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UNIVERSITY OF THE PHILIPPINES
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ESCAPING THE MIDDLE-INCOME TRAP: CHAINS FOR CHANGE

Land for Food:

The Peace and Equity Foundation—
Malaga Cuenca Agrarian Reform
Cooperative (PEF—MACARBEN)
Agrarian Reform—Block Farming
Case Study

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COVER IMAGE CREDIT

La Castellana community members cementing a farm access road. Photo provided by the authors.

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Land for Food: The Peace and Equity Foundation–Malaga Cuenca Agrarian Reform Cooperative (PEF–MACARBEN) Agrarian Reform–Block Farming Case Study

Ernest Barreiro,¹ Wilma Guinto,² Elaine Tacubanza,³ and Tara Abrina⁴

The flagship agrarian reform program of the Philippines was envisioned to improve the welfare of farmers and farmworkers. However, most successful redistribution cases lack appropriate support for transition, making the forfeiture of their newly awarded land more attractive than maintaining it. Block farming was envisioned to help with this transition. However, anecdotes continue to surface of block farm members pole vaulting, leasing, or selling their parcels of the block farm. This case study applies value chain analysis and a capabilities approach to welfare frameworks to analyze the experience of one such group of agrarian reform beneficiaries. It proposes a reframing of the metrics used to evaluate such programs in the context of an external funding agency such as the Peace and Equity Foundation (PEF). This study finds that inefficiencies in the sugar industry leave little room for intervention. As such, the process of land redistribution should be concerned not only with the transfer of rights to the land, but also with the inherited asset specificity and uncertainty within the primary activities of the value chain, the ingrained roles and identities of the various actors within it, and their order in society.

Keywords: agrarian reform, sugarcane, Malaga Cuenca Agrarian Reform Cooperative (MACARBEN), Negros Occidental, block farming, value chain analysis

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Introduction

In the Philippines, discussions on agricultural productivity and efficiency for plantation crops such as sugarcane and rice focus on on land use and, eventually, land redistribution under agrarian reform (AR). However, the flagship AR program in the country was designed not for efficiency considerations, but rather for equity, redistribution, and farm worker welfare. It was envisioned to secure the rights of farmers and farmworkers to own the lands they till and receive a just share of the fruits of their labor (Section 2, Republic Act No. 6657). This source of contention has plagued the more than 30-year implementation of the different policies in the country. The supposed “beneficiaries” of the Philippines’ AR program continue to face the constant risk of losing their land. They have to deal with legal wrangling, appeals, and continued landlord pressure long after the official granting of Certificate of Land Ownership Awards (CLOA), in the name of productivity and efficiency. Without the security of tenure and in the context of major inequalities in terms of access to land, economic growth is stunted. Poverty levels remain very high. Where distribution has occurred, the vast majority of cases lack appropriate support for capacity-building, thus making the forfeiture of their newly awarded land more attractive than maintaining it.

As the government institutions primarily mandated to address these issues, both the Philippine Sugar Regulatory Administration (SRA) and the Department of Agrarian Reform (DAR) initiated multiple programs and projects to support AR transition, such as the joint block farming programs. Block farming’s theory of change was this: if productivity and scale of sugarcane farming increased despite farmer ownership of small lands, then the farmers in turn would have larger margins to share amongst themselves, in turn lifting themselves out of poverty and improving their welfare. Agricultural financing, thus, became essential to support the block farms. One such provider of financing is the Peace and Equity Foundation (PEF), which supplied loans and grants to some agrarian reform beneficiaries (ARB) cooperatives in the Negros area to support their block farming initiatives.

However, despite access to financing, anecdotes of block farm members who pole-vault, lease, or sell their parcels of the block farm, continue to surface. The redistribution of land remains ineffective at best (Tadem 2015). Therefore, despite block farming’s focus on improving productivity to lift ARBs out of poverty, the farmers continue to remain income-poor. Thus, we propose a reframing of the metrics used to assess, monitor, and evaluate such programs in the context of an external funding agency such as PEF. First, the opportunities for financing need to be mapped within a value chain. This would allow the funder to design or custom-fit loans or grants, and even identify partners to help meet the needs of the beneficiaries.

