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**Working Paper**

## Public-Private Partnerships in Agriculture Value Chains: The Case of Project ConVERGE in the Philippines

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DISCUSSION PAPER SERIES NO. 2022-37

# Public-Private Partnerships in Agriculture Value Chains: The Case of Project ConVERGE in the Philippines

*Marife M. Ballesteros and Jenica A. Ancheta*



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Public-Private Partnerships in Agriculture Value Chains:  
The Case of Project ConVERGE in the Philippines

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PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES

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## **Abstract**

This study examines the public-private-producers partnership (4Ps) model for agriculture value chain development implemented through Project ConVERGE of the Department of Agrarian reform. The model adopted a cluster approach whereby farmers groups are organized into clusters to coordinate their production methods to produce good uniform products and other business activities. The interventions or assistance from both government agencies and private sector are coordinated through the Project Management Office of ConVERGE at the central, regional and provincial levels. The study notes that the 4Ps is a form of facilitator driven agriculture value chain that is a suitable strategy given the level of agriculture development in the country. The 4Ps value chain interventions have addressed some of the constraints faced by small farmers to participate in the value chain. Farmer cooperatives that received the interventions specifically on farm equipment and processing facilities reported increased production, expansion of production area, improved mobility and less dependence on traders. However, markets remain limited and the cooperatives still lack the volume and quality of production that is required by major buyers including exporters. The key challenges include the lack of effective extension services including organizational training; inadequate capital and credit access of farmers cooperatives; limited subsidy for infrastructure development and other value chain interventions; weak cooperatives or farmers organizations; and poor geographic conditions. Government plays a major role in addressing these challenges. It needs a coordinated plan among partners agencies for extension and capacity building. Given bureaucratic problems and other institutional constraints, there is also a need to have a good selection of private sector partners both as service providers and financing partners. Markets access can be improved through links with financial institutions and agro-input dealers and through development of brands and certification. In the case of farmers organizations, they need to strengthen their savings and insurance programs to enhance credit access and to hedge against climate shocks.

**Keywords:** agriculture, public-private partnership, agribusiness, supply chain, agrarian reform

## **Acknowledgment**

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# **Public Private Partnerships in Agriculture Value Chain: The Case of Project ConVERGE in the Philippines**

***Marife M. Ballesteros and Jenica A. Ancheta***

## **1. Introduction**

Many smallholder farmers in developing economies are unable to operate in the value chain. They lack the resources, facilities, manpower and time to keep up with the dynamic nature of agriculture production, processing and marketing. Thus, they are often excluded from the supply chain and high value markets. One approach that have help farmers overcome these constraints is public private partnership (PPP). The shared arrangement among partners for inputs, resources, technology, risks and benefits can reduce the costs and inefficiencies in agriculture production and create a competitive environment for smallholders (IFAD 2016; Ponnusamy 2013; Narrod et. al 2009; Hartwich, Gonzalez, & Vieira 2004).

The importance of PPPs has intensified with climate change and with the growing sophistication of local and global markets including the greater demand for food quality and safety. In the past years, several partnerships for agriculture value chain have been implemented in the country. The more common partnerships for AVC are the buyer driven partnerships, which are initiated by exporters (usually multinational or big companies), processors, traders/wholesalers. The typical arrangement is contract growing or outgrower contracts whereby the buyer provides the production inputs, technology and financing. The Philippines has a long history of public private partnerships primarily contract growing, which were widespread in the 1980s.

Another type of partnerships that is quite recent in the Philippines is the producers driven AVCs whereby small farmers form groups/associations or clusters to collectively produce and market their products. The arrangements that have been piloted in the country are block farming in sugarcane farms, clustering approach in asparagus production, and cooperative farms for rubber production. The government, NGOs and other donors have also been drivers of AVCs and this partnership model is known as facilitator-driven AVCs. Facilitator driven AVC has been considered suitable in the short-term especially for the Philippines, where most small farmers lack access to technology, capital and markets and need capacity building to organize themselves (Bayudan, Ballesteros, Baje and Ancheta 2020).

The ConVERGE Project implemented by the Department of Agrarian Reform (DAR) through a Project Management Office is a type of facilitator-driven AVC that is supported by the International Fund for Agricultural Development (IFAD). The Project adopts a partnership approach referred to as public-private-producers partnership or 4Ps whereby a government entity takes the lead in linking small farmers to the value chain. This partnership model has also been implemented in many countries. Based on global experience, the government has a major role to play in the success and failure of these partnerships. According to Ponnusamy (2013), successful PPP models thrived in an environment where government policies provide a level playing field for all stakeholders and where stakeholders have clearly identified roles, responsibilities and reporting.



On the other hand, failed PPPs arise from poor identification of the problem, unsuitable business models and distrust among partners (IFAD 2016).

This study is undertaken to review the conduct of the 4Ps approach in regions where the ConVERGE Project is piloted. In particular, it aims to examine the following: (a) the scope of collaborative efforts among the government, private sector and farmers organizations for value chain; (b) the nature of interventions provided for value chain development; and (c) the challenges of the 4Ps approach.

The different partnerships developed in the pilot regions are presented for case analysis. Data were obtained from administrative project reports that includes midterm status and monitoring reports. These data were supplemented with key informant interviews and focus group discussions with ARC Clusters, ARBOs, and partner institutions (private sector and government agencies) and other stakeholders. The analysis covers the period December 2019 to June 2021 for which official data and interviews with key informants were conducted.

The paper is organized as follows. The next section provides the conceptual framework on the drivers of successful PPPs and on how 4Ps can address constraints in agriculture value chain especially in developing economies. Section 3 illustrates the ConVERGE 4Ps model, in particular the structure and operational strategy adopted. Section 4 discusses the type of main crops supported by the Project to provide context to the discussion on partnerships in the value chain. Section 5 discusses the partnerships developed and interventions provided under the Project. The conclusions and recommendations for improvement are given in Section 6.

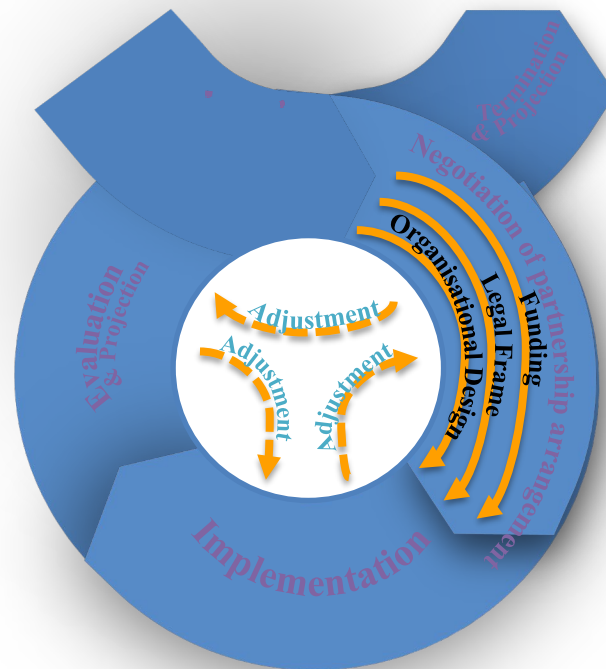
## **2. A review of Public-Private-Producers Partnerships in agriculture value chains**

In recent years, IFAD has taken the lead in building public private partnerships for agriculture development in developing economies. IFAD calls these partnerships as 4Ps or public-private-producer partnerships to distinguish them from other PPPs and from those PPPs in the non-agriculture sector (IFAD 2016). 4Ps is defined as “a cooperation between a government, business agents and small producers working together for a common goal while jointly assuming risks and responsibilities and sharing benefits, resources and competencies” (IFAD 2016, p.3).

The nature of these partnerships has been changing overtime. Partnerships can also vary across countries and commodities and within countries, implying that there are many options to partner. According to IFAD, each 4Ps is unique and there is no “one size fits all”.

Moreover, 4Ps are not static arrangements. In Latin America, these partnerships go through a cyclical process that starts with the identification of common interests, negotiations and design of partnership contract and implementation (Hartwich, Gonzalez, & Vieira 2004). An important step in the cycle is the evaluation or review stage that allows partners to measure the success of the partnership. 4Ps may improve on its working arrangements over time or may be dissolved when the partnership has served its purpose. Figure 2.1 below depicts the 4Ps cycle.

**Figure 2.1 The Partnership-Building Cycle**



Source: Figure taken from Hartwich, Gonzalez, & Vieira (2004) p.8

What factors make 4Ps work? Lessons from IFAD 4Ps supported programs in different countries, reported the 4P require 7 building blocks (IFAD 2016):

- *Defining at the outset a clear rationale for the 4Ps.* This includes knowing the problem and type of partnership to develop and assessing the opportunities and challenges to be addressed and the main incentives of the different actors.
- *Identification and selection of suitable 4P partners.* This involves the careful selection of partners and identifying at the outset areas requiring capacity building. In most developing countries, farmers groups or organizations are typically not equipped and thus the level of organizational maturity must be considered in the negotiation and implementation processes.
- *Development of a 4P business case.* PPP is a business partnership and thus must be formalized. The actors/partners must agree to a business model and other actors involved in the value chain should be included. Typical examples of business models are: contract farming, joint venture, cooperative-led, etc.
- *Leveraging private and public funding.* This pertains to the resource and financial requirements of the partnership. Since the government is a key actor in PPP, resources include public goods such as infrastructure, transport, training and capacity building.

For private partners, the resource contributions are in forms of working capital or assets.

- *Negotiation of roles and responsibilities.* PPPs are built from mutual benefits and trust among partners. Trust will provide the anchor for partners to agree on roles and responsibilities and on the sharing of risks and benefits.
- *Governance mechanisms: conflict mitigation, rules for communication and risk management.* This involves the establishment of decision-making bodies, internal rules and regulations that all partners should agree and adhere to. Dispute settlement and risk mitigation measures are important aspects of the PPP's governance mechanism.
- *M&E mechanism to measure success towards identified goals and business.* Effective M&E system enables partners to assess the progress and deviations from expected outputs/outcomes of the project. This will enable the different actors to make necessary changes on the implementation of programs or projects.

Aside from these building blocks, the interventions provided or the areas for partnerships have to match the needs of the small farmers as well as address the constraints to agriculture value chains in the regions or country. Partnerships are established with the objective of enabling the producers (i.e. small farmers) to gain better control over production, trade and distribution through cost effective operations and better quality and value-added products. However, there are several factors that constrain agriculture value chains such as (a) market access and market orientation (Trienekens, J. 2011); (b) resources and physical infrastructure (Grunert, et al 2005); and (c) regulatory institutions or institutional “voids” (Scott 1995; Porter 1990).

