other hand the aim of trader-lenders is to find reliable and low-priced sources of farmers' marketable outputs, then they would seek farmer-borrowers who (a) have the capacity to supply surplus products, b) are willing to pay the loan in-kind, and (c) are willing to accept the lowest farmgate price (Esguerra 1993; Teh 1991). Such considerations include aspects of moral hazard to which interlinked contracts may again provide a solution. A perennial problem of contracting with smallholders, for example, is the nonfulfillment of supply obligations through "pole-vaulting" or "side-selling," that is, selling contracted output to other parties to take (temporarily and opportunistically) advantage of better prices. This problem is mitigated when the farmer-supplier binds himself to the trader through a loan obligation, especially if that loan is payable in the form of physical output. It can be seen, therefore, that credit-output interlinkages can, in principle, help meliorate problems of both moral hazard and adverse selection.

# Reduction of Transaction Costs and Risks and other Incentives for Interlinking

Transaction cost economics examines the costs that hinder parties from reaching and enforcing contracts. These include the costs of bargaining, contracting, and monitoring performance. By concluding a deal during a non-peak season, a trader-lender is spared the trouble of searching for farm products during the peak season. The same is true for a farmer-borrower: the commitment to supply products at the start of the season through a credit-tying agreement is an assurance that products will be sold when supply is plentiful. Fabella (1992) explains how in an environment where a farmer faces considerable uncertainty, a tied credit-marketing agreement has the features of a future contract. Hence, for a risk-averse farmer, repaying loans in-kind can be perceived as superior to a cash-for-cash transaction. More generally, maintaining a stable credit-output relationship spares both farmer and trader-lender the trouble of periodically looking for, negotiating, and enforcing numerous contracts for various types of

service. In principle, for example, the farmer in such a relationship is spared the need for separate contracting for either or both credit and marketing (e.g., processing, transport, and sale). Such transaction-cost savings from maintaining a stable relationship arise in a similar way that the employment relationship economizes on the costs of using the market, as Coase (1937) and Williamson, Wachter, and Harris (1975) pointed out much earlier.

From the trader-lenders' viewpoint, economies of scale in trading operations (Floro and Yotopoulos 1991; Teh 1994) may also be an added concern, including the need to make efficient use of fixed assets like milling and storage facilities and delivery vehicles (Teh 1994). A trader's average fixed cost (e.g., quasi-fixed labor and interest) declines as storage space is used. This provides an incentive to fill all available space at harvest time. In this regard, having a stable source of supply committed through long-term credit-cum-marketing relationships presents distinct advantages over a reliance on a series of uncertain spot-contracts governed only by price.

## Comparison with the Perfect-Competition Benchmark

Information economics implies that the deficit or absence of institutions that address adverse selection and moral hazard can lead to imperfect or missing markets and their replacement by stable long-run relationships involving idiosyncratic exchange. Interlinked credit-output contracts are a species of these. The idiosyncrasy of contracts stems from having to account for individual characteristics and circumstances of the parties to the exchange. For this reason, it should be no surprise to find non-uniform levels of prices offered, different interest rates charged, various individual accommodations, a screening out of significant segments of borrowers, and uneven levels of profit—all of which make what is observed diverge from the competitive textbook ideal of impersonal exchange at parametric prices.

From the viewpoint of competitive models, the result undoubtedly deviates from complete efficiency and, moreover, is non-inclusive. Yet, it should be clear from the foregoing that remedying the problem entails far more than viewing it as a case of localized monopoly to be addressed through price- or interest-controls or through prohibition of certain practices. For the matching implied in interlinked contracts

undoubtedly facilitates exchange and produces savings in transaction costs, all of which constitute a "surplus" (Bell 1988). The division of that surplus, however, may favor one party or the other, depending—as in most cases of bargaining with small numbers—on the bargaining skills and initial positions of each party.

The question therefore remains whether and how interlinked credit-output contracts can become formal and inclusive. This case study of financing in the FEP is of inherent interest to the extent it can contribute answers to such questions.

# Choice of Method: Case Study Within an Action Research Framework

This paper is based on an in-depth study of the FEP initiated by JGF which is the corporate foundation of Jollibee Foods Corporation, the largest fast-food chain in Asia by capitalization. FEP has existed since 2009, with JGF working with various partners to enable smallholders to sell directly to JFC and other buyers. Although a number of papers have discussed the FEP (e.g., Llanto and Badiola 2015; Poblador 2017),<sup>6</sup> the present study is unique in that we were able to partner with JGF in a co-learning and action research environment where academics and practitioners (JGF and its partners) collectively learned from their experiences and explored ways to improve the program and generalize lessons. Together with JGF, we co-designed a multi-loop action research project where both academics and practitioners agreed on the research questions and the practitioners themselves participated in data collection and analysis of the insights generated.

