Sustainable Value Chain Financing for Smallholder Agricultural Production in the Philippines

Connie Bayudan-Dacuycuy, Marife Magno-Ballesteros, Lora Kryz C. Baje, and Jenica A. Ancheta

ABSTRACT

Cognizant of the value, contribution, and challenges in the country’s agricultural finance, the government has intensified its lending programs to help the sector, particularly smallholders, thus, boosting affordable and easy access retail lending in recent years. Despite these efforts, however, significant problems remain, including the lack of markets and low prices, which have had significant implications on the overall repayment capacity and credit rating of small farmers and fisherfolk in the Philippines. Indeed, lending programs are unlikely to become successful if financing and production are not viewed in the bigger context of value chain financing. This paper looks into the farmers and fisherfolk’s financing ecosystem and provides recommendations on how the existing value chain financing in the Philippines can become more inclusive and sustainable for them.

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INTRODUCTION

Agricultural credit is an important element in agricultural development. It helps in smoothing consumption, given covariate shocks, and aid in the mismatch between consumption and production. It helps improve the sector’s productivity by facilitating the adoption of modern technologies and purchase of farm inputs and upholds the efficiency of smallholders. However, agricultural finance all over the world is considered risky due to the asymmetry of information available to lenders and small farmers and fisherfolk (SFFs).

Since the early 1980s, credit rationing arising from imperfect information and high transaction cost has been a challenge in the Philippines. This is more pronounced for SFFs who resort to informal channels, such as landlords, traders, input suppliers, big farmers, warehouse owners, and spouses of overseas contract workers (Llanto 1989). Other than flexibility in terms of repayment schedules and loan amortization, informal credit markets in the Philippines are also attractive due to collateral substitutes. Llanto (1989) identified different types of collateral substitutes in the Philippines, namely, third party guarantee, tied contracts, threat of loss of future borrowing opportunities, and mortgaging of tenancy or cultivation rights. Access to credit of SFFs in the Philippines is affected by several factors including interest rate (De Guia-Abiad 1991; Briones 2007; Cuevas and Sumalde 2015) and transaction costs (De Guia-Abiad 1991; Cuevas and Sumalde 2015). Institutions that secure property rights in the country are also weak. For example, the “inefficient land administration system has resulted in high transaction costs in securing, registering, and transferring property rights” (Llanto and Ballesteros 2002, p. 3). “There is no efficient mechanism to resolve land disputes and the land administration system does not generate reliable information needed by the courts to hear land cases” (Llanto 2007, p. 30).

In 2018, about 36 percent of the country’s total employment was in the agricultural sector. Data from the Philippine Statistics Authority (PSA) in the same year indicate that farmers and fisherfolk had the highest poverty incidence among the basic sectors in the country at 31.6 percent and 26.2 percent, respectively. The agricultural sector is critical in the attainment of Sustainable Development Goal 2, which pertains to zero hunger, and its targets of “doubling the agricultural productivity and income of small-scale producers (target 2.3) and ensuring sustainable production systems” (target 2.4) by 2030. Despite various well-meaning interventions, such as those found in the Agriculture and Fisheries Modernization Act, the sector is hounded by low productivity issues. The sector’s contribution to the country’s gross domestic product declined from 15 percent in 2009 to 9 percent in 2019. This is partly attributed to the inadequate credit and insurance in the agricultural sector that can adversely affect SFFs.

The agricultural sector’s importance in providing inputs to the manufacturing and services sectors is recognized in the Philippine Development Plan 2017–2022 and by numerous government lending programs. While financing challenges remain, aggressive lending and development programs are likely to manage lingering issues in the agricultural sector. Among the most pressing concerns are the inadequate markets and the attendant low farmgate prices.

This paper aims to answer the following questions: How widespread is credit rationing among SFFs? Are there limited formal credit market activities among agricultural households? What are the lending challenges and opportunities in agricultural value chains that involve SFFs? How do advancements in technology augment access to formal credit (e.g., mechanizing the processes and maximizing the use of mobile phones and electronic payment platforms)? To answer these questions, key informant interview and focus group discussions with various stakeholders were conducted from July 29, 2020 to September 23, 2020 with the help of on-ground personnel from the
Agriculture Credit Policy Council (ACPC). To select the sites, the PSA 2012 Census of Agriculture and Fisheries\(^2\) was used to identify crops that were produced in high volume, including hog/swine (livestock), _palay_ (temporary crop), and coconut, banana, and pineapple (high-value commercial crops). Provinces that produced these crops were chosen, such that there was a good mix of areas in Luzon, Visayas, and Mindanao. The final study sites are Nueva Ecija, Quezon, Negros Occidental, and Bukidnon. Respondents include 15 SFFs and 20 representatives from various credit sources (Table 1). The median age of SFF respondents is 49 years old. About 28 percent are college graduates, 19 percent have spouses that are college graduates, and 29 percent are lot owners. Respondents were asked questions not only on the process of acquiring credit, but also about the good practices, issues and challenges, and existing and potential SFF lending strategies.

<table>
<thead>
<tr>
<th>Study area</th>
<th>Demand side</th>
<th>Supply side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nueva Ecija</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Quezon</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Negros Occidental</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Bukidnon</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

KII = key informant interview; FGD = focus group discussion

Note: Demand side: rice farmers in Nueva Ecija, coconut farmers in Quezon, fisherfolk and livestock raisers in Negros Occidental, and banana farmers in Bukidnon. Supply side: relevant loan officers from different financial institutions, such as the Land Bank of the Philippines, microfinance institutions, cooperative banks, officers and staff from cooperatives, and informal lenders.

Source: Authors’ compilation

Bukidnon\(^3\) is a landlocked province in Northern Mindanao with a total land area of 1,049,859 hectares (ha). Its major crop in terms of crop area harvested is corn, followed by palay and sugarcane, and also pineapple, banana, coffee, and coconut. Banana is an emerging prospect as major plantations are looking to further expand their operations in the area. Negros Occidental,\(^4\) known as the “Sugarbowl of the Philippines”, is a province in the Western Visayas region. Aside from sugarcane, its major crops are palay and corn. Livestock, poultry, and fishing are also major sources of livelihood in the province. The volatile nature of the sugar industry, however, is a challenge for the province’s agricultural sector. Thus, agricultural diversification is promoted. The fishing industry can also be expanded, since many of its municipalities are located in rich coastal areas. Nueva Ecija is known as the “Rice Granary of the Philippines”. In 2020, the PSA reported that Nueva Ecija produced 959,342 metric tons of palay, the highest among all provinces in the Philippines. Moreover, the 2012 Census for Agriculture and Fisheries reports that almost 60 percent of the barangays (villages) in Nueva Ecija have rice or corn mills. Nueva Ecija also produces corn and onion. Investments in infrastructure have already been in place, such as the completion of the PHP 190-million cold storage facility funded by the Department of Agriculture-Philippine Rural Development Project (DA-PRDP) for the benefit of onion farmers.\(^5\) Quezon province, on the other

\(^2\) The Public Use File is still not available although the PSA has released publication highlights.