- *Market access and market orientation* constraints refer to the significant presence of small producers and traditional production systems (Trienekens 2011). The market structure consists of many intermediaries (e.g. traders) and producers of same products are also segmented catering to different sub-markets – e.g. local low- income market; local middle to high income market; export market. These sub-markets function largely independently and are weakly connected creating challenges to the development of harmonized quality and safety standards. This market orientation implies that there is limited market information that is known to producers; value added is distributed over a large number of intermediaries and transportation distances from raw product to market is long. It also means limited technological capabilities of producers and inability to translate knowledge and information into market intelligence.
- *Resource and Infrastructure* refer to presence of supporting infrastructures, resources including knowledge, technology and skills. Porter (1990) noted that developing countries are usually faced with lack of specialized skill, high energy costs, poor communication services, difficult access to technology, inputs, market, credit and external services. There are also several factors that affects competitiveness of the value chain such as geographic position of producers and companies; availability of educated labor and knowledge not only of production but of products, certification and distribution channels; and adequate distribution and communication infrastructures.

- *Institutional constraints or “voids”* refer to “situations where institutional arrangements and support markets are absent, weak or fail to accomplish the role expected of them” (Trienekens 2011, p.56). This may arise due to government regulations and policies that create barriers to knowledge development, technology adoption or trade barriers. Moreover, there could also be practices by business and government that prevents innovation behaviors, limit mobility or free flow of communication, information and knowledge.

Recent studies identified lessons learned from past and ongoing experiences on PPPs in agriculture. Narrod, et. al (2009) noted that the government has to protect market failures in the entire value chain (i.e. not just specific bottlenecks) and to avoid political or elite capture in the partnership. There is also a need for collective action among farmers and to reorganize them into groups of smaller size; i.e. fewer than 30 members per group (Narrod, et al. 2009; Shukla, Sharma, & Thumar 2016). Farmers’ groups need to be able to work with agents or institutions that have the appropriate expertise thus the identification of right partners is important (Narrod, et al 2009; Ponnusamy 2013).

On the other hand, failures of PPPs have been linked to inability to consider geographical factors and crop type. Ponnusamy (2013) noted that PPP approach is limited in disadvantageous/marginalized areas and for non-commercial crops. It is also problematic when the partnership depends on a single commodity with high levels of production risks, for instance, a PPP in agro-processing, where constraints in supply of raw materials, mode of procurement can adversely affect cooperation and coordination among partners (NAO 2008 in Ponnusamy 2013). Failed partnerships also arise from unclear sharing of funding investment and when the cost of product certification is high and inaccessible to farmers (Narrod, et al 2009).

IFAD’s recent experience on PPPs implemented elsewhere found that the provision of public infrastructure is often the incentive needed for private investors to invest in rural areas (IFAD 2013). IFAD also pointed out the importance of the private-sector in imparting knowledge relevant to the value chain targeted based on their experience and their potential as a guaranteed market of the smallholder farmers.

Other challenges encountered by IFAD on their experience as facilitator and “honest broker” on some of their PPP projects include incompatibility of the timing and bureaucratic processes of development initiatives with private-sector requirements and working rhythms causing delays and thereby threatening the sustainability of the partnerships (IFAD 2013). Negotiating prices that will satisfy both the farmers and private partners is also often challenging. On the issue of land tenure security, the regulatory and policy environment need to address bottlenecks in land markets including land leasing and land consolidation.

### 3. Project ConVERGE 4Ps Model

The DAR adopted the clustering approach for the ConVERGE Project, whereby small farmers through their associations are grouped to foster collective operations in production, harvesting, storage, processing, and marketing. The various interventions provided by the Project are channeled to these groups. Figure 3.1 presents the roles of the different project partners and the nature of partners interaction.

Among the clustered ARBOs, a lead ARBO (LARBO) is identified by DAR based on organizational maturity and financial capability. All other ARBOs in the cluster are considered participating ARBOs (PARBO). Applying the “big brother” scheme, the LARBO is assigned to oversee the ARC enterprise. They are the main conduit for the interventions. They are also tasked to consolidate production and marketing and establish partnership with the private sectors. The participating ARBOs on the other hand, may serve as the producer and suppliers of raw materials or semi processed products, inputs or services or as buyers of inputs. Having organizational maturity and financial capability allow the LARBOs to easily transact in the formal economy. While the PARBOs, gain access to the interventions and the benefits of having a more large-scale and developed enterprise by linking with the LARBOs.

A Project Steering Committee (PSC) at the DAR central office oversee the overall management and implementation of the Project. The PSC established a Central Project Management Office (CPMO) based in Mindanao to manage program implementation. At the regional level, Regional Project Managers were designated for the three Regions (9, 10 and 13) headed by the DAR Regional Director. Provincial implementation is managed at the Provincial Project Management Office (PPMO) headed by the Provincial Agrarian Reform Officer (PARO).

The DAR PMO takes the role of a “broker” to synchronize and complement programs and projects of the different government agencies engaged in rural development with the goal of improving investment opportunities for the agribusiness projects in the ARC clusters. It taps other private or government agencies depending on the expertise needed by the ARC clusters. In particular, the other government departments closely involved in the implementation are: the Department of Agriculture (DA), Department of Environment and Natural Resources (DENR), Department of Trade and Industry (DTI), Department of Public Ways and Highways (DPWH), and the Local Government Units (LGUs).

The DA and its regional offices including attached agencies provide technical support for investment planning for the selective value chain enterprises. The agency provides technical assistance through technology and technical skills training for the farmers as well as the project implementers. They are also directly involved in other agricultural activities that would promote agricultural productivity improvement and agri-enterprise development such as facilitating demo farms. DA may also provide inputs. The Municipal Agriculture Offices (MAOs) can assist farmers as agricultural technicians given their expertise in community development.

The DENR and its attached agencies are involved in activities related to agro-forestry, nursery and plantations establishment, and ensuring that the value chain developments will be following good practices for environmental and natural resources management. It also aids in implementation of

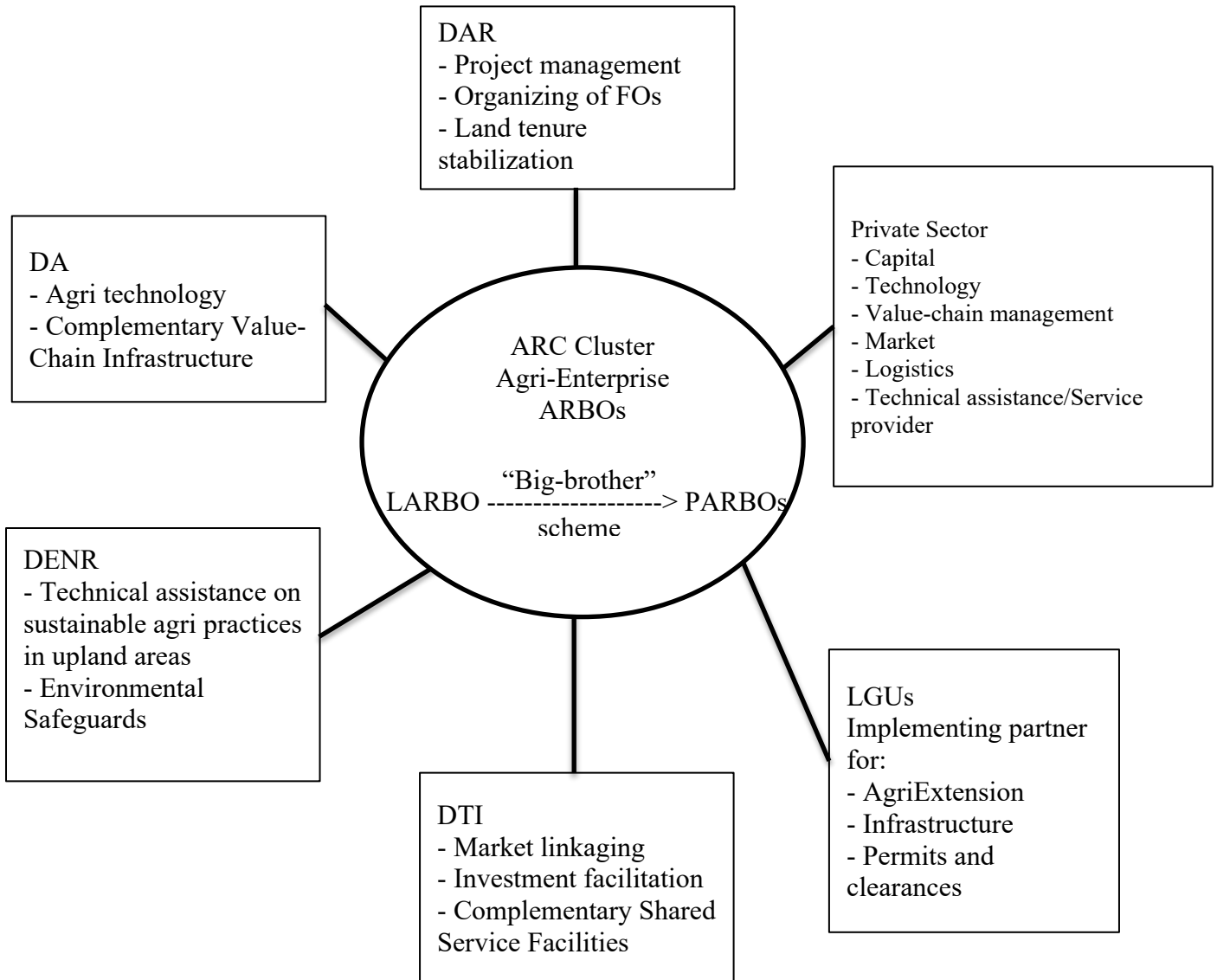
environmental protection works and approval of land survey for the subdivision of collective CLOA.

The DTI is mainly involved in value chain development by giving support to rural microenterprise development. DTI is tasked to provide technical assistance in terms of value-chain assessment and planning, conducting market studies, and matching farmers with potential buyers such as private sector companies and other buyers. They shall also provide technical assistance and advisory services to ARBOs regarding agri-business and rural enterprise development. Before the implementation, DTI is also involved in the conduct of value-chain development planning and review of feasibility studies. They shall also be involved in the development and evaluation of subprojects and agribusiness plans.

The LGUs is involved in activities concerning infrastructure development. It is also required to provide counterpart funds as part of the infrastructure financing agreement. The LGUs may also provide other services and support to the clusters or famers as specified in a MOA with DAR. They may also partner with other related government agencies such as the DPWH and NIA for technical assistance in the design and implementation of the infrastructure projects and DA or DTI for enterprise development.

Other specific commodity related government agencies and those involved in agro-processing industries such as the Philippine Coconut Authority (PCA), the Philippine Fiber Industry Development Authority (PhilFIDA), Sugar Regulatory Administration (SRA), and Agricultural Training Institute are also tapped by DAR PMO to assist in providing technical assistance to the ARCs through technology and technical skills training.