We used the case study research method (Cresswell 2007; Yin 2018) to investigate the agriculture financing mechanisms in the FEP. As an empirical method, case study research investigates a contemporary phenomenon in depth and within its real-world context (Yin 2018). Our research question on accessing agriculture financing represented in essence a "how" and "why" query. This single case study that deliberately looks into contextual conditions—the motivations for agricultural lending—provided an opportunity to gain in-depth insights into explanations on why financing could be accessed. The case on the FEP has three embedded "subunits" to provide a deeper

level of analysis (Yin 2018): (1) Kalasag Multipurpose Cooperative, (2) Lamac Multipurpose Cooperative, and (3) Alabat Island Farmers Producers Cooperative. In studying the embedded subunits, we used the progressive case study approach (Steenhuis and de Bruijn 2006).

Selecting the FEP for the case study was purposive: the program provided a means to understand (1) the conditions in which institutional buyers like JFC would purchase directly from smallholders and (2) the reasons that formal institutions might be motivated to lend to farmers who are part of the program despite risks and costs. The case was revelatory since it allowed us to observe and analyze a phenomenon previously inaccessible to social science, business management, and economics inquiry. The researchers partnered with JGF and with their various partners and were thus allowed "entry" into their financing arrangements and other mechanisms. Action research methods allowed the practitioners, especially those who participated in the data gathering and analysis, to comment on the contents of the action research report, lending descriptive validity (Maxwell 1992) or construct validity (Yin 2018) to this case study. This section will elaborate on the background of the case (section 3.1), the loops and locations where the case study developed (section 3.2), the tools and methods that were used (section 3.3), and the way the data were analyzed (section 3.4).

#### The FEP Case

The origin of the FEP can be traced to a strategic planning session of the JGF board of trustees held in September 2007. Mr. Tony Tan Caktiong, chairman of JFC and JGF, asked, "Jollibee Foods Corporation as a food company requires raw materials that farmers produce... it can make itself available as a direct market to the smallholders. Can Jollibee Group Foundation make this work?" (Capacio 2021). This set the direction for JGF, beginning with its search for partners to pilot a program that would enable smallholders to directly sell to JFC and other buyers. JFC for its part committed itself to buy from smallholders as long as the prescribed quality, quantity, and timing of delivery were met. For that purpose, JFC tapped JGF to set up the FEP.

JGF soon confronted the various challenges faced by smallholders, including the limited availability of crop technology

and extension services, small land sizes, their non-involvement in viable organizations, their lack of access to farm machines and hauling services, among others. There was also the lack of alternatives to their source of production credit, which were typically traders and/or moneylenders that operated in their areas. Financing was crucial to the FEP because the cost of producing onions, vegetables, and other high-value crops is much higher than that of producing staple crops. Without access to acceptable alternative financing mechanisms, farmers who were being screened and recruited might not wean themselves away from their existing contracts with local trader-lenders or moneylenders.

JGF partnered with various groups to fill major gaps (i.e., capacity building on the agro-enterprise development, agriculture extension services, access to financing, and organizing of farmers). They also partnered with local institutions (cooperatives, microfinance institutions or MFIs, local government units or LGUs, and social enterprises) that took on the role of "linking firms" (Gradl et al. 2012) or those that coordinated transactions among smallholders, buyers, and other players in value chains. For its part, JGF coordinated the program and served as the link to JFC and other institutional buyers.

All the partners provided financial and human resources to the program, which were used to build the capacity of farmers and the linking firms. From Loop 1, the researchers found out that the farmers appreciated the "completeness" of the FEP package; that when it was implemented, all the minimum requirements to be able to engage in an agriculture enterprise were available, including access to financing. Farmers and local partners described the FEP as a "complete recipe" (Capacio 2021).