Second, and most importantly, assessment must not lose sight of the overall impact of the programs, which is to improve the welfare of ARBs. One usual metric to gauge such improvement is by computing the marginal income that they would receive as a result of the program. However, in this paper, we take on the capabilities approach (Sen 2001) to the topic of welfare. We ask:

- Did the agrarian reform program liberate those who remained farmers from their identity as farm workers?
- Are the ARBs using their newly awarded land to improve their own welfare (e.g., making more productive use of the land) or are they “stuck” in a less-than-optimal situation for reasons other than costs and benefits?

In this case study, we apply these frameworks to analyze the experience of one such group of ARBs, five years after they were awarded parcels of land. The Malaga Cuenca Agrarian Reform Cooperative (MACARBEN) in La Castellana, Negros Occidental is a former beneficiary of the PEF. PEF, in turn, is partnering with the Escaping the Middle-Income Trap: Chains for Change (EMIT C4C) project of the University of the Philippines Center for Integrative and Development Studies (UP CIDS) to (document the MACARBEN–PEF’s experience with agrarian reform and block farming. Both also propose an alternative approach to supporting and/or funding ARBs. This joint action research can form the basis for tools that the PEF can use to match, monitor, and evaluate any future partners like MACARBEN.

Crop Context

Sugarcane is a tropical grass that can grow up to 20 feet tall, typically taking about 11 to 16 months before harvesting (September to October in Negros Occidental). It prefers a long, warm climate, but also requires a good amount of moisture to grow properly (FAO n.d.).

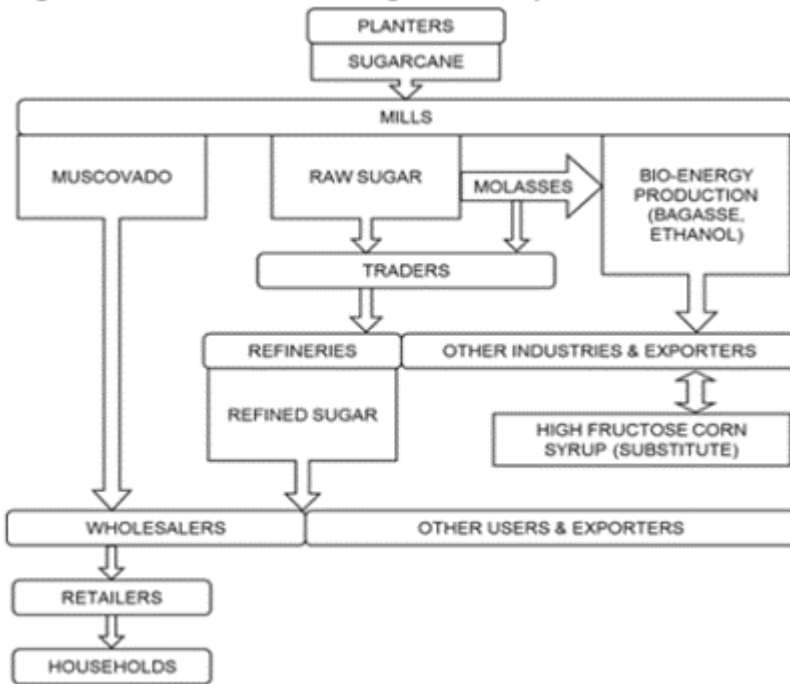
After land preparation (plowing, harrowing, and furrowing), the first cycle of the plant involves the planting of stalks, followed by a few cropping seasons of ratooning. Ratooning is the process of cutting most of the aboveground parts of the sugarcane plant, leaving the roots to reproduce new shoots that will grow.

The cost of production using a ratoon crop is cheaper in terms of input since no new stalks are needed. Ratooning also requires less labor since there is no need for land preparation and replanting. However, adequate labor and management are still needed to ensure proper care. Harvesting from ratooning also comes much earlier than that from new plants since ratoons start off more mature.

It is important to note, however, that the yield from ratooning is also much lower than that for new plants; thus, it is advisable to only have three to five ratoons, depending on the variety of the cane, to ensure adequate yields.