\(^3\) Taken from [https://bukidnon.gov.ph/2012/11/19/agriculture/](https://bukidnon.gov.ph/2012/11/19/agriculture/) (accessed on October 1, 2020).

\(^4\) Taken from [https://www.negros-occ.gov.ph/about/the-history-geography/](https://www.negros-occ.gov.ph/about/the-history-geography/) (accessed on October 1, 2020).

\(^5\) Taken from [https://www.pna.gov.ph/articles/1114736](https://www.pna.gov.ph/articles/1114736) (accessed on October 1, 2020).
hand, is the leading producer of coconut in the country. Major crops in the province include rice, corn, mango, and banana, while livestock and poultry production consists of chicken, duck, carabao, goat, and cattle. In 2019, the DA and the Philippine Coconut Authority piloted the Model Coconut Farm in Gumaca, Quezon, which aims to transform at least 1 million ha of monocropped coconut farms into model coconut farms wherein diversified farming and the use of modern technology are practiced by farmers.\(^6\)

**REVIEW OF RELATED LITERATURE**

**Credit rationing and risks**

Access to credit was found to increase the technical efficiency of rice farmers in Pakistan (Chandio et al. 2019) and tomato, cabbage, and beetroot farmers in Swaziland (Masuku 2014) and the cultivation practices of farmers in Mekong Delta (Duy et al. 2012). Despite this, the high unmet demand for credit and access to formal credit appear problematic (Swain 2002; Maurer 2014). Credit rationing, broadly defined as excess demand for loans, can manifest in a situation where the amount of loan the borrowers received is less than what they requested for at a given loan rate (Padmanabhan 1981) or when borrowers “cannot borrow at the interest rate they consider appropriate”, or are denied credit because lenders think they may not obtain the required return at any interest rate (Jaffee and Stiglitz 1990, p. 848).

While credit rationing can occur in any sector, rationing in agricultural credit is widespread due to several risks like in agriculture and agricultural finance. Risks in agriculture are from the farmers’ perspective, while risks in agricultural finance are faced by financial institutions when lending to farmers (Maurer 2014). Risks in agriculture can come from production, market, financial, legal and environmental, and human resources risks (OECD 2009; Angelucci and Conforti 2010). Production and market risks are identified as the most prevalent in the agricultural sector. Agricultural finance risks, on the other hand, arise from the asymmetric information that results in adverse selection and moral hazard (Jaffee and Russell 1976; Stiglitz and Weiss 1981).

Since lenders do not have full information on the borrowers’ attributes and actions after the loan is awarded, borrowers may receive an amount smaller than what was applied for, or none at all (Olomola and Gyimah-Brempong 2014). Problems brought about by imperfect information are more pronounced for SFFs due to the inadequacy of their productive assets that can be used as collateral.

As a result of credit rationing, small-scale farmers turn to informal credit sources. Borrowing from informal channels is attractive, since it offers flexible repayment schedules, variable amounts of loan amortization, adjustable collateral requirements, and payment of loan at the farmgate (Llanto 1989). The lack of “knowledge about the target clients’ financial needs, the nature of their different economic activities, and the dynamics and risks in their commercial relations” resulted in the low penetration of the formal sector in rural areas (Hernandez 2017, p. 114).

Risks in agriculture and agricultural finance are necessarily interrelated (Maurer 2014). Uncertainties in production and market prices feed into the reluctance of lending institutions to extend credit to farmers and fisherfolk. Unless instruments, such as insurance and support networks, are in place, financial institutions will remain unwilling to provide credit especially in the possibility of systemic risks (Gonzalez-Vega 2017). The timing of production tasks, such as planting, fertilizing, and harvesting, needs careful planning. This is why monitoring, such as technical visits and reports,

\(^6\) Taken from https://www.bworldonline.com/diversified-crop-program-targets-conversion-of-1-m-hectaresplanted-to-coconut/ (accessed on October 27, 2021).
is devised to minimize the risks faced by lenders (Carrera et al. 2020). While this can increase the probability of repayment, monitoring can entail additional administrative and transaction costs, which discourage lenders from extending credit.

The three types of credit rationing are quantity rationing, risk rationing, and price rationing (Boucher et al. 2008; Ali et al. 2014). Quantity rationing is from the supply side and occurs when lenders reject loan applications due to the lack of collateral or perceived risks associated with the project. Risk rationing is from the demand side and happens when borrowers do not borrow due to fears of indebtedness or desire to preserve their productive assets (Olomola and Gyimah-Brempong 2014). Further, many farmers do not request credit due to the costs of project preparation, negotiation, and registration of guarantees (Carrera et al. 2020). On the other hand, price rationing happens when borrowers do not borrow due to the amount of loan offered at the given interest rate. These types of rationing are affected by different factors.

Olomola and Gyimah-Brempong (2014) found that farming experience was a significant factor in quantity and price rationing. Financial and productive wealth appear to be the common determinants of risk rationing. For example, Boucher et al. (2008) noted that the financially wealthy would not be quantity-rationed but would be risk-rationed.

Various factors limit borrowers’ access to financial services in rural areas. The most prominent one involves geographical location (Gonzalez-Vega 2017). Distance may result in high transaction costs due to the “greater spatial dispersion of production, the lower population densities, the generally lower quality of infrastructure, and seasonality and often high covariance of rural production activities” (Olomola and Gyimah-Brempong 2014, p. 2). Smallholder agriculture is constrained to adapt to today’s financialized and integrated economy due to unclear property rights and other institutional issues. These barriers create challenges in verification and monitoring and exacerbates issues from imperfect information (Gonzalez-Vega 2017).

The institutional capacity of lending entities also affects smallholder access to financing services. For example, financial institutions in Nigeria display limited understanding of the agricultural sector, which leads to high interest rates and inadequate or inappropriate products and services (Olomola and Gyimah-Brempong 2014). When financial institutions cannot fully ascertain the borrower’s creditworthiness, they exclude borrowers, allocate limited credit, or exact unfavorable contract terms (Benjamin et al. 2016; Gonzalez-Vega 2017).

**Agricultural value chains and innovations**

Due to risks in the agricultural sector, mitigation measures should be in place not only to attain productivity and efficiency but for countries to harness the sector’s full potential. Various initiatives can manage risks and attract investments into the sector, such as macro-level initiatives like crop insurance, input subsidies, and state-sponsored agricultural credit (Akhtar et al. 2019), and farm-level initiatives like crop diversification and involvement in the off-farm generation of income (Santeramo et al. 2014; Saqib 2016).