**Figure 3.1 The Structure of Public-Private-Producers Partnerships under ConVERGE**



Source of Figure: Project Converge Implementation Manual

There are 11 LARBOs identified to represent the agrarian reform community (ARC) clusters in selected provinces in the pilot regions. Through the support of DAR and private sector consultants, the LARBOs developed a business plan for crop production, processing and marketing. A primary product for each LARBO was identified based on the crop that is produced by the majority of farmers in the agrarian cluster and the market demand for these products. The primary crops supported under the ConVERGE project vary by region (Table 3.1). Aside from primary crops, secondary crops were also identified after the Project’s midterm review since other farmers in the ARC cluster produce crops other than the identified primary crop. Moreover, secondary crops

could also be crops intercropped with the primary crop. For purposes of this study, we focus on 4P experience on primary crops.<sup>1</sup>

For Region IX covering the Zamboanga Peninsula, the primary crops are rice and rubber. In Region X or Northern Mindanao covering the provinces of Bukidnon, Misamis Oriental and Camiguin, the crops include sugarcane, cassava, coconut and abaca while for Region XIII or CARAGA region (provinces of Agusan and Surigao), the crops are rice, abaca, coconut and coffee.

**Table 3.1 ConVERGE 4Ps Projects by ARC Cluster**

Region	Province	ARC Cluster	Name of Proposed Project	Main Crop
Region IX	Zamboanga del Norte	Zamboanga del Norte Resettlement Cluster	Integrated Rubber Enterprise	Rubber
Region IX	Zamboanga del Sur	Salug Valley Cluster	Intensified Rice Production and Marketing	Rice
Region IX	Zamboanga Sibugay	Salipyasin ARC Cluster	Rubber Agribusiness Project	Rubber
Region X	Bukidnon	South Bukidnon ARC Cluster	Muscovado Sugar Production and Marketing	Muscovado Sugar
Region X	Bukidnon	North Bukidnon ARC Cluster I	Cassava Production and Processing Enterprise	Cassava
Region X	Misamis Oriental	MISORET ARC Cluster	Coconut Sugar Production	Coco Sugar
Region X	Camiguin	LABACO ARC Cluster	Abaca Fiber Production and Marketing	Abaca
Region XIII	Agusan del Sur	VETREBUNS ARC Cluster	Rice Production Processing and Marketing	Rice
Region XIII	Agusan del Norte	TUJAKITSAN ARC Cluster	Abaca Fiber Production	Abaca
Region XIII	Surigao del Norte	CLAGIBAPLA ARC Cluster	Coco Coir and Bio Fertilizer Production and Marketing	Coconut and Bio Fertilizer
Region XIII	Surigao del Sur	BATA ARC Cluster	Coffee Production Processing and Marketing	Coffee

Source: Authors' summary

<sup>1</sup> The analysis of the secondary crop will be considered in the impact evaluation study of Project ConVERGE



## 4. Profile of main crops under Project ConVERGE

### 4.1. Farm area and production trends

Palay is the primary temporary crop in the country that is predominantly produced in 12 out of 17 regions. Rice farms account for 34.8 percent of the total farms of the country while the farm area shared about 28.0 percent of the country's total agricultural area in 2012. Regions 9, 10, 13 are not among the top rice producing regions in the country. Palay farming is second only to corn in these regions in terms of farm holdings allocated for production of temporary crops. In 2019, the three regions have a combined rice production of 1.89 million metric tons or 10 percent of the total volume of rice produced in the country in 2019. CARAGA has the lowest share to rice production in the three regions.

Cassava is among the top five temporary crops grown in the Philippines. It is grown mainly for feed grains but is also locally popular as a major source of dietary energy. It can also be used as raw materials for pharmaceutical and industrial products such as adhesive, textiles and paper. Cassava is planted each year and grown in about 8.8 percent of total farms in the country covering an area of approximately 120,000 hectares (Census 2012; DA Investment Guide 2020). Northern Mindanao and Zamboanga Peninsula are among the top major cassava producing regions. In 2019, both regions contributed about 30 percent of total cassava production in the country.

Sugarcane is a multi-product industry in the country. It is grown for the production of raw sugar, molasses and bioethanol (DTI-BOI 2020 Sugarcane Roadmap). It is also used for industrial products such as bio-water, bio-plastics and others. Approximately, 6 percent or about 400,000 hectares of total farm area in the country is planted to sugarcane (Census 2012). Sugarcane farms are found in about 20 provinces within 10 regions of the country. The major sugarcane producing areas and their share in total production are as follows: Negros island (53%); Mindanao (22%); Luzon (14%); Panay (7%); and Eastern/Central Visayas (4%). In Mindanao, sugarcane is produced mainly in Region 10 and about 73 percent are grown in small farms with size of less than 5 hectares (Sugar Regulatory Authority in DTI-BOI 2020). Small-sized sugarcane farms has become dominant in the country with the implementation of the comprehensive agrarian reform program.

Coconut is the dominant permanent crop in the country and the Philippines is among the world's top producer and exporter of coconut products. Coconut trees is grown in 2.6 million farms in 68 provinces of the country under both compact and scattered planting. The area covered by compact planting alone is about 1.48 million hectares accounting for 21.7 percent of total farm area or 44.1 percent of farm lands planted to permanent crops (Census 2012). The top regions with the largest farm area devoted to coconut are Bicol, Eastern Visayas, CALABARZON, Davao and Central Mindanao (Region 12). Coconut farms in Regions 9, 10 and 13 cover about 19 percent of total coconut farm area. Although the area planted to coconut is higher in Region 9, coconut production in Region 10 is higher while Region 13 is lowest among the three. Coconut production in the three regions accounts for about one third of total production in the country in 2019. It is also shown that coconut production in the three regions has been stagnant for several years. This trend is not unique to the three regions but mirrors the overall situation of the coconut industry in the country.

Rubber is the top three permanent crop grown in the country. It is considered as one of the most profitable agro industrial crops in the Philippines. The latex produced from tapping rubber trees is an important raw material in the production of various industrial, commercial, and household products. Rubber trees covers an area of 146,000 hectares or 4.3 percent of the total farm area planted to permanent crops (Census 2012). Rubber farms are located mainly in Mindanao and the top regions with the largest area devoted to rubber production are: Region 9, Region 13, Davao Region, ARMM and CARAGA. The combined rubber area in these regions represents 92.5 percent of the total area planted to rubber trees in the country. Given the larger land area for rubber plantation in Region 9, latex production is also highest in the region accounting for 37.3 percent of total production in the country. Region 10 also has rubber farms but the farm size is not among the top 5 contributors. Combined rubber production in Regions 9, 10 and 13 represents 44.1 percent of total production in the country as of 2019.

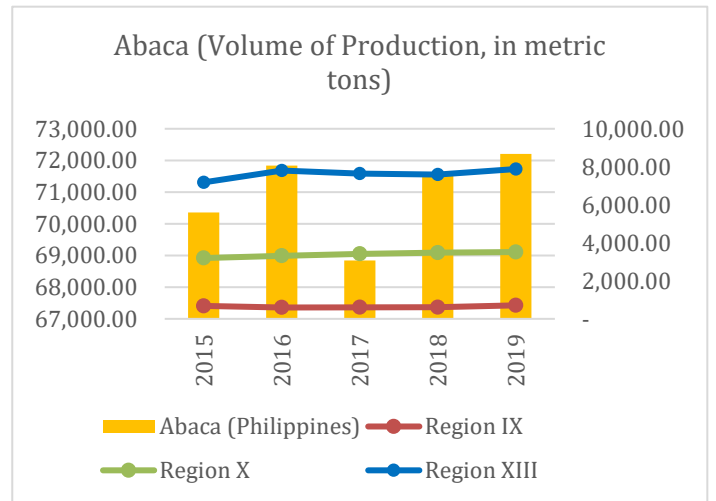
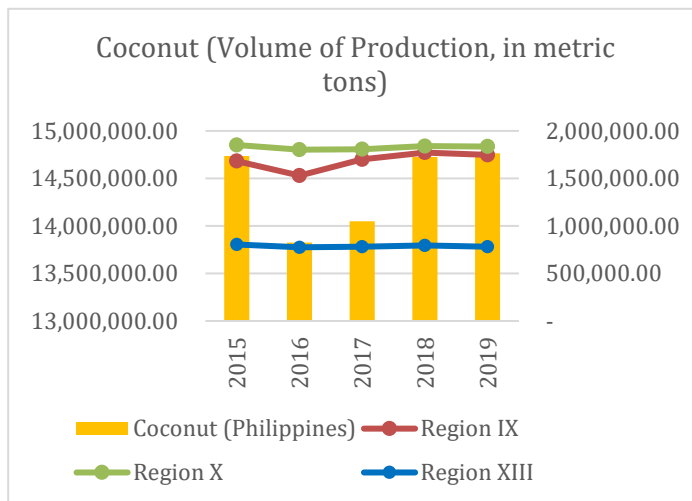
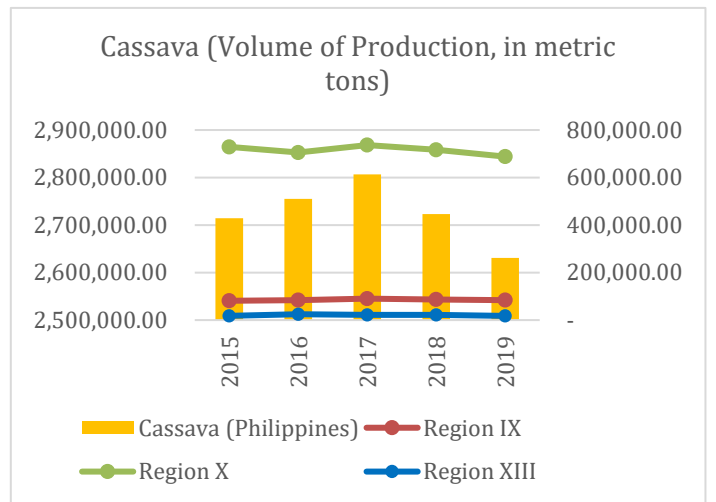
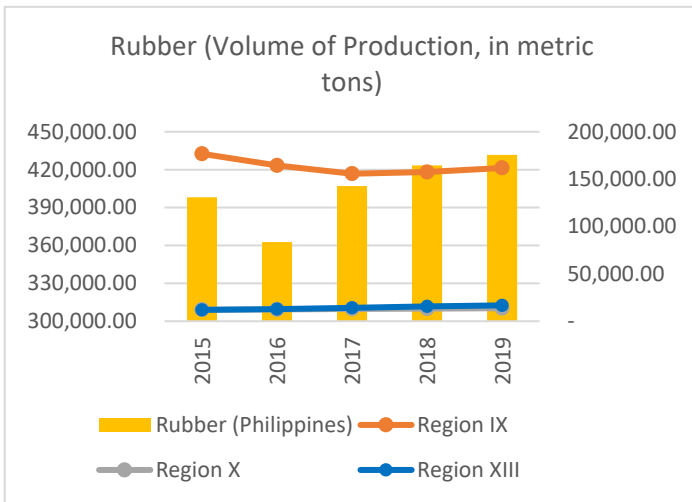
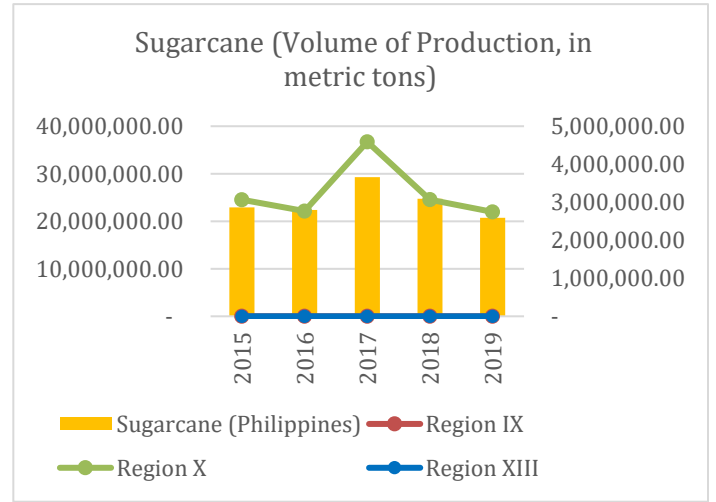
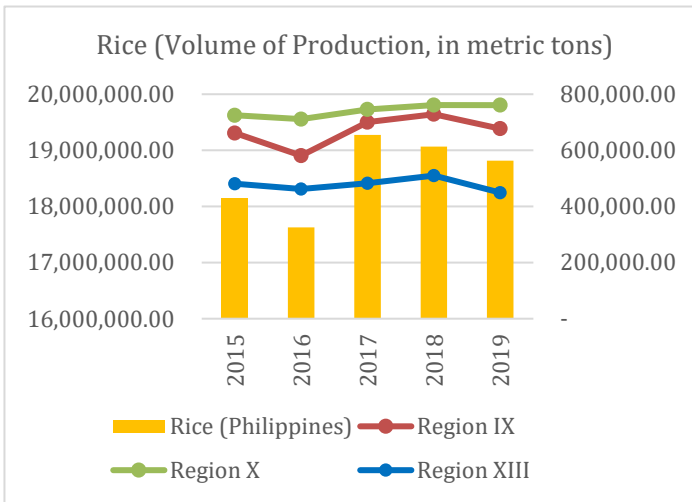
Abaca fiber or Manila hemp is another major export product of the country. The fiber is obtained from abaca trees, which are considered of a permanent nature usually grown intercropped with coconut, fruit trees and leguminous plants. It is used for the manufacture of paper, pulp, cordage, yarns, fabric, fibercrafts and other industrial products such as textile, emergent bio-composites and nanocellulose. Abaca farms are mostly small with average farm size of 1.6 hectares and are managed individually (DA Abaca RoadMap 2018-2022, 2016). There are only a few farms operated by cooperatives or associations with areas ranging from 10-100 hectares. Total farm area planted to abaca is estimated at 181,000 hectares. About one third of the area planted to abaca is found in Region 5 (Bicol Region). Other abaca producing regions are Regions 13, 11 and 12 in Mindanao and Region 6 in the Visayas. <sup>2</sup> In 2019, the Bicol Region accounted for 35 percent of total abaca production followed by Davao Oriental (Region 11) at 13 percent percent and Region 13 at 10 percent. The three regions under ConVERGE have a combined production of 12,104 metric tons or 16.8 percent of total production in the same year. In particular, abaca production is highest in Region 13 and least in Region 9.