The industry value chain of sugarcane involves planting/farming to milling, different methods of processing (i.e., centrifugal and noncentrifugal), and distribution to different marketing outlets (i.e., export for the United States and other countries, domestic market, food products, etc.) of its various outputs: raw sugar, molasses, muscovado sugar, refined white sugar, Bagasse, and ethanol (Figure 1; Briones 2020; The Sugar Association 2018).

The market and users of sugarcane span a wider range, from small traders to sugar mills halfway across the globe. The distribution of its different processed forms, particularly raw sugar, is highly regulated by the SRA through the *quedan* system. Quedans refer to the receipts of warehoused raw sugar that the SRA regulates (Table 1).

Figure 1. Industry Value Chain for Sugar in the Philippines

Source: Briones 2020, 1

Table 1. Sugar Regulatory Administration raw sugar quedan classifications

SRA Classification	Function
A	For export to the US
B	For domestic sale (raw)
C	For Storage/Reserve
D	For export to non-US countries
E	For use in food products for export

Source: Briones 2020, 1.

These classifications allude to the different competitive forces that affect the demand for sugar, and subsequently the demand and revenues of sugarcane. For example, for classifications A and D, gross revenues from the quedans are highly dependent on the prevailing

prices in foreign markets, tariffs, and the prevailing exchange rates. Liberalization via reduction of tariffs—such as the ASEAN Free Trade Area (AFTA) that reduced the sugar tariffs from 38 percent in 2010 to 5 percent in 2015 (Office of the President 2010)—increases the flow of sugar imports, and to an extent exports as well. This effectively reduces the output of sugar milling and sugarcane production (Cororaton 2013).

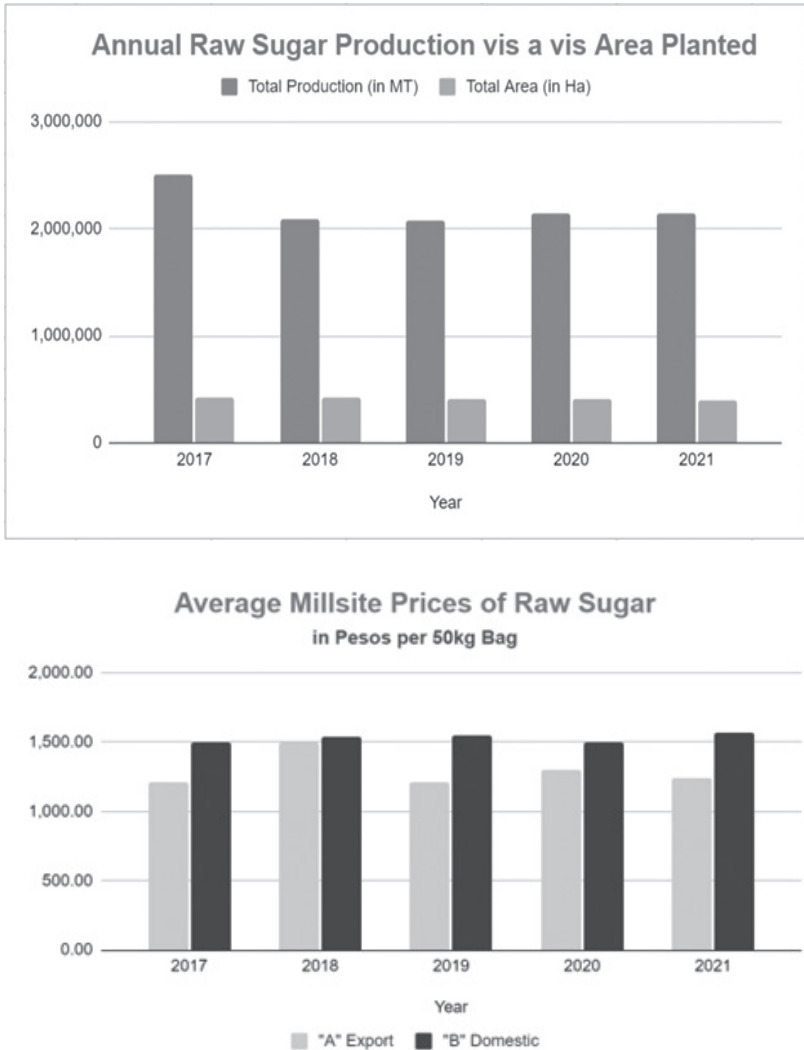
For classification B, where the raw sugar is sold domestically, several factors affect the competitiveness of sugar: the excise tax on sweetened beverages and fuel from the Tax Reform for Acceleration and Inclusion (TRAIN) Law; the market for high-fructose corn syrup (HFCS), a substitute of cane sugar; the relative price of imported sugar and HFCS; forecasts for domestic demand; and climate conditions, to name a few.