Credit has been a major instrument that facilitates production activities in agriculture. The formal financial sector has a comparative advantage in terms of funds and financial products and services, but has a low penetration rate in rural areas due to issues like imperfect information, weak institutional capacity to navigate geographical challenges, and lack of knowledge on the nature and types of agricultural activities. The inherent variability from systemic and covariate risks has

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7 External price rationing happens when “lender raises the interest rate or transaction costs so that free choice, along the credit demand curve, results in a utility maximizing position,” while internal price rationing “occurs when a borrower chooses whether or not to borrow at fair market prices and transaction costs” (Olomola and Gyimah-Brempong 2014, p. 11).
resulted in various types of credit rationing by the formal sector and borrowers seeking credit more from informal sources. Informal sources, such as local lenders and stakeholders in the production and trading chains, are attractive due to their flexibility and lower transaction costs.

There is a recognition that both formal and informal sources can come together in the agricultural value chain to support farmers and fisherfolk and promote their income through better market integration and value addition (Angelucci and Conforti 2010). Value chains are “conceived as networks that support three types of flows—physical, financial and informational—all of which are responsible for movements of physical products, payments and lending arrangements, and coordination among physical and financial flows” (Angelucci and Conforti 2010, p. 566).

Different stakeholders have different expertise, knowledge, and capabilities that value chain brings together to overcome the costs of acquiring information and improve the delivery of financial services in the countryside.

Several Asian countries have had positive experiences in the value chain. In Viet Nam, a private company that supplies ginger to large exporters and retailers used its capital to provide loans to quantity-rationed borrowers who are into ginger production and provided seedlings and extension services to small-scale producers (Hurri et al. 2017). Over the course of its operation, the company established successful collaboration with producers through its financial services and facilitated markets between ginger producers and exporters or retailers.

Digital technology can enhance the agricultural value chain. India leverages on information and communications technology (ICT) to enhance competition and transparency in bidding for agricultural produce through the electronic tender system (Puri and Shrivastava 2017). The activities of farmers, traders, and banks during e-tendering interrelate with each other through digital technology. Traders bid through the computer systems in shops or kiosks and winning bidders have an option to send money through mobile or bank transfers.

The tender system has features that enhance the partnership of farmers and financial intermediaries. Farmers have options to store their produce in accredited warehouses and use the warehouse receipt to secure their bank loan. This, and the fact that participants in the tender system have financial accounts, reduces credit rationing from imperfect information. By recording each transaction, the tender system helps develop appropriate financial products and services.

Interlinking credit transactions to overcome imperfect information issues is also practiced in the Philippines. A self-help group in Cotabato was documented to forge linkages with banks to develop a long-term relationship with formal financial channels. In one case, a corporation was organized to obtain production loans from a rural bank and act as a fund conduit and guarantor to farmer loans (Llanto 1989). In Nueva Ecija, Nagarajan and Meyer (1998) documented that farmers were required to pay their loans from trader-lenders with their harvests and sell their surplus harvest to them as well. This approach benefits both farmers and trader-lenders, with the former not having to worry about marketing and storage, and the latter assured of a reliable source of commodities to trade. A microfinance institution (MFI) in Nueva Ecija, known as Alalay Sa Kaunlaran Inc. (ASKI), uses the group-context lending approach where members are also guarantors. ASKI requires all farmers to put 15 percent of the loan into a savings account, which serves as the farmers’ hedge against covariate risks. The marketing and trading cooperative of ASKI buys the cassava harvest and sells it to the San Miguel Corp. through its food division, thereby facilitating the marketing and selling of harvests and repayment of loans (Ani and Andales 2017).
SYNTHESIS OF KII AND FGD

The supply side: Players in the financing ecosystem

Various players provide credit to SFFs, including informal lenders, such as agro-input traders and formal sources like banks, MFIs, and cooperatives, which are conduits or partners of government lending programs. The Land Bank of the Philippines (LBP) is the major formal financial institution that serves SFFs through lending centers. Most of LBP’s loans to SFFs are tie-up programs designed to relax most of the requirements that SFFs find burdensome to comply with. LBP facilitates the credit investigation, approval, monitoring, and collection. Crop insurance also covers the approved loans. LBP uses its internal funds and all loans financed through these are covered by the Agricultural Guarantee Fund Pool, which covers 85 percent to 90 percent of the loaned amount. The bank offers wholesale lending to local governments, cooperatives, MFIs, and other banks, which then lend to SFFs. Since the loaned amount to borrowers is typically bigger, the bank requires collection reports from cooperatives and collateral from the bigger ones. These borrowers allocate a small portion of their portfolio to SFF lending due to the risk involved. LBP also lends to input traders and strictly requires collateral.

Cooperatives are important players in facilitating SFFs’ access to credits. They offer flexibility in repayment schedules and loan amortization. Some are conduits of government funds and target rural areas where SFFs are unlikely to access formal credit sources. They have personnel who assist SFFs in filling out the documents, articulating the project proposal, and monitoring the projects, especially in remote areas. Similar to LBP, other banks, such as microfinance rural banks and cooperative rural banks, lend to SFFs through their internal funds or tie-up programs. Some banks, however, have shifted priorities to big loans (PHP 500,000 and above), but continue to serve small farmers with good credit standing. MFIs offer flexible credit facility to SFFs although some are operating in limited areas. Several input traders and merchants provide credit to SFFs through tied contracts. This means that SFFs will receive inputs and repay using harvest.

The terms and conditions and eligibility requirements of government-led lending programs that have similar objectives must be rationalized and harmonized. Having clear and specific targets and outcomes can help in the program’s successful design and implementation. For example, programs with small and easy access loans can be viewed as transitory, whose program design should focus on values formation and building SFF creditworthiness. Programs with bigger loans and require collateral other than real estate (e.g., harvest and other chattel mortgages) can be viewed as graduation programs that focus on SFFs’ bankability, making technical knowhow, capacity building in technological adoption, and financial literacy imperative at this stage.

Cooperatives are important supply-side stakeholders, while capacity building in fund and risk management is critical, especially for those that are recently established. Their critical roles, notwithstanding prudence in crafting programs to capacitate cooperatives, should be exercised. Requiring collateral to safeguard against fund misuse is ideal. Small and young cooperatives should be able to establish good credit history and creditworthiness within an acceptable period (e.g., three to five years). Moreover, young cooperatives can be supported through organizational and enterprise development and by linking them to the value chain. The same developmental mindset can be applied to SFFs who have limited capacities. For example, a lending program providing loans in small amounts (PHP 5,000 to PHP 10,000) and at 0 percent interest rate in the short term (six months to one year) can be implemented to establish a credit record. As their demand for credit increases, requiring collaterals other than real estate assets (e.g., harvest and other chattel mortgages) can be instituted for accountability.
The demand side: SFFs

SFFs experience several types of credit rationing like quantity rationing and risk rationing. The former occurs as banks screen applicants and look into their credit history. Banks exercise prudence before approving loans because they are aware that in the case of SFFs, loans are often used in consumption that makes default a possibility. Banks perform credit investigation and use credit history and outstanding loans as factors in credit evaluation. Cooperatives may deny applicants, especially when they do not have the appropriate infrastructure for projects they are applying loans for (e.g., pig and poultry pens). Reduction of the loaned amount is also a strategy for some cooperatives, although the credit line is increased as outstanding loans are repaid. The latter takes place because borrowers fear indebtedness or worry about the various costs of borrowing. A common concern among SFFs is the fear of default from the variability and uncertainty in their income. Others have no intention to borrow either because they know that banks have requirements, such as land titles, and are not knowledgeable of the process or uncertain of loan approval anyway. Some want to minimize their exposure, since they have existing loans from other sources.