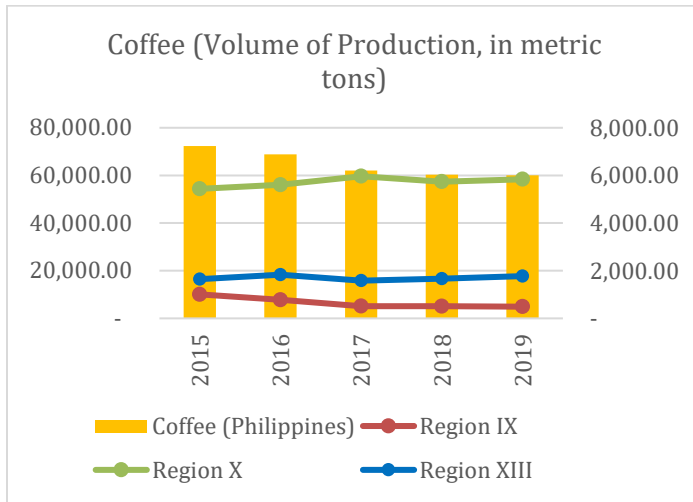
Coffee production in the Philippines is still at a nascent stage. Although the Philippines is considered among the countries with favorable agroclimatic conditions for coffee bean production, the country is ranked 25<sup>th</sup> among the top 30 coffee producing countries. There are about 276,000 coffee farms covering an area of 114,000 hectares in the country (PSA). These farms are mostly small with average size of 1-2 hectares. Coffee plantations are few and are often located in pasture and forest lands. Total number of coffee trees is estimated at over 77 million and are found mostly in Mindanao with the top regions --Region 12 (SOCCSKSARGEN), Region 11 and ARMM collectively accounting for 79 percent of total coffee trees in the country. These regions are also the top producer of coffee contributing collectively 68 percent of total production. Among the ConVERGE pilot areas, Region 10 has the highest number of coffee-bearing trees (over 5M). Collectively, Regions 9, 10 and 11 account for 13.5 percent of total coffee produced in 2019. The current coffee production is unable to meet local consumption and production has been on a decline due to old age of trees, poor farm management, coffee growers shifting to other crops and land conversion due to urbanization (DA and DTI 2016, Phil Coffee Industry Roadmap 2017-2022).

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<sup>2</sup> The DA envisions to develop Davao and some parts of Mindanao as major producer of abaca by 2022 as there are many idle and unproductive lands of private sectors and Indigenous People that can be utilized for abaca production (Abaca Road Map 2018-2022 , DA 2016).

**Figure 4.1 Production of Main Crops in Pilot Regions**





Source: Crop Statistics of the Philippines (PSA)

#### 4.2. Market Structure of Main Crops

The main crops covered under ConVERGE are those that have been identified by the government to have shown export potential and competitiveness in the world market. With the exception of cassava, the other main crops have penetrated the global market. In particular, sugar, coconut, and abaca products are mainly exported abroad and the country has been developing new products to expand the utilization and income potential of these crops.

The primary export product of sugar is raw or centrifugal sugar followed by bioethanol and molasses. The country has been a net exporter of raw sugar or at the least self-sufficient in terms of domestic sugar requirement.<sup>3</sup> Compared to traditional sugarcane products, muscovado is not a regulated industry. The Sugar Regulatory Authority does not also maintain a regular database on muscovado consumption. However, in recent years, the muscovado sugar is showing potential for export. Muscovado is widely produced in Antique, Sultan Kudarat, Ilocos region, Bicol region, Tarlac and Negros Occidental.

For coconut products, the Philippines is a top exporter of copra, coconut and desiccated coconut. Coconut sugar is a relatively new product that has also penetrated the global market and the Philippines is among the top exporter in the world market along with Indonesia. While the quality of Philippine coco sugar is better than other countries, other countries offer the product at a lower price.

For abaca, the Philippines dominates the world trade of abaca supplying more than 80 percent of the global abaca fiber requirements. Domestic consumption is also high with demand from domestic processors of pulp, cordage and fiber crafts. The pulp sector is the main growth area for domestic consumption and abaca pulp manufactured in the Philippines are mainly exported. In

<sup>3</sup> Between 2015 and 2019, we have become a net importer of raw sugar mainly sugar premixes for industrial use.

recent years, local supply has been below the local requirement and this deficiency has been met through importation.

For coffee, most farmers produced the Robusta variety, which is mainly marketed locally. The main buyers are local coffee processors, large companies and specialty coffee shops. These buyers in turn, process coffee into other forms – such as green coffee beans (GCB), roasted, ground, and instant. The largest local processor of soluble coffee is Nestle Philippines, Inc., accounting for 80% of the instant coffee market, followed by Universal Robina Corporation and Commonwealth Foods Corporation (DA and DTI 2017–2022 Philippine Coffee Roadmap).<sup>4</sup> There has also been a rise of specialty coffee shops and large companies that buy their produce directly to farmers. In recent years, Philippine top-grade beans and specialty coffee has started to penetrate the world market.

For cassava, the current demand is for feed manufacturing. The major buyers include: San Miguel Food (B-Meg), whose processing plants are mainly located in Mindanao; Cassava Growers and Processors Corporation, which also operates in Mindanao specifically Zamboanga Peninsula and supplies directly to industrial buyers. The latter also serves as “middleman” between small farmers and direct buyers. Other buyers are companies that are not publicly listed and operates mainly in Luzon.

**Table 4.1 Net Exports of main products**

<b>ConVERGE Main Crops</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Rice	(27,976,802.10)	(13,222,085.90)	(17,984,505.60)	(45,756,957.50)	(59,243,263.50)
Rubber	(551,243.80)	(2,499,895.30)	384,853.50	(929,230.40)	(1,152,158.50)
Muscovado Sugar	-	*	-	*	203,619.83
Cassava Starch	(1,871,729.05)	*	(1,896,038.88)	*	(2,764,857.87)
Coconut Sap Sugar	-	*	-	*	65,620.16
Coconut	56,469.40	120,795.40	29,564.90	33,812.30	36,919.70
Abaca	711,174.30	659,620.90	1,085,367.80	1,467,068.40	334,376.70
Coffee	(3,832,877.50)	(3,661,098.70)	(2,480,998.20)	(4,423,321.10)	(3,166,503.20)

Source: Agricultural Indicators System: Agricultural Exports and Imports (PSA); Foreign Trade Statistics of the Philippines

\*no data

<sup>4</sup> Among the small processors are Regent Foods Corp, Century Pacific Group, Goldshine Pharmaceuticals

## 5. Value Chain interventions under Project ConVERGE

### 5.1. Roles of partners in value chain development

Table 5.1 shows the roles of stakeholders in the partnership and their contribution to addressing the constraints along the value chain. DAR as the lead agency approves the main interventions that are needed to address the constraints to value chain development in agriculture. A major component of the Project is the provision of road infrastructures, which are intended to improve mobility within the ARC areas and connectivity to markets. These infrastructure projects are implemented through the local government units and the LGUs provide counterpart funding and manage the implementation of these projects.

CONVERGE PMO also provides direct support to producers/small farmer groups to improve technical and entrepreneurial capabilities and to access cost effective production technologies for better quality and value-added products. The other government agencies either partner with DAR or directly with the farmers' group for extension and knowledge sharing. In particular, other government agencies such as DA and DTI and support agencies such as the Philippine Coconut Authority (PCA), Philippine Fiber Industry Development Authority (PHILFIDA), etc. are all involved in extension services of production and post-harvest technologies. While these NGAs have also their own rural development programs financed from other funding sources, ConVERGE can provide additional assistance to the agencies' activities. In some cases, the programs of other NGA provide similar interventions that are funded under ConVERGE and also targets the same ARC or ARBO or region. However, the other NGAs may also direct their efforts to other ARBOs or areas that are not served by ConVERGE. As with many government programs, collaboration among different agencies of government can be challenging and the reasons can be differences in key result areas of government projects, timelines, systems and processes.