To illustrate the competitive forces in the industry, we look at production during the two crop years (2016 to 2018), based on reporting done by BusinessMirror (Cu and Arcalas 2019). Unabated imports of HFCS caused a shift to HFCS and to a subsequent oversupply of domestic raw sugar after crop years 2016–2017. This prompted the SRA to issue Sugar Order No. 3, which allowed the Philippines to export more of its surplus: 174,789 metric tons (MT) in 2017–2018, which was four times that of the exports in 2016–2017.

After the TRAIN Law increased the excise taxes on sweetened beverages in 2018, the large difference in the excise tax between cane sugar-sweetened beverages and HFCS-sweetened beverages prompted a shift in local demand from HFCS to cane sugar. Moreover, the increase in rainfall and deficit in farm laborers led to a deficit in local supply that year. Thus, the imports for that year matched the deficit in supply based on projected demand. The excise tax on fuel in the TRAIN Law also increased costs for inputs (Cu and Arcalas 2019).

According to the SRA's statistics as of 2021, the trend for the amount of sugarcane milled for the same period fluctuated: 28 million MT in 2016–17, 21 million MT in 2018–19, and 25 million MT in 2020–21. The total area allocated for sugarcane has also seen a

Figure 2: Annual raw sugar production, area, and average mill site prices for sugar classifications A and B



Source: SRA 2021.

a decreasing trend,⁵ from 423,333 in 2013–14, 421,358 hectares in 2016–17, and eventually 409,714 hectares in 2018–19 (SRA 2019). From being one of the top exported crops produced by the country (SRA 2012), sugarcane is now only the 5th biggest contributor to national gross domestic product (GDP) as of 2019 (PHP 35 million) compared to the top crop rice (palay) (PHP 305 million) (PSA 2020a; Figure 2).

Compared to the *quedan* system, which seems to be highly monitored and organized, the production cycle of cane sugar seems to be lagging and is highly inefficient relative to other countries. The country's raw sugar yield in 2019 at 5.1 tons per hectare was very low compared to other countries within the region.

For example, Thailand produced 22 percent more in the same year (Mendoza 2016). Mendoza suggests that the industry is threatened by at least four factors: (1) high costs of production; (2) low yield and market price leading to low farmer income; (3) worsening climate change; and (4) labor shortage due to better employment opportunities.

He suggests that for yields to increase, mechanization of the production cycle from planting to harvesting is necessary, but is hampered by various farm conditions, one of which is the size of the farm lots. The amount of sugar produced after processing sugarcane, or the average recovery of the 28 mills operating in the country, is also at 1.8 bags/ton of sugarcane—another source of inefficiency in the overall process. This is low compared to the 2.4 bags/ton that can be achieved in more efficient mills (Tobias 2020).

Sugarcane farmers are mostly “smallholder farmers” (SRA 2019), or farmers who own less than five hectares of land. Because of limitations imposed by capital and regulations, the smallholder farmer's ability to integrate vertically is also stifled. The farmer who is only able to sell his standing crop cannot also realize any further gains from possible value-adding activities (Dixie 2005). To quote Zabaleta (1997):

⁵ The decrease in plantation area may be attributed to the conversion from sugarcane to other crops (SRA 2019). The same report also states that 82 percent of sugarcane farmers in Negros Occidental have been unable to expand their area due to the unavailability of land, some of which have been converted for residential and recreational purposes (SRA 2019).