SFFs who do not experience risk rationing need to demonstrate creditworthiness to secure loans from banks, cooperatives, and MFIs, especially under the regular lending program. While a bulk of funds for SFF loans comes from government-funded credit programs, banks and other formal lending agencies allocate their own funds. Banks are mandated through the Agri-Agra law to allocate 25 percent of their loanable funds to agriculture and agrarian reform beneficiaries. Banks and other formal lending agencies are more cautious in lending to SFFs under their regular lending programs, which are usually offered to clients who have good credit ratings and can offer some form of collateral. On the other hand, government credit programs are directed to riskier clients, usually to new borrowers and those who cannot provide acceptable assets as collateral. The affordable and easy access government lending programs have encouraged some SFFs to go to formal credit sources for agricultural production loans. However, most of them use informal channels, such as input traders, merchants, and informal lenders, for their broader financial needs, since they are community-based lenders and grant loans faster than other credit sources. These sources do not require documents and offer easy payment terms compared with banks, MFIs, and cooperatives that require documents to be filled out, submitted, and validated, and loans, which take time to be approved and released. This credit channel is useful in addressing immediate cash needs, such as in cases when a family member gets sick. Due to poor credit history, borrowers who are blacklisted from formal credit sources also turn to informal lenders.

SFFs are not homogenous as a group. The DA defines small farmers as those who operate farms of 3 ha and below. Banks consider farmers who operate or manage farms up to 10 ha as small farmers. The 2017 ACPC SFF Indebtedness Survey shows that while the average farm size is similar between borrowing and nonborrowing farmers, the annual production income of farmers who borrow from formal credit sources is about twice that of nonborrowing farmers (Table 2).

Aside from land size, small farmers can be characterized by technology use, crop type, and access to the value chain. Within the SFF group, subsistence and backyard farmers engage in agriculture mainly as a safety net rather than for commercial purposes. In this case, farm production is usually for consumption and has limited or no plan for expansion. These farmers are also likely to have no desire to borrow. Meanwhile, some farmers are engaged in agriculture for commercial purposes. They sell a bulk of their produce in the local markets and invest in their farms for business expansion. Segmentation within SFFs has to be considered in designing credit programs for smallholders. Subsistence farmers may require more capacity building programs to be exposed or trained for technology and business networks before having
access to credit. Commercial SFFs can be supported by proving better access to formal credit and technology and by strengthening their links to the value chain.

### Table 2. Characteristics of borrowing and nonborrowing farmers

<table>
<thead>
<tr>
<th></th>
<th>Borrower (formal)</th>
<th>Borrower (informal)</th>
<th>Borrower (both)</th>
<th>Nonborrower</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>n</td>
<td>Mean</td>
</tr>
<tr>
<td>Age</td>
<td>271</td>
<td>51.86</td>
<td>213</td>
<td>52.58</td>
</tr>
<tr>
<td>Household size</td>
<td>272</td>
<td>4.99</td>
<td>214</td>
<td>4.77</td>
</tr>
<tr>
<td>Size of parcel</td>
<td>272</td>
<td>1.48</td>
<td>214</td>
<td>1.47</td>
</tr>
<tr>
<td>farmed (ha)</td>
<td>272</td>
<td>94,412.61</td>
<td>214</td>
<td>75,415.64</td>
</tr>
<tr>
<td>Production income</td>
<td>272</td>
<td>163,727.30</td>
<td>214</td>
<td>131,826.90</td>
</tr>
<tr>
<td>Household income</td>
<td>272</td>
<td>163,727.30</td>
<td>214</td>
<td>131,826.90</td>
</tr>
</tbody>
</table>

*Ha = hectare; PHP = Philippine peso
Note: n is the number of observations; credit from pawnshops and local government units (LGUs) were classified as informal.
Source: ACPC (2018)*

In Negros Occidental, a microfinance rural bank representative shared that it currently serves 150 out of the 1500 agrarian reform beneficiaries it initially started with. The remaining 150 clients are those with good credit standing. LBP denies the loans of individual borrowers or members of cooperatives who have records of default. A cooperative rural bank representative shared that they deny loans when there is no collateral, or the value of the collateral is lower than the loan applied for, and the loaned amount exceeds the amount needed to execute the farm plan.

Some cooperatives perform background and credit investigation with 5 percent of their members rejected. Informal lenders employ prudence in lending to SFFs as well. A feeds distributor in Negros Occidental shared that he did not completely turn down input loans from hog raisers but reduced the amount of inputs he approved. Similarly, banana merchants in Bukidnon implied that they stopped lending to farmers when the latter had big outstanding loans. Reducing the loaned amount was also a strategy of a multipurpose cooperative in Bukidnon. MFIs also limit the initial loan that one can borrow (e.g., PHP 5,000), although the credit line is increased as outstanding loans are repaid.

There are cases when there are no LBP branches (such as in Sumilang, Bukidnon) or the existing branches are recently established (like in Quezon), or there are credit facilities, such as rural banks and cooperative banks, but the distance and transaction costs are deterrent factors.

### Issues identified and specific actions suggested by supply-side players

**Inadequate manpower to monitor loans**

The recent push toward direct lending and the influx of government-funded lending programs have provided a more focused approach to help SFFs and brought positive spillover effects in the SFF financing ecosystem, including the high repayment rates of some programs. Competition has led rural banks and informal lenders to continuously review their products and services. These lending channels have reached out to communities that are likely to experience credit rationing. Despite these, challenges to government-funded credit programs need to be highlighted to improve
the effectiveness and efficiency of service delivery. These include issues on project monitoring, which LBP does not have the manpower for, and the collateral-free policy, which can be a source of moral hazard in SFF lending. Projects approved by LBP under the government-led lending programs are not regularly monitored due to the lack of manpower. Monitoring can ensure SFFs’ access to formal credit sources, since it helps in the early detection of production issues and potential misuse of borrowed funds, and determines the time of harvest and collection. All of these can improve loan repayment and help SFFs build a good credit history. Monitoring also helps banks evaluate defaults.