# Study Sites

To fully understand the financing mechanisms in the FEP, Loop 1 of the action research covered two FEP partner organizations, which served as subunits of this case study, namely: Kalasag Multipurpose Cooperative and Lamac Multipurpose Cooperative (hereafter Kalasag MPC and Lamac MPC, respectively). Loop 2 covered the Alabat Island Farmers Producers Cooperative (AIFPC) and used most of the research protocol from Loop 1, including the same interview queries on

agriculture financing and applied this to the AIFPC subunit. However, since it was observed that Loop 1 subunits seemed to use interlinked contracts, we also probed interlinked agreements in the AIFPC. This adjustment to data collection is an example of "controlled opportunism" that is intended to improve the resulting theory (Eisenhardt 1989, 539). "If a new data collection opportunity arises or if a new line of thinking emerges during the research, it makes sense to take advantage by altering data collection, if such an alteration is likely to better ground the theory or to provide new theoretical insight" (ibid). The research on the AIFPC subunit ultimately helped clarify the most salient lessons for implementing inclusive financing arrangements.

Kalasag MPC is a farmers' group operating in San Jose, Nueva Ecija. The farmers were formed into a cooperative in 2008 arising from their involvement in the FEP. Thirty farmers from two *barangays* (villages) were recruited to become members of FEP agro-enterprise clusters. Clusters are barangay-based informal groups formed by the program to serve as product supply units that can consolidate and deliver to various markets. From two farmer clusters, Kalasag has become a farmers' cooperative.

Lamac MPC has operated since 1973, beginning as a small village association operating in Pinamungajan, Cebu. In 1992 it became a multipurpose cooperative and is now one of the few billionaire cooperatives in the country, receiving numerous awards for its performance. When it joined the FEP in 2013, Lamac MPC searched for farmers to form the clusters, since their current farmer-members at the time were already occupied in planting rice and corn and not the vegetables that JFC required. New farmers joining the FEP then became members of Lamac MPC. Unlike Kalasag MPC, which delivers directly to the JFC Commissary, Lamac MPC delivers assorted vegetables to Chowking stores throughout metropolitan Cebu on a daily basis (Chowking is one of the fast-food store chains under JFC.)

The AIFPC was formed in 2012 when it began delivering native lemon (*calamansi*) to JFC through the FEP. It shifted to delivering hot pepper to the Chowking Commissary in Manila starting 2015. It has two clusters of farmers covering two municipalities. The cooperative is found on Alabat Island in Quezon Province. Table 1 summarizes key features of the subunits.

Table 1: Summary table of the three subunits

Subunit	Kalasag MPC	Lamac MPC	AIFPC
Action research loop	1st	1st	2nd
Crops	Onions, hot pepper	Assorted vegetables	Hot pepper
Main buyer of products	JFC Commissary	Chowking restaurants	Chowking Commissary

### Tools and Methods for Data Collection and Validation

Initial fieldwork in Kalasag MPC and Lamac MPC was conducted in July 2017 when we pretested the data gathering instruments, observed the activities of farmers and cooperatives, and gathered documents. Fieldwork involving JGF and other action research partners was undertaken in August 2017. In September 2017, preliminary findings were shared with JFC, JGF, Kalasag MPC, Lamac MPC, and other FEP partners for validation of the key results, including the description of the financing mechanisms. In December 2017, further fieldwork was conducted in Cebu to interview more farmer-members of Lamac MPC, and in July 2018, the results of the action research—particularly the analysis of agriculture financing—were presented in a conference that included academics, farmers, and representatives of banks, cooperatives, and MFIs.

The data gathering instruments included (a) a structured questionnaire for farmers asking them to recall production costs and returns in the last cropping season, (b) an open-ended questionnaire asking about the life stories of select farmers, and (c) a semi-structured questionnaire for officials of Kalasag MPC, Lamac MPC, financial institutions, and LGUs asking them to describe the value chain before the FEP, during the period of the interview, and their hopes for its future implementation. With the open-ended and semi-structured questionnaires, we asked probing questions on key concepts, explanations, and analysis shared by the interviewees. Aside from one-on-one interviews, focus group discussions (FGDs) were also undertaken to elicit the sharing of ideas, dilemmas, and suggestions among the participants. The same semi-structured interview questionnaire on value chains was used in the FGDs to

enable validation. In October 2019, the questionnaires were redesigned for action research Loop 2 to accommodate new research questions. The redesigned questionnaires were used in the fieldwork in Alabat.

The various interviewees are described in Table 2. These are all unique interviewees. Some of them were interviewed more than once either through another one-on-one interview or as part of an FGD.