To be competitive in the global economic environment, a sugarcane farm requires a minimum economic unit or size. It also requires equity investment, good management, and the practice of the findings of the latest productivity enhancement research. A sugar farmer in Okinawa can consider 7 hectares as an economic unit, he sells his product at three times the high U.S. price and receives a green payment or subsidy from the 200 [percent] tariffs on all sugar imports into highly industrialized Japan. This farmer is assured a middle-class life or he will abandon his farm for the city. His counterpart farmer in the Bicol or Cagayan provinces has hardly any financing, poor infrastructure, sells his product at a third of the price of his Japanese counterpart, and ekes out a living that assures him a peso-based “D” market income for the rest of his life. The declining farm yield is an indication of the sorry state of productivity of the farmers in the Philippines. To earn a middle-class income, therefore, he needs at least 5 times the size of 7 or 5 hectares of land. Anything else is not economic. For him to compete with an Australian farmer, he must have at least half the size of an Australian farm. However, about 71 [percent] of the sugarcane growers operate farms not larger than 10 hectares and the number of such farmers is growing owing to the effect of the Comprehensive Agrarian Reform Program of the government.

Like other crop farming in the Philippines, financing for sugarcane farming, especially for smallholders, is difficult to access due to various risks (Bayudan-Dacuycuy et al. 2020). These higher risks lead formal lending institutions, such as banks, to require documents. These include farm and other finance-related documents and financial literacy training on top of the collateral. Thus, small farmers who need financing turn to informal and more flexible credit sources that have fewer barriers to entry, though they charge higher interest rates (Cuevas and Sumalde 2017, 17; Bayudan-Dacuycuy et al. 2020).

Recognizing “the sugar industry [as] a major component of the socio-economic and political structure of the country” (SRA 2012), President Cory Aquino signed Executive Order 18, establishing the Sugar Regulatory Administration (SRA) (Office of the President 1986). The SRA has the mandate to promote greater cooperation between the private sector and the producers. In addition, with the passage of

Republic Act (RA) No. 10659, or the Sugarcane Industry Development Act of 2015, the SRA seeks “to improve the working conditions of the laborers” (SRA 2012) as well as to enhance productivity.

Table 2: Farm Area in Hectares in Negros Occidental CY 2016-17

	Small-a (≤ 2.5 ha)	Small-b (2.6–10 ha)	Medium (10.1–50 ha)	Large (> 50 ha.)
Average Area	1	5	28	126
Average Yield (New Plant) in tons	62	63	72	80
Average Yield (Ratoon) in tons	63	60	62	73

Source: Briones 2020, 1.

Recently, the Department of Agriculture (DA), through the SRA and the DAR, launched its Block Farming (BF) initiative in 2012, with Don Pedro MDDFI in Tuy, Batangas as the pilot location. Block farming consolidates small farms into a “block” of land, usually about 30–50 hectares, to be managed collectively. This, in turn, should promote economies of scale for increased income and reduced farming expenses, access to cheaper inputs, and more effective use of machinery and equipment. As of December 2020, there are 213 established Block Farms with 5,688 members, covering 8,499.8 hectares of sugarcane enrolled under the Sugar Industry Development Act (SIDA) SRA Block Farming program. The report also stated an increase from 76.98 LKG per hectare to 87.88 LKG per hectare from 2016 to 2018, which translates to about a PHP 16,000 increase in income per hectare (SRA 2020). One LKG is equivalent to 50 kilograms of sugar.

Area Context

About 72.3 percent of the country’s sugarcane production is found in Visayas, of which 61 percent is in Western Visayas (PSA 2020b). On Negros, an island in the middle of the archipelago and at the heartland of sugar production, inequalities are particularly pronounced (Wright 2019). Hacienda-style land ownership patterns

dominate. Here, some of the country's most powerful families control extensive sugar plantations worked by landless agricultural workers. Some of them have lived and worked with their families on the estates for generations. Unlike other areas of the Philippines, which tend to be dominated by tenant farming systems, the haciendas of Negros are worked by temporary and permanent landless workers called *sakadas*, who are based on-site in the haciendas without rights of tenure nor options for alternative employment. The Spanish terms for these roles attest to the continuing processes of colonization and the emergence of neocolonial elites (Lanzona 2019).