Given LBP’s limited manpower, collaboration with other cooperatives and other stakeholders, such as MFIs and SFF associations, must be strengthened. These institutions have personnel who go to communities to organize people with financing needs and assess their eligibilities. Thus, they can help reach out to coastal and rural communities for SFFs who are more likely to experience credit rationing. They are also more capable of delivering personalized services, like training on financial literacy and forum to discuss strategies for SFF projects. Officers also conduct regular monitoring of the projects, which helps reduce the probability of default.

Quick implementation of some programs
Stakeholders from banks indicate that not all lending programs are considered, since some are quickly implemented to get political leverage. Such programs are implemented even when borrowers are not ready and the manpower is not yet in place. The strong presence of critical elements can make lending programs successful. However, some programs benefitted from careful planning prior to implementation, like Sikat Saka, which started in 2013 and is still delivers financing services to SFFs. Thorough screening, the readiness of borrowers (in terms of infrastructure, training, and technical know-how), and the availability of manpower or on-ground personnel to monitor projects are important for efficient and effective delivery of financing and related services. This means that manpower is in place to screen applicants prior to their endorsement for financing, which has helped in high repayment rates.

Training programs, particularly on financial literacy, should be included in the SFF loan packages, to educate SFFs on the proper use of money and develop their skills in managing an agribusiness. Training programs to reshape SFFs’ attitudes toward government money can help build the trust of formal lenders in SFFs’ ability and intention to repay. Based on the cooperative banks’ experiences, most of their SFF clients who have availed of government-funded loans do not repay due to the mindset that government money is free. In part, this is validated by LBP lending center representatives who maintained that only about 20 percent of SFF borrowers repaid their loans and that their attitudes must be rectified. One defaulting SFF can send the wrong signal to the entire community. This sentiment was echoed by the representatives of cooperative rural banks who said that they had difficulties in succeeding loan cycles.

Cooperatives are critical in reaching out to SFFs in far-flung communities. Members of cooperatives need training programs, especially for the newly established entities, because most of them are not skilled enough in fund management. A representative of LBP shared that a sincere implementation of lending programs means that organizations become lending partners, not because of the pass-on rate, but because of their genuine efforts to deliver quality services to farmers and fisherfolk. This makes training programs significant in instilling this mindset in cooperatives.
Mixed responses to technological adoption

Stakeholders have mixed responses in terms of technological adoption. Technology is used by lenders to deliver allied services in some areas, such as entertaining queries from potential clients and establishing a financial portal to provide information on farm financing and a learning management system. This helps people learn about businesses that facilitate their loans. Radio programs and online livestreaming through social networking services like Facebook can promote awareness and explain the trends and relevance of various agricultural sectors. Some banks have leveraged technology through mobile banking. Meanwhile, the lack of connectivity, infrastructure, and technological knowhow are serious impediments to SFFs’ adoption of technology. SFFs and even credit supply-side stakeholders have agreed that the use of technology for loan application is a challenge, since most SFFs need assistance in filling out forms manually, more so digitally. Some supply-side stakeholders still release the loan proceeds by issuing checks, rather than through electronic banking functions like an automated teller machine.

Among the barriers to SFFs’ adoption of new technology, particularly in remote areas, are inadequate capital and the lack of education and technical knowhow. Rural bank players agree that educated farmers and those who can afford to invest in technology have benefited the most from mechanization. SFFs’ mindset that producing more is better has presented more challenges than solutions, especially in the cash crops production, which can easily flood the market during harvest season. Farmers need to practice smart farming or right size farming to enhance productivity. This is particularly needed amid challenges on the low-coverage delayed payments of crop insurance.

Issues identified and specific actions suggested by SFFs

Inadequate markets

Inadequate markets and low prices have hounded SFFs and become a major concern articulated by stakeholders from the study sites. For crab gatherers in Negros Occidental, the industry was doing well. However, due to community lockdowns imposed against the coronavirus disease 2019 (COVID-19), the industry’s value chain, from production to marketing, was disrupted. As such, crab gatherers were restricted in their movement. The transport of their harvest to nearby markets was also delayed. This resulted in oversupply and low market prices of crabs. Even before the COVID-19 pandemic, however, low prices were a major concern for some SFFs, especially during harvest season. Since gatherers deal with products that can go stale and do not have the appropriate equipment to store their produce, they are forced to sell them at low prices.

Inadequate crop insurance

Crop insurance is not enough to cover damages sustained due to natural calamities. Some fisherfolk, for example, noted that no coverage was given for partial damages and they could only claim if their boats were completely wrecked. Similar stories were affirmed by farmers when they claimed PHP 3,500 for a 1-ha banana plantation devastated by the El Niño warming phenomenon. A lag in payment was also noted as some farmers filed claims in the first quarter of 2019, but the proceeds were given in early 2020. Others are discouraged from filing claims because the cost is higher than the indemnity they can collect. Damages to crops increase the probability of default, and although loans can be restructured by banks, low prices and other production and marketing risks prevent SFFs from completely repaying their loans.
Other commodity-specific concerns

Commodity-specific concerns are present as well. In hog-raising, which is input-intensive, missing the appropriate inputs can have serious implications in profitability. In the grow-out operation where young pigs are raised, fattened, and sold after three to four months, it is crucial to finance the appropriate hog diet to maximize profits. Due to the lower prices of corn during harvest season, corn farmers in Bukidnon recently diversified into the banana-growing industry.

However, banana-growing can be challenging due to pests and diseases affecting the quality of produce. There were cases when only about 60 percent of the harvest were absorbed by buyers in Davao, with class A and B valued at PHP 30 per kilogram (kg), and class C valued at PHP 20 per kg. Rejected harvests are sold in a fruit stand, while the rest is fed to the pigs. To prevent infestation and consequent low marketability of harvests, growers need to spray insecticide twice or thrice every month. Most landowners in Bukidnon rented out their farms to multinational agricultural firms like Dole. Thus, little help is given to backyard banana growers.

Despite the existing LGU assistance, SFFs also identified several ways to improve LGU services, such as the following:

- Strengthen the enforcement of fishery laws. Some fisherfolk shared that illegal fishers entered their areas.
- Continue the enforcement of crab reseeding policy, which helps sustain the crab industry, but has not received full support from the local officials in Negros Occidental. This emphasizes the need to shield good programs from politics.
- Strengthen monitoring and technical assistance for hog raisers, particularly for early detection of diseases, which prevents losses. However, most agriculture offices do not have enough manpower to conduct regular monitoring.
- Assist banana farmers in Bukidnon who are not in partnership with multinational companies in the form of insurance and agro-input supplies. Most of the assistance are channeled to corn, the major crop in Bukidnon, although banana farming appears to be an emerging source of income.
- Strengthen information dissemination on commodity-specific services, including the appropriate harvesting of crabs and the availability of insurance on hogs.