Table 2: Case study interviewees

Types of interviewees	Number of respondents	
Total	145 (97 males, 48 females)	
Total KALASAG-related interviewees	40	
Kalasag MPC board officers	9	
Kalasag MPC members	16 <sup>a</sup>	
LGU officials	6	
Financial service providers	1	
Non-FEP farmers in San Jose City	8	
Total Lamac MPC-related interviewees	67	
Lamac MPC board officers	3	
Lamac MPC branch managers, BDC officials and staff	8	
Lamac MPC members	55	
LGU officials	1	
Total AIFPC-related interviewees	25	
AIFPC board officers	4	
AIFPC members	16	
LGU officials	5	

Other FEP partners (e.g., cooperatives, non-government organizations, government agencies)	8
Board members and senior officers of JGF	5

<sup>&</sup>lt;sup>a</sup> Of whom 10 are Kabiyak (onion-peeling subgroup) members

### Data Analysis

After the interviews, all the audiotapes were transcribed and the research questions were answered through thick description and explanation of the data. Two levels of analysis were undertaken: (a) within-case analysis including the writing of reflection memos and detailed case studies and (b) searching for cross-case patterns to see intergroup similarities and differences (Eisenhardt 1989). Afterwards, we developed themes and categories from the data.

# Findings from the Case Study on the FEP

We conducted a within-case analysis of Kalasag MPC and Lamac MPC subunits with respect to how they access financing in their operationalization of the FEP (4.1). These subunits were grouped together because of similarities in their mechanisms; any differences between them were not material to interlinking and financing. We also conducted a within-case analysis of the AIFPC subunit (4.2), and then we compared Kalasag MPC and Lamac MPC on the one hand and AIFPC on the other hand in order to explain how financing was accessed (4.3).

# Loop 1: Basic Elements of Interlinked Contracts in Kalasag MPC (Subunit 1) and Lamac MPC (Subunit 2)

Kalasag MPC farmers had no financial track record and no acceptable collateral prior to the FEP. When they borrowed from moneylenders prior to the program, some of them used the registration documents of their vehicles or farm animals. A microfinance institution (MFI), Alalay sa Kaunlaran, Inc. (ASKI), used to lend to smallholders from their barangays, but some borrowers defaulted on their loans. This increased ASKI's assessment of lending risks to farmers from their barangays.

It was therefore somewhat a surprise that ASKI nevertheless decided to lend to smallholders who eventually formed the Kalasag MPC. The "tipping point" (Van Tulder et al. 2014) for this new approach was the fact that ASKI was invited by the FEP partners to participate. Despite initial hesitation, ASKI joined the program and extended loans for: (a) production credit to farmers and (b) working capital to the cooperative. The latter was used by Kalasag MPC to pay for the products in excess of the amount of an individual farmer's production loan and for the delivery of products to JFC and other buyers. The leadership of ASKI felt assured by JFC's commitment to buy products that passed their standards and the commitment of partners to address the challenges.

Kalasag MPC provided individual farmers with access to production loans to be paid in terms of their committed crops (around 60% of total harvest). The cooperative then sold the harvested onions and hot pepper to JFC and other buyers and paid its liabilities to the lending institution. The cooperative earned from both production loans and trading. To ensure that the smallholders become proficient in dealing with JFC and managing their cooperative, JGF and its various partners provided assistance, including farmers' organizing and capacity building, agriculture extension, and connections to different stakeholders. These partners also made information available to farmers, such as where and how to canvass for farm equipment.

In Cebu, the smallholders recalled the time prior to the FEP when they had no access to formal financing. They borrowed from moneylenders or had to self-finance their production. Lamac MPC was motivated to join the FEP because it wanted to provide services to smallholders at a time when most of its products were in microcredit that catered to urban dwellers. Despite the costs and risks, Lamac MPC saw the FEP as an opportunity to return to their farming roots and diversify their loan products. Participating in the FEP and working with JGF provided a chance to establish links with JFC and other institutional buyers. Under the program, the cooperative extended production loans to farmers, who were organized in clusters. It was the farmers who made production and supply plans with a commitment to deliver specific crops on certain days. Lamac MPC then consolidated the harvest on a daily basis and delivered these to Chowking and other buyers. The cooperative thereafter paid the farmers after deducting their loan. It set up a business development center (BDC) within the

cooperative, which is focused on helping farmers with clustering, marketing, and agri-extension services. For these services, the BDC earns a marketing fee per kilo of vegetables.