Over time, the interests of powerful landholding families have diversified, but the strong link between land and political power remains. New forms of market-led land reform have also created an emerging pattern of contract-managed plantations (Lanzona 2019). While small farmers own these plantations on paper, the elite still controls them (Tadem 2015). It is unsurprising, therefore, that Negros has been subject to major tensions over access to land—tensions that are compounded by environmental problems, poorly developed local economies, precipitous inequalities, and high poverty levels (Wright and Labiste 2018).

Table 3: Sugarcane Production in the Philippines 1990–2018

	1990	1995	2000	2005	2010	2015	2018	Growth (%)
Negros Occidental	9.92	9.16	10.16	11.49	8.70	11.74	12.85	1.5
Bukidnon	1.23	1.36	1.93	2.87	2.55	3.07	3.07	5.2
Negros Oriental	0.85	1.27	1.61	1.67	1.21	1.70	2.18	5.4
Batangas	1.26	1.51	1.81	1.74	1.63	1.65	1.56	1.2
Iloilo	0.83	0.74	0.77	0.88	0.64	1.18	1.36	2.8
Other provinces	4.59	3.73	4.94	4.26	3.20	3.60	3.71	-1.2
Philippines	18.67	17.77	21.22	22.91	17.93	22.93	24.73	1.6

Source: Briones 2020, 6.

In a University of the Philippines Los Baños (UPLB) study, farmers' experience with the procurement of inputs in Negros Occidental was practically split: 52 percent did not encounter any problems acquiring them, but 48 percent reported issues in availability, accessibility, and the lack of funds to procure them (Gonzales and Dilay 2019). Most complaints centered on the low supply of cheaper and higher quality

fertilizer, leaving them to procure the more expensive ones, which are of lesser quality. The cost of procurement like transportation, fluctuating prices, and delays are also common issues.

There is evidence of awareness and information about where farmers can avail of credit, with 65 percent of respondents reporting that they knew of financial services from banks like LandBank, Marayo Bank, and United Coconut Planters Bank (UCPB). On the other hand, 63 percent were aware of nonbank providers. These include MACARBEN and other companies, such as Neptune Finance Corporation and Boston Finance & Investment Corporation. However, the actual availing of credit seems to be a different case, with 68 percent claiming to not have borrowed capital for the last five years as of calendar year (CY) 2016–2017. The 32 percent who did so had borrowed primarily from their respective associations, mills, traders, and/or relatives; only a few had accessed credit from banks. Most borrowers availed themselves of cash, which they then used to pay mostly for farm labor and/or to purchase fertilizers. Among the few borrowers, most of them still complained of high interest rates and inadequacy of the loan amounts. Although 68 percent were willing to pay for services to improve their farming and production, only a small portion (20 percent) could access the extension services provided by the government, while 24 percent could access them from nongovernment entities like Philsurin and Altertrade, who give out inputs such as high-yielding varieties (HYVs), machinery, and other equipment. Although government agencies such as the DA and the SRA hold seminars and training, only 27 percent of the respondents could participate. Some were interested while others could not afford the costs of attending. The seminars, the farmers mentioned, were mostly on the technical aspects of production and did not include ones that focus on their preferred topics: farm management practices, financial literacy, and marketing.

Farmers who want to market sugarcane to millers also need to join an association or cooperative, mostly due to the volume and scale it takes to engage millers. These associations and/or cooperatives then maintain part of their staff in the sugar mills to make sure that the equipment is in good condition; to monitor and track the data on deliveries; and to compute the balance of stocks in the storage facilities. Nine mills operate in the province: La Carlota, Victorias, Lopez, URC-

SONEDCO, BISCOM, Hawaiian-Philippines, First Farmers, Sagay, and OPTIONS. Depending on the capacity of the mills, the sharing scheme between the miller and the farmer usually ranges between 30–35 percent and 65–70 percent, respectively. The farmer’s share can also be subject to their respective association fees. Milling companies also offer trucking subsidies depending on the distance, from PhP 30 to PhP 280 per ton.