AVCF in the study sites

The value chain in the study sites is traditional and generally characterized by many small and independent SFFs who secure financing from financial institutions through tie-up programs among the government, agro-input suppliers, and cooperatives or MFIs (Figure 1). In the retail lending channel, banks provide financing to SFFs prequalified by funding agencies. However, there are several challenges in this channel. Banks do not have adequate manpower to regularly monitor the projects. SFFs have no assured markets and are vulnerable to low prices due to oversupply during harvest season. This is often exacerbated by traders or buyers who take advantage of the glut and the SFFs’ immediate need for money. More often than not, SFFs end up with little or no profit margin, which affects their loan repayments.
However, there are channels in the study sites that exhibit internal agricultural value chain financing (AVCF), including trade financing wherein agro-input merchants who provide inputs to SFFs take the harvests as repayment and sell them to partners or local retailers in nearby towns. This informal and unsupervised model allows trade lenders to impose unfavorable prices by raising the interest rates on loans and the selling price of inputs or reducing the price for the produce (Llanto and Badiola 2010). Cooperatives also provide credit to SFFs through government lending programs. While most cooperatives accept money as loan repayment, others have more organized financing and marketing approaches.

One promising AVCF is the tripartite arrangement among banks, institutions, and growers in Bukidnon, which can potentially be scaled up to address marketing issues. In this AVCF, a cooperative rural bank in Bukidnon, which directed its programs to big loans (at least PHP 500,000), entered into an institutional arrangement with the Asian Hybrid Seed Technologies Inc. (AHSTI). In the arrangement, the cooperative bank lends to farmers-growers identified and endorsed by the AHSTI. Farmers-growers are required to become associate members of the cooperative rural bank before the loans are released. The AHSTI guarantees the loan by providing the collateral to the cooperative rural bank. It supervises farmers-growers from planting to harvesting. In turn, farmers-growers sell the harvest to the AHSTI at a guaranteed price. The harvest becomes certified commercial seeds, which the government buys for distribution to farmers, while the rest are sold to the local market as commercial seeds.

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8 A 100-percent Filipino-owned corporation located in Malaybalay City, Bukidnon, that creates low-cost seeds of high-yielding corn varieties that suit the tropical agricultural conditions in the Philippines and other tropical and subtropical regions (https://ahsti.com.ph/) (accessed on October 27, 2020).
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This approach eliminates middlemen by identifying institutional buyers who assure a price floor and can solve the issues of inadequate markets and concomitant low prices. However, only selected farmers-growers can participate in this AVCF because they are recommended by the AHSTI. Farmers-growers also need to be associate members of the cooperative rural bank. This means that farmers-growers who have poor credit history cannot participate in the value chain financing.

WAYS FORWARD: FROM FACILITATOR-DRIVEN TO INTEGRATED AVCF

Issues and challenges remain, notwithstanding the availability of easy access and affordable government lending programs. While risks in agriculture have various sources, production market risks are prevalent in the sector. This leads to the high variability in production due to the daily vagaries of weather and occasional but destructive natural calamities or pestilence. Climate change, manifested by extreme and protracted drought or excessive rains resulting in floods, has become a challenge in the agricultural sector in recent years. Market risks are associated with uncertainties in prices that agricultural commodities will fetch during harvest time. Planting similar crops at the same time, which entails similar harvesting time, contributes to risks associated with lower market prices.

While these two risks have been the overarching concerns, other attendant issues contribute to risks in agricultural finance (Figure 2). These include limited insurance to cover damages sustained due to natural calamities and unfavorable practices of traders and merchants. Moreover, while LBP’s focus on retail lending encourages competition in the SFF financing ecosystem that results in more service-oriented products, it also presents challenges in project monitoring. There are also misplaced mindsets among SFFs that money from government lending programs is a grant (e.g., not to be repaid), which is partly reflected in the low repayment rates, and the “more is better” mentality, which equates successful farming to bountiful harvest. In the case of SFFs who have limited inputs to production, the appropriate mentality is to use the right amount of inputs to generate maximum profits.

A potential approach to address these challenges involves value chain financing in agriculture. A value chain “identifies the set of actors and activities that bring a basic agricultural product from production to final consumption”, connected through a vertical linkage or “a network of various independent business organizations, and can involve processing, packaging, storage, transport and distribution” (FAO 2010, p. 2). The two types of agricultural value chains are traditional and modern. Players in the former often engage in spot market transactions, with little or no accumulation of relationships, trust, and information, while modern players engage with each other in a coordinated and integrated manner.

AVCF has become a major focus of agricultural development programs all over the world, owing to the fast-paced lifestyle that boosts the demand for processed foods and paves the way for more retail stores and supermarkets. AVCF is “any or all of the financial services, products, and support services flowing to and/or through a value chain to address the needs and constraints of those the chain, be it a need to access finance, secure sales, procure products, reduce risk and/or improve efficiency within the chain” (Miller and Jones 2010, p. 2). The two types of AVCF are internal and external (FAO 2010). The former takes place in the value chain (e.g., input supplier financing farmers) and the latter is facilitated by the relationships in the value chain (e.g., a bank issues loans to farmers because it is guaranteed by a player in the value chain).
The different models of AVCF depend on who drives the value chain development: producer-driven, buyer-driven, facilitator-driven, and integrated (Table 3). Producer-driven value chain models are driven by producer associations through the provision of finance, inputs, and technical assistance to access new markets and obtain higher prices. This is driven from the bottom end of the chain and may have challenges as producers may not fully understand the needs of those in the topmost chain (Miller and Jones 2010). Buyer-driven value chain models are run by exporters or processors and demonstrated in contract farming and trade financing where buyers or traders commit to finance the production and producers and associations agree to sell their harvests to buyers or traders. Facilitator-driven value chain is driven by donors, such as the government or nongovernment organizations. An integrated value chain is the most evolved, connecting all players, including the SFFs, suppliers, processors or millers, wholesalers or retailers, cooperatives, and banks. It links actors through vertical integration (e.g., from producers and wholesalers up to the supermarkets). Financing, information, inputs, and technical training flow from other players to the producers in this model.