Smallholders in these subunits were thus able to avail themselves of tailor-fitted loan packages. In the course of analyzing the information gathered (in Loop 1), we realized that the phenomenon we were observing contained elements of interlinked contracts and resembled the relations between trader-lenders and farmer-borrowers analyzed in the literature. However, we observed a larger bundling of activities in the FEP value chain. This bundling, or what the smallholders refer to as the provision of a "complete recipe," addressed institutional voids and thus enabled farmers and buyers to engage in market transactions (Khanna and Palepu 1997). Part of the bundle were activities at the upstream (e.g., farmers' capacity building, extension services) and downstream of the value chain (e.g., consolidation and selling of products). These activities were deemed to have reduced costs and risks. Using aspects of interlinked contracts that were suggested by the literature, we examined the key elements of the FEP-bundled contracts, particularly screening and contractual performance (4.1.1) and reduction of transaction cost and risks and other incentives for interlinking (4.1.2).

## Screening and Contractual Performance

Screening potential farmer-borrowers meant identifying farmers who produced onions (Kalasag MPC) or assorted vegetables (Lamac MPC) who could form a cluster. Aside from agreeing to be part of a cluster, a farmer-borrower also needed to become a member of the cooperative, abide by its rules, and repay loans by delivering the committed harvest. Significantly, taking out a production loan was not a prerequisite. A farmer could choose to self-finance his farm production or borrow less than the full amount needed for production. These criteria showed that the arrangement emphasized not the credit relationship per se but the commitment to deliver products to the market. It essentially signaled that the main incentive for contract fulfillment came not from the enforcement of a formal debt-relation but through reputations and the prospective loss of future payoffs from continuing the output-supply relationship with the cooperative and JFC.

In this way, the FEP interlinked contract also serves as a farmer's commitment device or their means to restrict future behavior by voluntarily linking it to future rewards or punishments. By committing to a supply plan during the planting season, FEP farmers are aware that intentionally shirking during the harvest season will result in loss of reputation among other farmers and possible loss of membership in the FEP cluster and the cooperative. The cooperatives also made available other loan products (e.g., emergency loans) to consolidate the borrowing of farmers; thus, smallholders did not have to deal with trader-lenders who might also want repayment in-kind.

The initial search for smallholders to become part of the FEP was costly. Attempts at recruitment led to the inclusion of some farmers who ultimately failed to honor their supply commitments. The issue was addressed when cooperating farmers were asked to recommend other farmers; hence, they invited those whom they personally knew (e.g., neighbors, relatives, friends within their small community). In this manner, the initial problems of adverse selection and moral hazard were addressed by involving those who had better information. On the part of the compliant farmers, this was an opportunity to include their relatives and friends in the FEP. Since the risk of not being able to deliver the required supply is pooled among farmers, it is understandable that they tapped those whom they know to be less risky, those whose actions will make supply delivery more likely, and those who can be compelled to comply. In this way, kinship and close ties addressed screening, incentives, and enforcement problems, respectively.

# Reduced Transaction Costs and Risks and Other Incentives for Interlinked Contracts

In the FEP subunits, smallholders enjoyed reduced transaction cost, because they did not have to deal in separate markets (i.e., credit, output, logistics, and agriculture extension). The farmers did not have to venture into spot markets or maintain relations with different buyers since the cooperative bought their committed crops. In terms of price, JFC offered a more stable or less volatile price. When the buying price of Kalasag MPC and Lamac MPC was lower, the farmers could choose to sell their uncommitted produce to other buyers. There were also other incentives for participating farmers, including being linked to other stakeholders and having an ancillary business (e.g., onion peeling for the Kalasag MPC farmers).

A situation peculiar to Lamac MPC, however, can be also viewed less positively. The buying price was made known only upon delivery to the consolidation area, which prevented smallholders from taking advantage of occasional price spikes from traders and other buyers since a sizeable portion of their harvest was already committed (De Guzman 2019). However, risk-averse farmers noted that if the market price was lower, they were also shielded from low prices. Lamac MPC also bore some risk in this arrangement. Since the buying price was fixed on the day itself, the cooperative had little time to look for alternative supply in case farmers who committed to supply for the day reneged on their promise (ibid).

Local partners that spent on transaction cost noted of reduced spending overtime. Search cost had been reduced with farmers themselves helping recruit cluster members. The need for capacity building also lessened with farmer leaders becoming the mentors of other farmers. The risk of farmers defaulting from their committed supply was managed by (a) diversifying the supply source and (b) setting up a cluster fund mechanism to provide resources to farmer leaders to monitor the farm activities of members. Particular to Lamac MPC, their firm grasp of agro-enterprise and implementation of interlinked contracts enabled them to replicate FEP-like mechanisms in other crops and areas. Their wider scale spreads the cost of their BDC.