Procuring the sugarcane from farmers is done through their respective planters’ associations/cooperatives. These groups facilitate the sale of the quedans of sugarcane between the farmer and the milling company. The associations/cooperatives are also responsible for marketing the output, for which they charge the planter around PHP 2 per LKG; thus, there is usually no direct relationship between the farmer and a buyer (Gonzales and Dilay 2019). For La Castellana, where MACARBEN is located, road access is manageable, some local officials gave cement, but most roads were built via the collective efforts of MACARBEN’s members and others in the community (Figure 3).

Figure 3: La Castellana community members cementing a farm access road

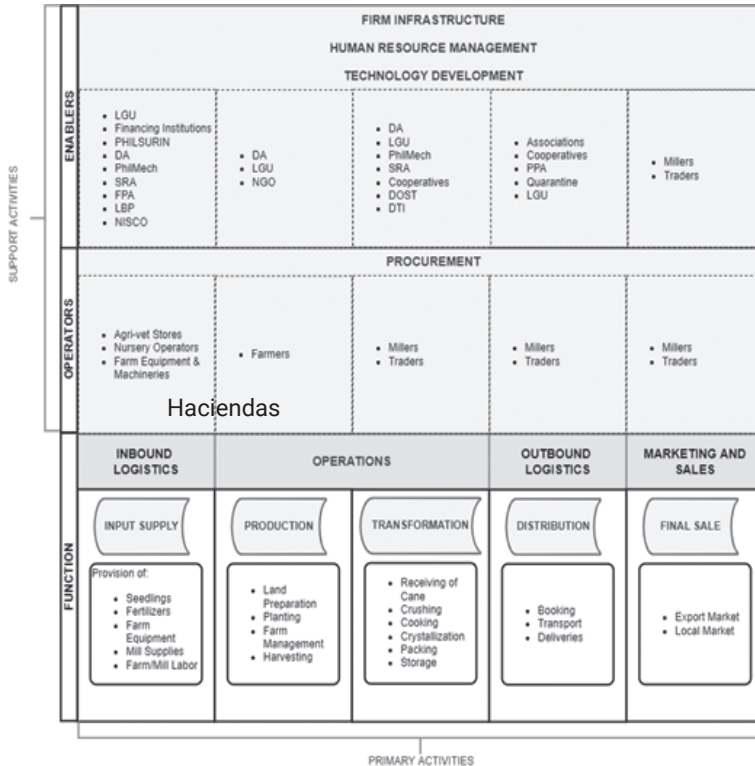


Source: Provided by the authors.

Access to irrigation is through the channels implemented by the government, so distribution is dependent on an individual farm’s location. Cellular signals are weak regardless of network provider, which makes internet and data connectivity also troublesome at times. The usual wage of PhP 350 is also higher than the PhP 315 mandated minimum wage for agriculture work in the area. The Negros Occidental

Electric Cooperative (NOCECO) provides electricity. Meanwhile, all the houses still cannot access water (MACARBEN distributes water in the area through their Water System Project implemented with the support of the municipality’s local government).

Figure 4: Sugar Value Chain in Negros Occidental within Porter’s (1985) Value Chain



Source: Author’s interpretation based on data from Gonzales and Dilay 2019.

Methodology

Porter (1985) developed a tool to identify the sources, and monitor the competitive advantage, of a firm. Called the ‘value chain,’ it shows that costs can be minimized, and/or differentiation can be achieved on “the level of the activities that a firm [undertakes] to produce [their] product or service” (Abrina 2020, 8). This strategy allows the firm to improve its margins (Porter 1985; Figure 5).

Figure 5. Firm Value Chain



Source: Porter 1985

Such a tool requires that the production process be broken down into distinct roles. By identifying the players that take on these roles, the value chain becomes compatible with studies into the distribution of wealth along a supply chain, making it a powerful tool for problematizing equity considerations and poverty (Kaplinsky and Morris 2001). This form of the value chain will be the framework of analysis for this case study (M4P 2008).

A value chain analysis is “the assessment of a portion of an economic system where upstream agents in production and distribution processes are linked to downstream partners by technical, economic, territorial, institutional and social relationships” (Bellù 2013, 1). The reference point that separates upstream from downstream agents is the ‘point of entry’ (M4P 2008). Because this case study problematizes the exclusion of ARBs’ perspective in analyzing agrarian reform, it was fitting to choose them as the point of entry in this value chain analysis.