Table 3. Typical value chain models of smallholder production

<table>
<thead>
<tr>
<th>Model</th>
<th>Driver of organization</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer-driven (association)</td>
<td>- Small-scale producers, especially when formed into groups, such as associations or cooperatives</td>
<td>- Access new markets</td>
</tr>
<tr>
<td></td>
<td>- Large-scale farmers</td>
<td>- Obtain a higher market price</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Stabilize and secure market position</td>
</tr>
</tbody>
</table>

SFF = small farmers and fisherfolk
Source: Authors’ compilation

Legend:
- Payments
- Loans
- Selling

Uncertainty of weather patterns/calamity
- Inadequate/limited insurance

Low prices
- Inadequate markets
- Practice of traders and merchants and informal lenders

Loose links of SFF to inputs and markets

Focus on retail lending
- Sidelines wholesale lending
- Inadequate monitoring

Mentality
- Grant money/government money
- More is better in production

SFF’s low repayment rate
Bad credit history

Lenders unwillingness to lend to SFF unless under tie-up programs

Figure 2. Risks in agricultural finance
Table 3. (continuation)

<table>
<thead>
<tr>
<th>Model</th>
<th>Driver of organization</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer-driven</td>
<td>• Processors</td>
<td>• Assure supply</td>
</tr>
<tr>
<td></td>
<td>• Exporters</td>
<td>• Increase supply volumes</td>
</tr>
<tr>
<td></td>
<td>• Retailers</td>
<td>• Supply more discerning customers meeting market niches and interests</td>
</tr>
<tr>
<td></td>
<td>• Traders, wholesalers, and other traditional market actors</td>
<td></td>
</tr>
<tr>
<td>Facilitator-driven</td>
<td>• NGOs and other support agencies</td>
<td>• Make markets work for the poor</td>
</tr>
<tr>
<td>Integrated</td>
<td>• National and local governments</td>
<td>• Regional and local development</td>
</tr>
<tr>
<td></td>
<td>• Lead firms</td>
<td>• New and higher value markets</td>
</tr>
<tr>
<td></td>
<td>• Supermarkets</td>
<td>• Low prices for good quality</td>
</tr>
<tr>
<td></td>
<td>• Multi-nationals</td>
<td>• Market monopolies</td>
</tr>
</tbody>
</table>

NGOs = nongovernment organizations
Source: Miller and Jones (2010, p. 28)

Short-run strategic actions
In the short run, the facilitator-driven AVCF appears as the most suitable approach to integrate SFFs into the value chain, thereby ensuring inclusiveness. As the lead in the facilitator-driven AVCF, the government can replicate AVCFs that are already in place. The approach with the AHSTI, for example, can be replicated in other commodities and communities. However, it is a challenge to find players who are willing to participate in the AVCF. The government needs to look for firms, buyers, or institutions that will vouch for SFFs’ loan applications and look for a financial institution willing to provide the loan.

Many SFFs are independent producers who likely lack the capacity to meet the volume and quality requirements of wholesalers and institutional buyers and have yet to fully appreciate the importance of technology and trust, among others. The government can help prepare SFFs for a sustainable AVCF. While the development of AVCF is crop-specific, there are common elements for the case of a facilitator-driven AVCF in its infancy. The starting point is to perform a situation analysis to understand the market and the available players and resources, such as the items listed below.

- Understanding the market includes the assessment of institutional buyers (e.g., What do they need? How much do they need? At what price are they willing to pay for these? How often do they need the delivery?)
- Understanding the players requires the assessment of available partners (e.g., How will agro-input suppliers be able to scale up their lending facility? How can the participation of LBP, cooperatives, and MFI evolve from lending to market facilitation?)
- Understanding the resources involves the assessment of SFFs’ readiness for new approaches and technologies (e.g., What approach will work in forming sustainable associations? What dynamics in the community can present opportunities and challenges in the AVCF?)
The government must ensure the collective voice of SFFs as it facilitates the replication and scaling up of successful small-scale AVCF. Markets may determine the price, but big players have substantial influence as well. This idea can be leveraged for SFFs to tilt market outcomes in their favor. It is important not only to organize SFFs into groups but to identify leaders as well. In the short run, leaders should manage individual harvests to prevent oversupply during peak seasons and help mobilize members to actively participate in government-led consultation, training, and capacity building. Consultation with SFFs is critical in understanding feasible options, given the existing human capital and physical resources, and can foster a sense of ownership among SFFs and make the AVCF successful.

**SFFs should undertake training and capacity building.** While some SFFs are currently forming groups or associations, they should evolve to improve access to financing and marketing and enhance collective and individual welfare. Groups and associations are formed to avail of government assistance. They must look beyond the assistance mentality and evolve towards the adoption of correct attitudes and mindset. There is a prevailing “government money” mentality associated with government lending programs—one that implies that there is no need to repay because the funds are from the government. It underscores the need to capacitate SFFs’ technical knowhow, financial literacy, production-related knowledge, and more importantly, values formation to develop a strong sense of commitment. Training activities to introduce the use of technology and short- and medium-run plans to solve marketing problems and other related issues can be included in the tie-up lending programs.

**SFFs need to ease into the use of technology.** This is important in the flow of information in the value chain. There are obstacles to SFFs’ adoption of technology in payment systems or mobile banking, not only the lack of connectivity, but SFFs’ attitudes as well. Some SFFs do not see the need to adopt technologies, since they borrow from community-based credit sources and do over-the-counter payments or via roving account officers. Conduits and lending partners should help introduce technologies to SFFs through mobile banking and electronic payment systems.

**Develop a savings habit and improve the agricultural insurance program to enhance the credit access of SFFs.** Uncertainties in agricultural production can be mitigated by savings and insurance programs. Banks and other financial institutions that lend to SFFs should strengthen their savings programs, not only for lending purposes, but to also hedge against covariate shocks. Efforts to improve agricultural insurance in the country are undertaken. Reyes et al. (2019) suggested several areas for improvement for the Philippine Crop Insurance Corporation. This involves the need to improve penetration rate and strengthen partnerships with LGUs and target beneficiaries for free insurance program. The latter can be improved through the development of better information system that will provide an updated and complete listing and geotagging of agricultural producers and households in the country.

**Cooperatives should evolve from being conduits and facilitate markets.** Cooperatives have collective bargaining and marketing strategies that can link SFFs with institutional buyers. Some cooperatives in Bukidnon have practiced this approach and accepted harvests as payment and delivered them to buyers in nearby towns. Despite this, the problem of low prices remains. Cooperatives that have direct buyers in nearby towns noted that they need to strike a balance on the price that they demand, since some of their members opt to individually sell their harvests. This emphasizes the importance of groups and associations and their potential to sway market outcomes. The government lending programs should look into how its lending partners can strengthen their AVCF involvement.
LBP should help link SFFs with their merchant or trader clients. LBP has successful lending programs, such as the Sikat Saka, which can be a starting point for AVCF. The bank can forge linkages between SFFs and its retail clients who are merchants and traders.

Agro-input suppliers should have strong links with financial institutions. Some agro-input suppliers have created an ecosystem of financing and marketing, although currently small-scale due to financing issues. Despite issues on the timing and the availability of financing, opportunities can be scaled up (e.g., linkages have been established). Agro-input suppliers are community-based and can leverage their familiarity with borrowers and communities, not only in monitoring, but in risk management as well. Strengthening the link of the agro-input suppliers with financial institutions can reach SFF communities that do not have access to credit and with limited connection to markets.