# Loop 2: Elements of FEP's Interlinked Contract Tested

We initially expected all smallholders who were part of FEP to have access to formal financing. In Loop 2 in Alabat, Quezon, however, farmers who were part of the AIFPC were self-financing their production. We again used aspects of interlinked contracts to examine this subunit.

# Screening

Screening proceeded differently in this subunit. Hot pepper (i.e., *Capsicum frutescens*) was not a traditional crop of the farmers, and when the AIFPC recruited cluster members, many did not agree to the proposal to plant hot pepper, given the risk that they would not be able to sell a crop that is not consumable. However, the farmers also knew that hot pepper sells at a premium price at certain periods of the year.

Those who joined the FEP clusters diversified their farms to include hot pepper among their crops. The AIFPC had been searching for a financing institution to partner with, and an MFI offered microcredit to individual farmers. Some of the farmers tried using microcredit loans, but these did not suit their requirements and cash flow needs.

#### Reduced Transaction Costs and Risks and Other Incentives

Like the other incentives for participation in the FEP interlinked contract in Loop 1, there were savings in transaction cost, since the farmers did not have to deal with separate markets in selling their hot pepper. A major difference in this subunit was the availability of various subsidies from the local government of Alabat. The LGU subsidized the farmers' land preparation, which was the biggest cost in farm production. This subsidy enabled the farmers to self-finance the rest of their production requirements. The farmers can wait to be paid by AIFPC after the cooperative received its payment from JFC, which explains why the cooperative can survive without working capital. On top of the subsidy for land preparation, the local government also made available other resources to the farmers (e.g., agriculture technology and extension services, processing facilities) and to the AIFPC (e.g., use of hauling truck). However, there were risks that these social investments would not be sustained after the term of the local mayor expires in the upcoming election.

## How Financing Was Accessed

Using features of interlinked contracts described in the literature, we identified how financing was made possible in two settings covering three subunits of the FEP case study. In the Kalasag MPC subunit, ASKI was the initial source of credit; it made financing accessible after being invited as a partner and after assuring itself of the commitment of other partners to the program. When invited to become a local partner of JGF, Lamac MPC saw the opportunity to meet its goals while earning from credit and marketing. In regard to the AIFPC, despite the absence of a financing partner, the farmer-members and the cooperative were able to finance their requirements because of the social investments made available by a partner of JGF, namely the local government of Alabat. In succeeding parts of this section, we offer our observations on

the roles of cooperatives (4.3.1.) and then our discussion of the features of "inclusive interlinked financing" (4.3.2).

### Observations on the Roles of Cooperatives

The involvement of farmers' organizations—cooperatives in this case—was crucial. For specialized formal credit institutions, lending to individuals typically meant exposure to risk owing to the uncertainty of individual farmers' types and behaviors—a risk that cannot be adequately resolved by varying credit terms alone. We observed that a specialized lender's response was to charge high interest rates<sup>9</sup> or impose stringent collateral requirements, either of which priced smallholders out of formal credit markets. The inadequacy of a pure credit relationship explained why banks have failed whereas traderlenders have succeeded in extending loans to smallholders.

Such individual risks, however, were mitigated by lending to cooperatives in the subunits since, apart from transaction-cost savings in not having to deal with a large number of borrowers, lenders like ASKI relied on Kalasag MPC's internal enforcement mechanisms to collectively address problems of moral hazard and adverse selection. Moreover, the implicit averaging out of effort and types in organizations meant a more diverse group of individuals can be accommodated without unduly raising risk to the point of prejudicing credit. In this sense, the arrangement also facilitated greater inclusiveness as compared with direct lending to individuals.

## Inclusive Interlinked Financing

We found out that in all subunits, partnerships provided the farmers access to production financing whether through loans or strategic subsidies. The partners, in effect, were engaged in interlinked relationships with the farmers and with each other to enable the farmers to sustain production and keep delivery commitments to institutional buyers. Because the goal was to enable farmers, the relationship among partners can be described as long-term, which gave a sense of stability to cooperatives in performing financial intermediation. This long-term relationship also invited risk-taking behavior from potential partners (e.g., ASKI in lending to the Kalasag MPC farmers).