In the case of private service providers, they are linked to the ARBOs mainly through Project ConVERGE since the services they provide to ARBOs are subsidized through the Project. Private sector partners including firms, companies and NGOs assist in extension services and capacity building activities. Capacity building activities are in the form of trainings in organizational development, and/or technical training on crop production, processing and other livelihood programs.

For improvements in post-harvest, trade and distribution, the Project finances or gives subsidy to ARBOs for the acquisition of post-harvest, processing and transport equipment including funds for warehouse construction. The financing of capital assets is acquired through a combination of subsidy and equity financing from ARBOs. The Project does not include a credit facility component but ARBOs are linked to financial institutions through the assistance of ConVERGE PMO in the development of feasibility studies to access financing. Both the Project PMO and NGOs can link ARBOs to the market or potential buyers. .

Aside from infrastructure and market access concerns, the Project also addresses some institutional constraints in agriculture in particular, the issue on land tenure security among agrarian reform beneficiaries. The support involves the subdivision and titling of CLOAs. While secure tenure is a necessary condition to increase investment, there are other institutional constraints that have to

be examined such as trade barriers, barriers to information sharing and communication, procurement delays, unclear contracts; and unfavorable taxes, among others.<sup>5</sup>

**Table 5.1. Roles of key actors in the supply chain processes and support system**

	<b>Extension &amp; Information services</b>	<b>Infrastructure Development</b>	<b>Technology/ Inputs</b>	<b>Production</b>	<b>Post Harvest</b>	<b>Trade/ Distribution</b>
DAR ConVERGE	-subsidize cost of information -subsidize cost of trainings -link service providers to ARBOs	-finance roads and other physical infrastructures	-link ARBOs to other NGAs, NGOs	-link ARBOs to financial institutions	-finance or subsidize cost of post-harvest and processing equipment	-link ARBOs to buyers
ARBOs (LARBOs/ PARBOs)	-disseminate information to members; other farmers in ARC cluster or PARBOs		-adopt/use technology	-access extension services -access credit facilities -individual farm mgt	-undertake lumpy capital investments -Equity provision for ARBO assets (e.g transport facility)	- consolidate produce for collective marketing
Private sector*	- sharing knowledge, technology -training on organizational and technical capacity building -develop business plans for ARBOs		knowledge sharing	-credit program for small farmers and farmers organizations	- grades and standards - supply of post harvest equipment	-buy products -link to local and international markets
LGUs		-co finance infra -implement infra projects	-conduit for input subsidy			

<sup>5</sup> See Galang, Ivory (2020) for a separate analysis on the effects of subdivision of CLOA titles under the Project.

Other NGAs**	-sharing of knowledge/ technology -credit facility through ACPC /LBP program		-input subsidy		certification, grades and standards	
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Source: Authors summary from KIIs/FGDs

\* Private sector: companies and firms, business organizations, financing institutions, NGOs, individual consultants

\*\*Other NGA: DA, DENR, DTI, DOST, PCA, PhilFIDA, SRA, Agricultural Training Institute, NCIP, DPWH, NIA

**5.2 Types of and benefits from value chain interventions**

Table 5.2 presents the actual support and assistance received by the LARBOs. All pilot ARC areas received infrastructure support in terms of farm to market roads (FMR). Some ARC areas were also provided with either communal irrigation systems or potable water system. The bulk of Project funds were spent on infrastructure development (Converge Regional PMO 2020). In terms of direct support to LARBOs, a total of 275 farm equipment comprising of farm tools, processors, machines and other post-harvest facilities have been provided as of June 2021. The farm equipment includes simple tools such as weighing scales, wheel barrows, sorting tables to complex equipment such as tractors, stripping machines, mill processors, generators, etc. The equipment is intended to be used by the LARBOs and PARBOs and the recipient farmer organization is responsible for the maintenance cost.

The Project also financed the construction of warehouses of selected LARBOs since they are assigned to be consolidators in ARCs. All LARBOs except for CATAMCO and PARBEMCO, have completed the construction of their warehouses as of June 2021. LARBOs also availed of transport assistance in the form of financing for hauler trucks. Eight of the 11 LARBOs reported acquisition of trucks under Project ConVERGE. Other transport vehicles such as motorcycles were also provided to LARBOs and some PARBOs.

Both LARBOs and PARBOs participated in the Program to gain access to government funding or support on infrastructure, farm equipment and training. This has had some positive effects as related by LARBOs, who have received the interventions earlier. A benefit mentioned is the expansion of production area and provision of nursery for seedlings in the case of farmers engage in abaca production (Table 5.3). Some participating ARBOs also reported that they now rely less on traders since the ARCs or ARBOs have their own trucks and processing equipment. These trucks have helped in the transport of farmers’ produce especially in the consolidation of production and in bringing them to processing centers or markets. The construction of better roads has also improved connectivity and mobility. Other LARBOs received better equipment as replacement for old machines, which have become obsolete. On the other hand, for some LARBOs, the benefits are not yet apparent partly due to delays in the delivery of equipment and transport vehicles or on the completion of expected value chain interventions. There were also



cases of LARBO replacement due to withdrawal of LARBO or its inability to deliver the requirements of the Project.<sup>6</sup>

On capacity building activities, all LARBOs received both organizational and technical training with some LARBOs having more trainings than others. Most LARBOs appreciate the knowledge sharing through these trainings. Technology transfers from government and private sector enabled them to gain knowledge on production technology and the appropriate methods for post-harvest and processing. On organizational training, provision of financial systems and trainings on financial management and computer literacy are among the relevant trainings received. Another “new” learning received is the creation of subsidiary corporation to managed the processing aspect of the value chain. A particular case is the BUKICARB, which established a subsidiary corporation with the private sector, with the cooperative as one of the shareholders, for the management of sugarcane processing plant established through the Project. This management innovation is a departure from the traditional cooperative structure and is being envisioned to provide a stable source of income for the cooperative from corporate profits. Some members though of the LARBOs are skeptical on the new system.<sup>7</sup>

A main concern raised on capacity building activities is that some LARBOs are unable to internalize or adopt to changes in systems and practices in the organization or in their farm practices. In the case of organizational trainings, those who attend are not directly involved in the operations of the organization. The low level of education of some officers or management staff is also a challenge. In the case of technical training, the adoption of modern technology is constrained by high cost of inputs. Also, some service providers observed that there are many part-time farmers, who have jobs in the non-agriculture sector. Part-time farmers tend to neglect good farming practices, invest less on their farms or spend less time on farming.

Aside from the physical interventions, Project ConVERGE also provides credit facilitation to LARBOs. While the Project does not include a financing component, the Project links the LARBOs to financial institutions and/or government credit programs. Some LARBOs reported borrowings from financial institutions and government credit programs during the period of Project ConVERGE. However, the LARBOs also mentioned that they were previous clients of the financial institution or participants in the program. Those LARBOs with credit access have already established records as borrowers, thus, the effect of facilitation through ConVERGE could be minimal. It is likely that they were able to access credit due to the LARBOs good financial standing and the willingness of LARBO members to borrow. Private banks interviewed note that farmers and farmers organizations are still considered high risk and that some have no confidence to borrow especially for expansion. However, Project ConVERGE could have provided some insurance on participating LARBOs capability and good standing since the Project would have better information about the capacity of LARBOs. Also, the facilitation of feasibility studies through the Project can ease the process of banks in the approval of credit

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<sup>6</sup> PARBEMCO replaced MKCGC in 2020; Agoho MPC was replaced with Nagpakabana MPC (NMPC) in 2021.

<sup>7</sup> According to the BUKICARB, losses were incurred in the initial phase since the plant is not yet operating in full capacity.

Project ConVERGE also enabled the small farmers to gain access to buyers. DAR connected the LARBOs to potential buyers but the bulk of LARBO buyers were already their existing or previous clients prior to the Project. Some LARBOs reported participation in trade fairs sponsored by the DTI or DA prior to Project ConVERGE as their approach to expand market. Moreover, while LARBOs have a list of potential buyers, the relationship is usually short-term. The purchase orders or contracts are valid for only one cropping season or delivery. Some buyers noted that the consistency in the volume and quality of product varies. Also, small farmers tend to focus more on production volume than quality.

In general, the private sector participation in Project ConVERGE, both service providers and buyers, see the public-private-producers partnership as an opportunity to perform their mandates and/or to expand business (Table 5.4). The partnership is also an avenue for knowledge sharing. For financial institutions, the partnership with DAR (or other government agencies) enable them to gauge the capacities of farmers' organization since government agencies are in a better position to know the issues and concerns of farmers and their organizations. For buyers, the partnership provides an opportunity to link with farmers and farmers organizations that could be potential sources of raw materials. The participation of ARBOs in government projects such as ConVERGE also signals to both creditors and buyers that farmers are guided on good farm practices including postharvest processes. Aside from government agencies, the NGOs are also considered by the business sector as a major source of client and market information. A stronger collaboration between government and NGOs in agriculture development could be considered for value chain development.

**Table 5.2 Summary of Value Chain Interventions Received by LARBOs (as of June 30, 2021)**

Type of Support/Intervention	MAFAMCO	CATAMCO	GARBEMCO	MARBFC	BUKIFCARB
Equipment	7	11	20	25	53
Warehouse	1	-	1	1	1
Truck/Transport	1	1	1	1	-
Infrastructure	FMR-1.894 km FMR (ongoing) – 2.160 km CIS sub-project – 94 has.	FMR - 8.945 km	FMR - 2.052 km	FMR - 5.160 km	FMR - 2.530 km
Access to Credit	2 Total: Php 61,750,000.00	-	-	1 Total: Php 2,000,000.00	2 Total: Php 1,600,000.00
Organizational Training	7	9	3	5	15
Market partners	Margosatubig Regional Hospital; MLBCARBCO; DSWD; PAREMCO; DARPO	*	CTK; MJ; JP Rubbers; LGU Ipil; STANDECO; Leo Tires; XAES; Pharma Rubbers; RK; GARBEMCO; ERS; GPP; GP; RTG Trading; JFC; Livestone Trading; 12 Ind. buyers	San Miguel Foods, Inc. (BMEG) PILMICO; Iligan City; CJ Philippines	Hamongaya Farms, Belison, Antique; Sultan Kudarat Farmers and Millers Corporation; Green Habits and Agri Trading

Type of Intervention/Support	NMPC	LAMPCO	SIUFMULCO	SASEPCO	MAUNFACO	PARBEMCO
Farm equipment	17	24	12	19	71	22
Warehouse	2	2	1	1	1	1 (ongoing)
Truck/Transport	-	-	1	1	1	1
Infrastructure	FMR - 2.901 km	FMR - 4.31 km 1 PWS sub-project	FMR - 1.667 km Infra sub-project: Truck scale Foundation	FMR - 4.139 km	FMR sub-project - 2.10 km	1 PWS sub-project FMR - 5.153 km
Access to Credit	1 Total: Php 500,000.00	2 Total: Php 800,000.00	14 Total: Php 40,000,000.00	-	1 Total: Php 65,000.00	1 Total: Php 190,000.00 (made by former LARBO)

Organizational Training	10	6	9	12	19	10
Market partners	NewTech Pulp, Inc.	Edith Alalano (Ind.); GlowCorp; FPSDC/UMFI	Ching Bee Trading Corp.; NewTech Pulp Inc.; Pacific Cordage	ASM Hospital Coop; DA; DSWD; BLGU Trento; King Coop; Sampaguita Women's Assoc.; Compassion Trento & San Frans; ASELCO; PAHP; Uraya Farm; Partner Coop; NFA; Sto. Niño Coop; Strikers; NFA; Private Individuals	PCA; Engr. Barbosa; CLACOFARMC O	Nestle; Coffee Pros; Pacana Trading

Source of information: 2<sup>nd</sup> Quarter 2021 Report to NEDA (equipment, infrastructure, access to credit); M&E reports (for info on organizational trainings); Admin data from the Project ConVERGE-Central Project Management Office (CPMO)

Note: Information on M&E is as of early 2021.