Improve information systems to properly record and analyze agriculture loans to be better informed on product designs, risk management strategies, and innovations. The establishment of credit information bureau for rural credit can be explored. No single organization has credit information on small farmers. LBP provides wholesale loans to cooperatives and farmers’ organizations and does not have individual farmer data. The credit bureau can provide the risk profile of individual SFFs and agricultural borrowers. This will reduce the transaction costs of agricultural credit and help financial institutions and government develop programs to complement the risk profile of SFFs. With the establishment and operation of the Credit Information Corporation, the collection of credit information of small farmers will be feasible.

Medium-run strategic actions

Infrastructures are needed in the medium run. These include the establishment of postharvest facilities where crops may be stored while waiting for prices to become less disadvantageous to SFFs. Facilities need competent people who are skilled in commodity management to ensure the security and quality of inventory. Collaboration between the public and the private sectors is critical in building capacity and putting up regulations to ensure transparency in the operation and management of facilities. The establishment of processing hubs in strategic areas can be explored for perishable products. Postharvest facilities work only for nonperishable commodities like grains. The development of the agro-processing industry is a good strategy for perishable commodities.

Improve the speed and coverage of internet connection. Reliable and low cost connectivity is essential in the use of electronic payment systems. Connectivity is an element that all stakeholders find problematic. Based on the 2019 National ICT and Household Survey, 82.8 percent of households have no internet access. The high internet cost and equipment are the top reasons for this. The most common internet service provider (ISP) for both urban and rural communities in the Philippines is also the slowest, with download speed of 6.44 megabits per second (mbps) (Globe Mobile) and 7.49 mbps (Globe Telecom). In addition, 502 out of the 1,604 barangays have no ISPs.

Strengthen institutions to secure property rights and generate reliable information for land ownership disputes. This is an age-old issue that needs to be addressed to reduce transaction costs, eliminate fraud, and enhance borrowing capacities.

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10 As of June 2020, Comclark was the fastest at 22.54 mbps, followed by Converge ICT Solutions at 21.37 mbps, Converge at 20.56 mbps, Philippine Long Distance Telephone Company at 19.41 mbps, Sky Cable at 11.82 mbps, Smart Broadband at 9.6 mbps, and Eastern Telecoms Philippines at 9.08 mbps (https://www.statista.com/statistics/1117074/philippines-fastest-internet-service-providers-by-download-speed/) (accessed on October 20, 2020).
Long-run strategic actions

In the long run, the facilitator-driven AVCF must evolve into an integrated AVCF. One that is independent of government subsidies, in which information and financing are flowing seamlessly across the chains. Institutional buyers, SFF associations, and financial institutions are closely linked to facilitate the various aspects of value chain. SFFs and their associations should strengthen the linkages set out by the facilitator-driven AVCF and come up with innovative AVCF strategies to forge new linkages. Information systems allowing AVCF players to monitor the movement of goods, download or repay loans, purchase inputs, and access critical information should be in place. Information systems that link data on financing instruments (such as warehouse receipts) with financial institutions are critical to reducing administrative costs associated with verification on the part of the lender and to produce a proof on the part of the borrower.

Further develop infrastructures that are interlinked to financing and marketing. Services provided by postharvest facilities for nonperishable commodities, for example, should evolve into warehouse receipt financing (WRF), which provides both secure storage and access to credit. The National Bulk Handling Corporation (NBHC) is a warehouse management company in India that provides not only a trading platform to all participants of the value chain, but also secure collateral management and a single-window and customized end-to-end solutions (Miller and Jones 2010). To guarantee the condition and security of stored goods at field warehouses, the NBHC obtains regular audit and stock condition intelligence through an in-house team, conducts quality testing, administers security, and manages the health of stored goods (Choudhary 2007). In the Philippines, an enabling legal framework for the WRF is in place. However, the warehouse stock receipt issued by the National Food Authority is not considered a negotiable instrument. If properly managed and regulated, WRF can help in the AVCF, since it guarantees credit and can stabilize prices. For WRF to become successful, there must be commodity grades and accepted standards in the trading community. Warehouses must be well managed and receipts should be recognized collateral. There should be transparency throughout the systems (Miller and Jones 2010). Support research must be conducted, such as a situation analysis, aside from piloting test WRF in suitable areas in the country.

SUMMARY

In the short run, a facilitator-driven AVCF is recommended to pave the way for inclusive AVCF. Several critical elements are highlighted, including (1) capacity building and reshaping of the SFFs’ mindset and the key role of associations in mobilizing them to actively participate in government-led consultation and training; (2) adoption of technology; (3) improvements in risk-mitigating measures, such as developing a savings habit and innovative agricultural insurance among SFFs; (4) strengthening of links between agro-input suppliers and financial institutions; (5) participation of banks and conduits in forging SFF links with markets; and (6) establishment of a credit information bureau for rural credit. In the medium run, the government can focus on connectivity improvements and physical infrastructures, such as postharvest facilities and processing hubs.

11 There is an established legal framework governing warehousing and warehouse receipts in the Philippines. Two separate laws that cover warehousing and warehousing receipts in the Philippines are the Bonded Warehouse Act of 1932, as amended by the General Bonded Warehouse Act, and the Warehouse Receipts Act of 1912 (Llanto and Badiola 2010; Briones and Tolin 2016). “Specific rules and regulations for rice and corn were initially outlined in National Grains Authority Act of 1972 (Presidential Decree 4) and were expanded and developed through the Revised Rules and Regulation of the NFA on Grains Business of 2006” (Briones and Tolin 2016, p. 8).
In the long run, while AVCF is specific to crops and may differ based on the available players and resources in communities, the government can set up the necessary elements for a sustainable AVCF that is also independent of government subsidies. This implies that the government credit programs need to be strategic and designed not just to give credit access, but to capacitate SFFs, farmers’ organizations, and cooperatives for AVCFs. Banks and other financial institutions have the funds to supply credit to the agricultural sector and SFFs. However, the reduction of uncertainties in small farm production is imperative for funds to flow.

Facilitator-driven AVCF has to evolve into an integrated AVCF, with SFF associations and financial institutions being closely linked to facilitate value chain activities. SFFs and their associations must strengthen the linkages set out by facilitator-driven AVCF and come up with innovative AVCF strategies for new linkages. Information systems should be in place to link financing instruments with financial institutions and facilitate seamless transactions in the chains.

Given that the value chain in the country is still traditional and it takes time to set up the requisites of successful AVCFs (e.g., capacitating SFFs, associations, and small cooperatives; linking SFFs with input and output markets; and forging linkages with institutional buyers), buyer-driven AVCF can be explored as the second best alternative in the long run. This is a scaled down version of the integrated AVCF in terms of markets, although the systems that facilitate the flow of information and the interlinking of financial instruments with financial institutions remain essential.

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