The reputational capital of JGF, backed by the corporation itself, played a catalytic role in establishing the credibility of the partnerships formed under FEP. The standing commitment by a lead firm to purchase output—always conditional, of course, on acceptable quality and competitive price—served as an anchor for cooperatives and farmers alike to organize to respond to what was a large market opportunity.¹0The same commitment by a lead firm also served as a magnet for others to join as partners and contribute their efforts. In particular, the open sales contract to sell to JFC under the FEP functioned as a collateral substitute for lenders to finance smallholders in fulfilling their supply commitments. This effectively replicated the practice of purchase-order financing, where a prospective order is used as the basis for a loan to suppliers. The risk to lenders was further reduced by the involvement of other partners that served to guarantee performance.

This case suggested that interlinked contracts were accepted and used as a stable mechanism for output and credit transactions by rural actors in a developing economy context. The functionality of such contracts was derived from their ability to simultaneously solve problems of information (i.e., moral hazard and adverse selection) for trader-lenders and problems of asset-inadequacy and risk-bearing on the part of farmer-borrowers. To the extent that the FEP arrangements succeeded, it was because they recognized the joint and simultaneous nature of the problems that interlinked contracts solve.

Arrangements under FEP had characteristics that distinguished them from interlinked contracts associated with traditional traderlenders. First, transactions were decoupled and provided by distinct and specialized formal institutions and organizations. Significantly, for example, the output buyer (JFC or Chowking) was distinct from the source of credit or subsidy (i.e., an MFI, the cooperative itself, or the local government). Financing was coursed through formal organizations, particularly cooperatives with their own internal rules for membership and discipline. This separation of transactions provided farmers—especially acting through their organizations—a degree of autonomy and independent bargaining power that was absent in the traditional trader-lender relation.

Second, the distinct credit and output transactions continued to be linked and coordinated through partnerships under the FEP. Their relationship of parity and cooperation can be contrasted with the direct "coordination" in the person of the traditional trader-lender, where the latter plays the dominant role. As already discussed, however, a vital component of the viability of such partnerships appeared to be the secure market opportunity presented by a long-term open contract to sell to a reputable firm.

Finally, the interlinked contracts under FEP were supported by significant prior and current social investments—undoubtedly containing a subsidy element—meant to improve the human capital of farmers and local organizations. The costs of these investments were shared between JGF and its partners. The partnerships, particularly their commitment to a long-term relationship (or until the farmers groups are able to sustainably deliver to JFC and other buyers), were important, because no one actor or organization was able to provide all the needed social investments.

These then are the elements of what we define as "inclusive interlinked financing." It proceeded from a recognition of institutional voids that necessitated the linkage of production, marketing, and credit. However, it sought to supplant the traditional trader-lender relationship with one based on a collective organization of farmers supported by simultaneous partnerships with sources of formal finance and large formal buyers of output.

## Generalizations and Recommendations

This case study on the FEP sought to address the research question: "How can smallholders access formal financing?" We used the progressive case study approach to develop a novel theory that was grounded in our findings.

Closing the credit gap entails more than just separately addressing issues of credit, input provision, agricultural extension, and final markets. The disjointedness of the government's approach to agriculture—of agencies providing services oblivious of each other's efforts—creates externalities that are often filled by arrangements that are non-inclusive. The government's overfocus on input provision on the supply side rather than on the marketing side and without consideration for opportunities and challenges in value chains fails in putting to good use scarce resources. Its inaction or neglect of farmers' social preparation

and social investments even many decades after the enactment of agrarian reform is a key reason for the agriculture credit gap.

Key government agencies may meet greater success in fulfilling their mandates if they become part of inclusive value chains, especially since some of the requirements are in the nature of collective or public goods. Investments in infrastructure (e.g., roads, storage facilities, greenhouses), research and development (e.g., pest management), and agriculture technology and extension services are prone to free-rider problems (Llanto 2005), as well as costly, so these are best shouldered by the government. Public investments can reduce the costs and risks of lending and offering services (e.g., crop insurance) to farmers. In line with this, government agencies, in partnership with the private sector, should be encouraged to jointly develop and offer crop insurance packages since natural disasters can wipe away farmers' productive investments and increase lenders' correlated risks. The productivity of such supply-side public investments may be greatly enhanced by ensuring that the other elements needed for success, especially those pertaining to final markets, credit, logistics, etc. have also been addressed through strong partnerships and farmers' self-organization.