**Table 5.3 LARBOs Perceived gains/benefits from the interventions**

Partners	Gains/Benefits of partnership
CATAMCO (Zamboanga del Norte Resettlement Cluster)- Zamboanga Del Norte  Crop: Rubber	<ul style="list-style-type: none"> <li>▪ Trainings increased knowledge about production, sectioning of seeds, rubber tapping, collecting, trading, making financial statements.</li> <li>▪ Farmers were able to earn more because of the fertilizers (50% increase in production if there's fertilizer).</li> <li>▪ Previous buyers were local buyers (e.g. Marcelo, MG, Goodyear). STANDECO became their buyer through Project ConVERGE.</li> </ul>

<p>MAFAMCO (SALUG Valley Cluster) - Zamboanga del Sur</p> <p>Crop: Rice; Corn*</p>	<ul style="list-style-type: none"> <li>▪ The interventions given (e.g. farm-to-market roads, combined harvester, mechanical dryer (changed to 4-wheel tractor), rice mill, hauling truck, farm equipment) were all useful to the beneficiaries. These were consistent with the needs of the cluster. The main issue is the delay in the delivery of additional hauling truck, tractor, harvester due to procurement issues.</li> </ul>
<p>GARBEMCO (Salipyasin ARC Cluster) - Zamboanga Sibugay</p> <p>Crop: Rubber</p>	<ul style="list-style-type: none"> <li>▪ No realized gain yet from the interventions due to delays in the delivery of some interventions.</li> </ul>
<p>BUKIFCARB</p> <p>Crop: sugarcane for muscovado sugar</p>	<ul style="list-style-type: none"> <li>▪ The trainings improved their management of the cooperative. They have become knowledgeable on tax and other financial matters. They were able to adopt a computerized financial system and updated their records. They have moved from Level 2 organizational maturity (IteMA) to Level 4.</li> <li>▪ The cooperative through the support of the Project has formed a subsidiary corporation to undertake the management of the processing plant of which the Cooperative is a shareholder and a member of the Corporate Board. The processing plant is managed separately by a professional team. With their own processing plant the farmers can meet the market requirement and they don't have to go to milling companies to process their products.</li> <li>▪ Farmers can directly sell their produce either to the lead ARBO or to the participating ARBO, both will buy their produce at the prevailing farm gate price.</li> <li>▪ The processing plant is capable to operate for 24 hours and is able to produce up to 200 tons/day, which capacitates them to meet the market requirements that would be needed from them. Before when the processing plant was not yet available, farmers would go to milling companies (Crystal Milling and BUSCO). Now, members with available sugarcanes/tubo can process their products.</li> <li>▪ Competitive prices. SM Supermarket sells muscovado sugar at 200pesos/kilo; The processing plant sells at 80pesos/kilo (farmgate price)</li> </ul>

	<ul style="list-style-type: none"> <li>▪ The production trainings they received from SRA helped them increase their production volume. They are now able to produce around 80 tons/hectare compared to 40 tons before.</li> <li>▪ They have credit financing in their individual coops but not under ConVERGE. SRA also provides loan through LBP. No credit partnership developed under ConVERGE.</li> </ul>
<p>MARBFC (North Bukidnon ARC Cluster) - North Bukidnon</p> <p>Crop: Cassava</p>	<ul style="list-style-type: none"> <li>▪ Encouraged by the government to form a cooperative to gain benefits as a group.</li> <li>▪ No realized gain yet due to delay in delivery of postharvest equipment.</li> </ul>
<p>LAMPCO (MISORET ARC Cluster) - Misamis Oriental</p> <p>Crop: Coco Sugar; Abaca*</p>	<ul style="list-style-type: none"> <li>▪ DAR Comprehensive Livelihood and Entrepreneurial Program (CLEP) paved way for LAMPCO to organize their processing, get equipment, and pass compliance documents. This enabled the start of mechanized production of coco sugar.</li> <li>▪ They were able to gain their market through the CLEP MOA. DTI also gave them technical assistance on how to do proper costing to find out whether they were being paid fittingly or not.</li> <li>▪ Project ConVERGE through “Lakbay Aral” exposed them to other manufacturing sites to observe other enterprises’ practices.</li> <li>▪ The cooperative was also given access to potable water and the construction of farm-to- market roads.</li> <li>▪ DTI also introduced them to the market by assisting them to enter the International Food Exposition in Manila to increase their buyers. This is where they got more contacts and their current buyers.</li> <li>▪ On the administrative side, LAMPCO officers have managed to keep well-organized accounting books and other log books. They learned this from self-study and from trainings sponsored by DAR.</li> </ul>
<p>NMPC* (LABACO ARC Cluster) - Camiguin</p> <p>Crop: Abaca</p>	<ul style="list-style-type: none"> <li>▪ NMPC was identified only as LARBO in early 2021 as replacement to Agoho MPC</li> <li>▪ Some interventions received but no realized gains yet.</li> <li>▪ Marketing agreement developed with Newtech Pulp, Inc but was not renewed.</li> <li>▪ Relationship between LARBO and the 2 PARBOs was established by Project ConVERGE</li> </ul>

<p>SASEPCO (VETREBUNS ARC Cluster) - Agusan del Sur</p> <p>Crop: Rice</p>	<ul style="list-style-type: none"> <li>▪ Provision of rice mill has made production easier for the ARBO members. Production cost is lower since they now have their own equipment. They don't have to rely anymore on traders for their equipment. At the same time, the rice mill provides the cooperative additional income.</li> <li>▪ There is an available truck that can be used for pick-up of supply (can be availed by scheduling)</li> <li>▪ From just seed producers, they have become processors and have better access to the market.</li> <li>▪ Partnership help them access loan from Land Bank for the coop's working capital (buy and sell).</li> <li>▪ They got trained in technology transfer, management of the equipment, in the operations and maintenance of equipment; management of the rice processing; and marketing.</li> </ul>
<p>SIUFMULCO (TUJAKITSAN ARC CLuster) - Agusan del Norte</p> <p>Crop: Abaca</p>	<ul style="list-style-type: none"> <li>▪ With the abaca seedling, the ARBO expanded their production area by about 90 hectares. They also established a six-hectare demo farm for seedling production and for capability building of other potential growers from participating ARBOs. The productivity of the abaca farms and those in the expansion areas was enhanced with fertilizers. The lead ARBO was able to develop its own abaca production farm, which they also use as the main source of planting materials for expansion and for distribution to other farmers within the lead ARBO and among the PARBOs.</li> <li>▪ Mechanized stripping machines enhanced the productivity of labor through efficient fiber recovery and at the same time improved product quality.</li> <li>▪ Lead ARBO has ready markets even before ConVERGE.</li> </ul>
<p>MAUNFACO (CLAGIBAPLA ARC Cluster) - Surigao del Norte</p> <p>Crop: Coconut and Bio Fertilizer</p>	<ul style="list-style-type: none"> <li>▪ The quality of their equipment is better than what was provided in the past. The previous weaving machines were too big for indoor use and the rain can wear them out. The new machines can be used indoor.</li> <li>▪ Establishment of an enterprise is beneficial to their community because it provides more employment opportunities to the women and out-of-school-youths in their area.</li> <li>▪ Infrastructure intervention would improve road condition, easier and faster to deliver products.</li> <li>▪ Trainings (e.g. marketing, gender, organizational training) were given to all ARBOs. The lead cooperative has undergone financial and accounting trainings, enterprise trainings, organizational trainings, skills training and trainings on how to use the machines.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ They had buyers prior to ConVERGE such as: SOCOR Construction (local buyer), a contractor who purchases geo-nets; a restaurant, one-time buyer who bought geo-net for decorative use.</li> </ul>
<p>PARBEMCO (BATA ARC Cluster) - Surigao del Sur Coffee</p>	<ul style="list-style-type: none"> <li>▪ PARBEMCO was identified only as LARBO in 2020 as replacement to MKGCG**</li> <li>▪ When they were identified as LARBO in 2020, they were trained to do their HR Manual, Cooperative manual, and enhance their PSPs</li> <li>▪ They were also able to attend trainings before (as PARBOs) about coffee production, land preparation, planting and harvesting, good agricultural practices by linking them to ACDI/VOCA</li> <li>▪ The Project assisted them on their linkage with Landbank (technical and advisory assistance). Their loan for coffee production is already approved – 1 million peso loan.</li> <li>▪ Nestle was introduced to the LARBO through a consultant hired by the Project Better future for coffee farmers: That other farmers will be attracted to these interventions and will join in the cooperative. Sustenance of the coffee value chain for it to be a source of income for people</li> </ul>

Source: Authors summary of KIIs/FGDs

\*Only Agoho MPC, the previous LARBO was interviewed. The replacement LARBO, NMPC was not interviewed.

\*\*MKCGC was found to have a net loss in their profit and have problems with their management and was not able to reach the objectives for the value chain. The interventions already given to MKCGC were not transferred to PARBEMCO. Only the remaining interventions will be given to PARBEMCO.

Note: The interviews were done between 2019 and 1st quarter of 2021, hence effects or deliveries made after the 1st quarter of 2021 were not considered.

**Table 5.4 Perceived gains/benefits of private sector partners**

<p>Credit Supplier</p>	<ul style="list-style-type: none"> <li>▪ Provides an opportunity to expand clientele</li> <li>▪ They were already partners with ARBOs even before ConVERGE; they can continue servicing their client as participation in the Project can add to bankability of farmers/ARBOs.</li> <li>▪ Provide an opportunity to venture into agriculture and expand their financial services to agriculture. They want to further develop their products and policies that will be suitable for agriculture borrowers.</li> <li>▪ Partnering with DAR helps them with assessing and validating the clients-coops since DAR is already familiar with these coops/farmers. Also, coops/farmers are more comfortable and transparent with DAR on their needs and issues than with banks since their relationship with DAR and other NGAs is already established.</li> </ul>
<p>Service Providers (e.g. NGOs, individual)</p>	<ul style="list-style-type: none"> <li>▪ Provide an opportunity to promote existing financial management system (DCSI)</li> </ul>



consultants, technicians)	<ul style="list-style-type: none"> <li>▪ Provide an opportunity to expand business being the only CDA-accredited training provider in the area. (Propegemus Inc.)</li> <li>▪ The partnership provides an avenue to implement their mandate as an international NGO, which is to increase the productivity of the coffee farming communities in the area and link them to international buyers (ACDI/VOCA)</li> </ul>
Buyer	<ul style="list-style-type: none"> <li>▪ Through the service provider (ACDI/VOCA) they can be connected to the ARBO, which is a potential supply of raw materials</li> <li>▪ Some of the buyers were already partners with ARBOs before ConVERGE. (e.g. GlowCorp, SMFI, Ching Bee, etc.). The ConVERGE can strengthen that partnership through improvement in production and quality of produce.</li> <li>▪ Buyer met the ARBO through DTI/DA trade fairs.</li> <li>▪ Buyer was looking for cooperatives to supply raw materials and conducted a farmers’ meeting with the assistance of DA and DAR wherein the buyer introduced their product to the farmers.</li> </ul>

Source: Authors summary of KIIs and FGDs

Notes: ACDI/VOCA= Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance;The interviews were done in early 2021, hence changes or deliveries made after the 1<sup>st</sup> quarter of 2021 were not accounted.

**5.3. “Big brother” strategy**

A key component of the ConVERGE 4Ps model is the introduction of a “big brother” scheme. The assumption is that the LARBOs, which are the matured farmers organization and the main channels of value chain interventions in the ARCs, will cascade the benefits of the Project to the PARBOs or to “weaker” farmers organizations thus strengthen them as producers and as organizations. Table 5.5 presents some indications of the extent of collaboration between LARBOs and PARBOs under ConVERGE. *First*, LARBOs, through the provision of trucks and post-harvest facilities are able to assist other farmers or ARBOs in transport of produce to consolidators or processors or directly to market. *Second*, some LARBOs having the experience of being a consolidator are able to buy the produce of PARBOs and individual farmers in the ARC especially if the LARBO has an established arrangement with a consolidator or buyer. However, the LARBOs buying arrangement with PARBOs is informal and there is no guarantee that PARBOs produce will be bought since LARBOs are also constrained by capital and markets. LARBOs tend to favor those who are previous partners whether individual farmers or ARBOs. On the other hand, the PARBOs will continue to transact with traders in the area since traders are also their source of credit. *Third*, most PARBOs that received value chain intervention such as inputs and farm equipment were able to do so because they were identified by the Project PMO or the LGU as direct beneficiary. There are PARBOs, although not selected as LARBOs that are also small consolidators and are better organized. *Fourth*, members of the LARBO have the priority in the use of interventions received. However, the LARBO can share materials or use of equipment and this is usually done to support the PARBOs or individual farmers, who are already their clients/suppliers.

The relationship developed between LARBOs and PARBOs is reciprocal. The value chain interventions on farm and processing facilities including transport, have expanded the capacities of LARBOs to absorb higher volume of production. This enabled LARBOs to extend support to non-members such as the PARBOs and/or individual farmers in exchange for a share of the production from the latter. However, the intent to build alliances/partnership such that the “big brother” can capacitate and strengthen the weaker organizations is not evident from this partnership.

**Table 5.5 Relationship between LARBOs and PARBOs**

PARBOs	Benefits (what was received by PARBOs or shared by LARBOs)	Issues
PARBOs in Zamboanga del Norte Resettlement Cluster (Zamboanga del Norte)		- CATAMCO does not have any MOA with their PARBOs
PARBOs in Salug Valley Cluster (Zamboanga del Sur)	- The relationship of the lead coop with the integrator coop is established. MAFAMCO being the LARBO buys the ready-for-milling palay of PARBOs. The LARBO consolidates palay in the warehouse and process it into milled rice. Farmers may opt to directly sell their produce either to the LARBO or to the PARBOs, both will buy their produce at the prevailing farm gate price.	- MAFAMCO (LARBO) and MANTILIBA FIAMCO, GARBENCO & CIV-CABEFAMCO (PARBOs) did not yet receive the delivery truck and hauling truck. - Not all of the produce is absorbed by the coop. On the average, only about 40% of the farmers produce is bought by consolidator.
PARBOs in Salipyasin ARC Cluster (Zamboanga Sibugay)	- PARBOs received the following: seedlings (clone, USM, RIM 600, PB 230); Inputs (pesticides, herbicides, fertilizers); farm tools and equipment (latex collection cup, cup holder, spout, tapping knife, grass cutter, auger, shovel and digging bar, knapsack sprayer, digital weighing scale, trolley, fogging machine, coagulating tub, wheel barrow). - PARBOs can borrow machineries from GARBEMCO but there is a rental fee to be paid for the maintenance of the equipment. - The lead ARBO buys from the PARBO since the lead ARBO has the link to the market.	- There was no mention of how the inputs and farm tools were specifically distributed among the PARBOs. - Terms and policies on rental of machineries such as the amount to be paid is not yet made. - At the time of the assessment, GARBEMCO was not able to buy the product from the PARBOs because they do not have a sure buyer. There was an on-going negotiation with prospective buyers but due to fluctuating price of rubber they failed to close a deal.

<p>PARBOs in South Bukidnon ARC Cluster (South Bukidnon)</p>	<ul style="list-style-type: none"> <li>- ConVERGE provided a dump truck and tractor to one of the PARBOs but none to the LARBO.</li> <li>- Farmers may opt to directly sell their produce either to the lead ARBO or to the participating ARBO, both will buy their produce at the prevailing farm gate price.</li> </ul>	<p style="text-align: center;">-</p>
<p>PARBOs in MISORET ARC Cluster (Misamis Oriental)</p>	<ul style="list-style-type: none"> <li>- The warehouse and processing equipment are managed by the LARBO. - Vehicles (e.g. motorcycles) were also given. However, there were no mention of how these were specifically distributed among the PARBOs</li> <li>- Some farmers in participating ARBOs supply raw coconut sap to LAMPCO. Some participating ARBOs, after collecting the fresh coco sap, manually do the semi-processing of coco-sugar and then transport and sell it to the lead ARBO for further processing and packaging.</li> </ul>	<ul style="list-style-type: none"> <li>- Only a few of their members (SAMULCO-PARBO) supply to LAMPCO since coconut trees for coco sugar is limited.</li> <li>- They have not started supplying for LAMPCO. This is because their coconut trees are too high, and one of their problems is that tappers do not volunteer because of the difficulty. Also, water is really a major problem in the area, because during the drought season farmers cannot harvest because there is no water. The nearest water source is 5 to 7 kilometers away.</li> <li>- There were no trainings conducted for tappers yet. They have only done observations in Linabu. They also have not joined the training on the protocols for organic. They shared that it is hard to get people to join trainings because tapping is a difficult task.</li> </ul>
<p>PARBOs in LABACO ARC Cluster (Camiguin)</p>	<ul style="list-style-type: none"> <li>- Decorticating machines have already been delivered, 10 units were given to PARBOs; Warehouse: Php 940,000 warehouse for the 2 PARBOs; Dryers: one dryer per cooperative plus there will be additional three dryers for procurement</li> <li>- Relationship between Agoho and the 2 PARBOs was established by Project ConVERGE</li> </ul>	<ul style="list-style-type: none"> <li>- First batch of decorticating machines (4 units) were inefficient and ineffective, it was too heavy, slow productivity, and used too much crude oil</li> </ul>

<p>PARBOs in VETREBUNS ARC Cluster (Agusan del Sur)</p>	<ul style="list-style-type: none"> <li>- Every member of the PARBOs benefitted from the easy access to post-harvest facilities. They can sell their products to NFA if the buying/selling price of rice is low.</li> <li>- They can use the equipment: <ul style="list-style-type: none"> <li>- For the mechanical dryer: farmers pay 60 pesos per bag (60-70kilos/bag of fresh palay)</li> <li>- For the rice mill: 110-120 pesos per 50 kilos of milled rice for local millers; 90 pesos for coop members</li> </ul> </li> <li>- SASEPCO buys the palay from the PARBOs farmers at a higher price (P50) compared to the existing market price (P40). LARBO buys their produce at a higher price. They also don't have to rely on traders anymore because the LARBO can now buy their products and do the processing.</li> <li>- The PARBOs were also provided with collapsible portable storage in case their palays won't be collected by or delivered to the LARBO right away.</li> </ul>	<ul style="list-style-type: none"> <li>- There is no formal contract between SASEPCO and the ARBO Integrators</li> <li>- The LARBO is not able to buy large volumes from the PARBOs since their operations just started.</li> <li>- One of the integrator ARBOs in the municipality of Bunawan wasn't able to receive a certain equipment (rice miner preserve and tractor) due to financial issues within their organization. Thus, the only type of intervention this integrator ARBO in Bunawan received from ConVERGE is training. For now, they are scheduling a financial training for this integrator ARBO to improve their cooperative.</li> </ul>
<p>PARBOs in TUJAKITSAN ARC Cluster (Agusan del Norte)</p>	<ul style="list-style-type: none"> <li>- The interventions received are: Seedlings; Inputs (fertilizers); Stripping machines; Digital weighing scale; and Hauling truck. There are 12 units of abaca stripping machine so most of the ARBO's had the liberty to use this sub-project equipment while there are only 5 portable stripping machine delivered.</li> <li>- The lead ARBO was able to develop its own abaca production farm, which they also use as the main source of planting materials for expansion and for distribution to other farmers within the LARBO and PARBOs.</li> </ul>	<ul style="list-style-type: none"> <li>- Not all ARBO's were given stripping machines. The LARBO distributed the machines to selected PARBOs. Only top abaca producing ARBOs get a stripping machine. Out of the 22 PARBOs, only about half got abaca stripping machines. Those farmers in PARBOs who are not given stripping machines can use the machines at a rate equivalent to 10% of the value of abaca fiber.</li> </ul>

<p>PARBOs in CLAGIBAPLA ARC Cluster (Surigao del Norte)</p>	<p>- 200 twinning machines received by MAUNFACO were distributed to PARBOs in 2019. Number of machines given to PARBO are dependent on how many twiners are present in the PARBOs. Distribution of twinning machines to ARBOs:</p> <ul style="list-style-type: none"> <li>• KAPRAPROCO – 25 units</li> <li>• SIMPUCO – 53 units</li> <li>• CAFIFACOCO – 32 units</li> <li>• CARBA – 26 units</li> <li>• MAUNFACO (LARBO) – 64 units</li> </ul> <p>- LARBO provides fibers to PARBOs to be twined. The LARBO then buys the twined fibers from the PARBOs and does the decortivating work for all the raw materials.</p>	<p>-</p>
<p>PARBOs in BATA ARC Cluster (Surigao del Sur)</p>	<p>-</p>	<p>- PARBMCO has not yet delivered/transported coffee to other areas/markets because they currently don't have big amounts of coffee to distribute yet. In the meantime, members and PARBOs sell to middlemen because the LARBO does not have space to store those sacks of coffee beans. - Out of the 6 PARBOs, only 2 are able to give raw supplies since the other 4 are still waiting for their harvest season.</p>

Source: Authors summary of KIIs/FGDs

**5.4. Challenges of 4Ps in value chain development**

Table 5.6 presents the challenges that the 4Ps strategy has been confronted with. These challenges can be classified into the following factors (see Section 2 for definition of these factors): market access and market orientation; resource and infrastructure and institutional voids. The critical constraints are both resource/infrastructure problems and institutional voids.