This case study, we believe, deepens our initial understanding of the nature and inclusiveness (or not) of interlinked contracts. There is no doubt, however, that it raises the need for wider-ranging studies that further investigate the credit gap and the insertion of smallholders in profitable value chains. As well as larger scale statistical or econometric studies, however, we believe action research on financial innovations such as interlinked contracts<sup>12</sup> may be usefully undertaken by academics, key government agencies, private sector, and financial institutions to inform the development of possible programs that address institutional voids.

Jane Lynn D. Capacio is a Senior Research Analyst of EMIT C4C of UP CIDS and Visiting Researcher of the Partnerships Resource Centre of the Rotterdam School of Management (Erasmus University). Email: jdcapacio@up.edu.ph

Emmanuel S. de Dios, Ph.D. is Professor Emeritus of the UP School of Economics and Senior Fellow of EMIT C4C of UP CIDS. Email: esdedios@econ.upd.edu.ph

Rob van Tulder, Ph.D. is Professor of the Rotterdam School of Management of Erasmus University, Academic Director of the Partnerships Resource Centre of the Rotterdam School of Management, and Senior Fellow of EMIT C4C of UP CIDS. Email: rtulder@rsm.nl

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#### Notes

- 1. Under the Agri-Agra Reform Credit Act of 2009, the penalty is equal to 0.5 percent of the deficiency between the financial institutions' actual portfolio and the minimum lending requirements.
- 2. See: Noble, Luz Wendy T. 2020. "Central Bank Considering Amendments to Agri-Agra Law." *BusinessWorld*, August 13, 2020. https://www.bworldonline.com/central-bank-considering-amendments-to-agri-agra-law/.
- 3. Contract-growing arrangements also appear to be a form of interlinking, but these are not included in the studies on interlinked transactions.

- 4. One of the indicators of financial inclusion is the number of adult populations that have financial accounts. Based on the results of the 2017 Financial Inclusion Survey of the Bangko Sentral ng Pilipinas, only 23% of adult Filipinos have formal financial accounts. This means that around 15.9 million adult Filipinos have financial accounts whereas around 53 million are unbanked.
- 5. Information asymmetry is also the plausible explanation not just for interlinked contracts but also for equilibrium rationing in credit markets (Stiglitz and Weiss 1981).
- 6. These studies focused on different aspects of the FEP, including its income and other welfare effects (APPC 2012), its results (Oxfam-CSR Asia 2017), the factors for its achievements (Sopov 2015), its social innovations (Schwab Foundation for Social Entrepreneurship and World Economic Forum 2016), its inclusive business practices (Poblador 2017), and its financing (Llanto and Badiola 2015). Although Llanto and Badiola also looked into agriculture credit, it focused mostly on financing and policy requirements.
- 7. At the time of data gathering, however, Kalasag MPC no longer borrows from ASKI but instead avails itself of a credit line from the ACPC.
- 8. The interlinked contract also serves as a commitment device to the cooperatives. They need to fulfill their promise to purchase farmers' products that pass quality checks because shirking might mean losing access to the FEP. The authors are grateful to one of the anonymous reviewers for suggesting the importance of commitment devices.
- 9. Indeed, charging high interests may even be counterproductive to the extent that it promotes adverse selection as pointed out by Stiglitz and Weiss (1981). So denial of access would be the more likely result in practice.
- 10. JGF undoubtedly plays a major role in organizing the value chain and providing social investments. Since its strategic planning in 2007, JGF has strived to create shared value for both the company and its development partners.
- 11. Inclusive interlinked financing is different from the way formal financial institutions such as the Land Bank of the Philippines, offer agriculture credit to farmers. Land Bank, in general, is a wholesaler of credit funds, and it either uses its own funds or the budget of non-financial government agencies such as the Department of Agriculture and the Department of Agrarian Reform, to guarantee loans to intermediaries such as cooperatives and microfinance institutions. Screening and capacity building of clients are undertaken by the Land Bank and the concerned government agencies.
- 12. Action research could include the following case studies: a) rice and corn (e.g., Federation of People's Sustainable Development Cooperatives, Mang Binatog), coconut (e.g., organizations and social enterprises that are into coco sugar), and sugarcane (e.g., Alter Trade Foundation). These studies could show how interlinked arrangements, if practiced, are similar or different depending on crops and commodities. The authors thank one of the anonymous reviewers for this recommendation and for suggesting the above-mentioned cases.

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