Resource problems include the inadequate funding support for roads, water and energy infrastructure in rural areas that translate to poor connectivity and higher cost of transport and power for agro-processing activities. While the Project partly addresses this limitation, the problem requires concerted efforts from the government at the national and local level. A Project related funding problem is the limited grants and subsidy for the needed improvements in production and post-harvest processes. Some LARBOs mentioned a need for additional farm equipment for the ARC. It was also reported that some farm and processing equipment are

expensive requiring higher subsidies since even the selected LARBOs lack the capital to purchase equipment or vehicles.

Another resource problem is the limited capacity/manpower in LGUs and in regional offices of NGAs to do extension services, which has contributed to the sluggish knowledge development and technology adoptability in the regions. ARBOs are also faced with low level of education of members and lack of skilled manpower that hinders the adoptability and institutionalization of technology/innovation from capacity building activities. Technology adoption is also dependent on financial capacity and availability. Limited access to credit of ARBOs and high cost of inputs hinder the adoption of technology by small farmers.

Aside from the resource and infrastructure problems, institutional “voids” especially those involving bureaucratic practices/systems have hindered the success of 4Ps approach. The absence of systematic implementation among government NGAs and LGUs has led to fragmentation of extension functions and organizational trainings as well as functional disconnect and duplication of responsibilities. While there are many NGA partners, this fragmented approach is inefficient and ineffective. It can result in confusion especially if agencies share different methods and systems. Likewise, there can be disconnect in the prioritization of funding for agriculture research and extension. More often there is dominance of funding for rice compared to other crops (e.g. rubber, coffee, cassava). Priorities also follow political leadership at the local level. Another institutional constraint pertains to government laws and legal/regulatory processes. Procurement issues have caused delays in the delivery of farm equipment and also incompatibility in the equipment purchased. Moreover, cooperative laws tend to be restrictive, which can impede flexibility in the operations and structure of cooperatives or farmers organization. Flexibility can be an advantage to help farmers organization grow and attract investments.

Other constraints to value chain in agriculture pertain to market access and orientation. The intent of the 4Ps to address the issue of many micro producers through cluster approach is notable. However, these efforts have limited success due to the small capacities and resources of LARBOs and that there are still ARBOs and farmers that are not part of the program or are not part of the LARBOs network. Also, traders continue to have strong influence on distribution channels and the market since many farmers and ARBOs are still dependent on them for credit. Production is also constrained by agrophysical issues such as poor location of farms, security problems in the area and low resilience of small farmers to climate disturbances.

**Table 5.6 Challenges of 4Ps in value chain development**

<b>Rank</b>	<b>Market access and market orientation</b>	<b>Institutional “voids”</b>	<b>Resource/Infrastructure Issues</b>
1	Product prices not competitive	Bureaucratic weaknesses e.g., - -Lack of coordination among NGAs for agriculture research and extension	Organizational/leadership/financial weakness in ARBOs
2	Inconsistency of product quality	Dominance of rice for research and extension funding;	Inadequate fund and manpower of NGAs and LGUs

		prioritization of funds depends on political leadership	for infra , research, extension services
3	Insufficient production volume	Issues on procurement law	Low technology adoption/ high cost of production inputs/ high energy cost
4	Limited market	Weak M&E system or follow through affecting sustainability post project	Ageing farmers and movement of labor out of agriculture
5	Inadequate market information	Weaknesses in cooperative laws	Difficulty of farmers/ARBOs to access credit
6		Difficult access to certification	Geographic location
7			Low resilience to threats of climate change

Source: Authors' compilation

## 6. Conclusions

The 4Ps model adopts a cluster approach to enable small farm operators to gain control of farm production and product distribution through the support of government agencies and the private sector. This type of facilitator driven AVC, with government taking the lead, is suitable for the country given the small sized farms (i.e. average of 1.2 hectares) and the low levels of organizational maturity and financial capacity of many farmers organizations, not to mention the resource constraints of public agencies.

The Project's choice of interventions for value chain development also addresses some of the critical needs of agriculture value chains in developing economies such as improvements in road and water infrastructure in rural areas; increase technical and organization capacities of small farmers; and increase access to credit of small farmers and/or farmers organization. Despite delays in the actual start of Project, the benefits from the interventions especially for LARBOs that have already received the proposed farm equipment and trainings have been evident. These LARBOs reported increase production, expansion of farm area, improved mobility and transport availability and less dependence on traders.

However, the limited market for the products is a major challenge to consider. This could be due to the uncompetitive prices of products and inconsistency in the volume and quality of produce delivered to buyers. With the exception of rice and cassava, the main crops supported by Project ConVERGE are export crops thus the desired volume and quality of these produce should be at par with international standards.

The shortfall in the desired volume was partly due to bad weather conditions and the current pandemic, which limited mobility. On the other hand, there are also issues on the low adoption of appropriate technology and poor farming practices of farmers, which have resulted as well to poor

product quality. This is partly attributed to the sluggish knowledge development and extension support and also the high cost of inputs. Limited access to credit remains a constrain even among LARBOs. While credit facilitation is part of the 4Ps strategy, it is still dependent on the creditworthiness of farmers and/or ARBOs. Moreover, it also depends on the willingness or confidence of farmer-members or ARBOs to borrow. The participation of LARBOs in Project ConVERGE though provides some insurance of capacity and good standing of the LARBO.

Low technology adoption has also been linked to inefficiency and ineffectiveness of extension services and other capacity building activities. While other NGAs (e.g. DA, SRA, DTI, PCA, etc) and LGUs are key partners in the 4Ps, the fragmentation of extension functions has led to some functional disconnect and duplication of responsibilities. This has posed challenge in the effectiveness of trainings and of knowledge sharing.

The 4Ps model also applies a “big brother” scheme, whereby LARBOs are encouraged to build alliance with PARBOs for knowledge sharing and capacity building. However, this form of partnership is not evident. Instead, the relationship that developed between LARBOs and PARBOs is one of reciprocity. The value chain interventions on farm and processing facilities including transport, have expanded the capacities of LARBOs to absorb higher volume of production. Thus, LARBOs relate to PARBOs and/or individual farmers in exchange for a share of the production from the latter. LARBOs are expected to serve their members but do not have the capacity for development activities. Most farmers organizations are also of the closed type and can only take in members within a defined area or barangay. On the other hand, the selection of matured farmers organization such as LARBOs, as the main channels of interventions is relevant to the extent that they can serve as models to encourage other ARBOs.

The findings of this study relied mainly on key informant interviews and Project status reports. In particular, the interviews were undertaken in different periods of time between the last quarter of 2019 and early 2021. Due to the pandemic, most interviews were done virtually, and site visits were not undertaken. This has limited the researchers’ interaction and observations of what was happening on the ground. Moreover, while the ConVERGE Project started in October 2015, the early accomplishments of the Project were on infrastructure development.<sup>8</sup> For the I-SHARED component, which provides the farm and value chain enterprise development support, the bulk of investments were provided towards the later part of the Project implementation, thus, some effects may have yet to be realized. A final review of the Project is proposed when the delivery of interventions and changes in implementation have already been completed.

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<sup>8</sup> 4<sup>th</sup> Quarterly Report for the ConVERGE Project prepared by the CPMO.



## 7. Recommendations

Based on the initial experience, the 4Ps can be scaled-up as a development strategy for agriculture. Some improvements that can be undertaken are as follows:

First, given the institutional voids in the government bureaucracy, the 4Ps model can be tweaked by identifying an NGO as the “big brother” to undertake business development, technical and organizational trainings for ARBOs. The partnership is still under a facilitator led AVC with an NGO as “big brother”. The “big brother” can be tapped as the main implementer similar to the USAID funded project GROW Coop (Generating Rural Opportunities by Working with Cooperative). Under the GROW Project, Agriterra, an international non-profit agriculture agency, provides business development and advisory services to agriculture cooperatives. It identifies and addresses gaps in the organizational capacity of small- and medium-sized agri coops in the Philippines to increase their participation in agricultural value chains and to provide greater income opportunities for farmer members (Agriterra 2021). A “big brother” like Agriterra will provide longer term partnership and enable consistency in implementing development plans for technical and organizational capacity building in agriculture.

Second, DAR to expand subsidy for shared facilities specifically for agro processing and to explore corporate management of shared facilities. The corporation can be a subsidiary organization or a trust company, which shall be managed by a private sector that is a separate entity from the cooperative (s). The cooperative or ARBOs will be shareholders of the corporate entity and can be represented in the Board.

Third, the Project funding for investments in farm and value chain enterprise development in ARCs. should be separate from the infrastructure program, which can easily take up 80 percent of project funds.

Fourth, market access and market organization support require the existence of well-connected sub systems to develop a harmonized system of product quality and standards. It is also influenced by technological capabilities of producers and market knowledge thus interventions to enable ARBOs to gain market information of end-users market and to develop commitment to comply with the demands of the value chain’s end market through skills and product specialization. Developing a brand name or certification to make these products competitive in the global market should be supported.

Fifth, related to the need for market information and technology adoption, infrastructure projects should include investments in communication infrastructure services. The presence of adequate communication is an important area of partnerships and factor for value chain development and upgrading. Likewise, organizational trainings should include adoption of ARBOs on communication technology including mobile banking.

Sixth, there is a need for ARBOs to engage their members to develop a savings habit and improve on agriculture insurance program to enhance access to credit and to hedge against climate shocks. Partner financial institutions should support ARBOs to strengthen savings and insurance programs.

Seventh, expand partnership on credit to agro-input dealers and select financial institutions with strong links to markets (institutional, domestic companies or exporters). They can forge linkages with merchants and traders. Agro-input dealers can also provide financing support or links to financing.

Eight, DAR to improve on monitoring and other information systems to properly record and better assess ARBOs and value chain interventions. A good information system will enable better understanding of the needs of farmers organizations; the structure of the market; the governance mechanisms to address bureaucratic issues.

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