However, because of the limitations of conducting fieldwork during the pandemic, we decided to rely on secondhand data from MACARBEN’s funder, PEF. We relied heavily on interviews with, and the field notes and analysis of, MACARBEN’s PEF area officer, Wilma L. Guinto, whose working relationship with the cooperatives in Negros

Occidental since April 2016 provides a comprehensive enough time frame for this study.

Moreover, this time frame captures a crucial milestone in the organizational development of MACARBEN as an ARB cooperative—their transition from leasing their land to their former landowner to reclaiming it for their own productive activities. While the point of entry for this case study is still the ARBs, the data to be analyzed come from their financial records and resource leveraging that are documented by the PEF as MACARBEN’s partner in the chain. That said, this paper also uses a qualitative case study approach (Yin 2018). Any other theoretical frameworks will be introduced in the discussion section to reflect that the researchers did not have any framework in mind prior to data collection besides the ones mentioned in this section, i.e., grounded theory (Ralph, Birks, and Chapman 2015).

PEF-MACARBEN Case Study

Hacienda Malaga-Cuenca Agrarian Reform Cooperative or MACARBEN has been operating and managing its block farm collectively since the land was turned over to the AR program. In 2007, a total of 202 hectares in CLOAs were awarded to the 195 former workers of Mr. Roberto Cuenca Sr., the original owner of the sugar plantation. These former plantation workers heeded his advice to use it collectively for sugar farming. Since the cooperative did not have enough capital to finance all the available land awarded to them at the time, they leased the 80 hectares to Mr. Cuenca’s son on an annual basis with the plan of reclaiming them eventually.

By 2017, they requested to partner with PEF to take back 20 hectares from the 80 hectares rented out and to increase their collective farm. By 2019, all 80 hectares were turned over from Mr. Cuenca to the cooperative. However, by then, some members of the cooperative expressed wanting to manage their own parcels themselves. To avoid further trouble with their members, the cooperative management, in consultation with DAR officers, was forced to distribute the 80 hectares. Each member received 0.4 hectares.

On top of redistributing the leased 80 hectares, these members also requested that their farm share in the original block farm of 63 hectares be distributed as well. By CY 2019–2020, what remained of the cooperative’s collectively managed farm was 26 hectares.

Table 4 (next page) documents the production costs and land productivity of MACARBEN from 2017 to 2020—three cropping cycles. The PhP 4.9-million production cost for CY 2019–2020 is slated for the 63 hectares of the cooperative block farm. When harvest time came, the members who separated from the cooperative did not pay their share of the expenses. This is still being settled with the DAR, who approved the nondeduction of the cooperative’s cash advances for the production expenses of dissenting members during the last harvest season.

In actuality, the production cost incurred by the remaining 26-hectare block farm in CY 2019–2020 only amounted to PhP 2.86 million: PhP 2.1 million (planting and harvesting) and PhP 0.76 million (milling). Thus, the cooperative could still distribute PhP 20,400 to the remaining 88 collective farm members. Based on interviews with the cooperative, the highest dividend was PhP 40,000, which was distributed to each of the 195 members in 2014.

However, more recent baseline data of the cooperatives in the area show that some farmers had incomes of about PhP 8,000 to PhP 10,000 per cycle. Thus, the PhP 20,400 payout per member in the last cropping cycle can be deemed higher than the average payout in the area, albeit lower than their most lucrative year.⁶

Despite conflicts among cooperative members, farm productivity did not suffer. Having served as previous farm supervisors (*cabos*) under their former landlord Mr. Cuenca, the discipline of managing a plantation farm, and other good practices, is well-established. These protocols implementing and monitoring a farm plan.

⁶ MACARBEN employs their own farm labor, but during the harvest season, they also employ the services of seasonal workers whom they pay about PHP 350 per ton of cutting and loading of the sugarcane, as of their last cropping cycle. The wage is also dependent on the availability of labor in the area, which can be scarce at times.

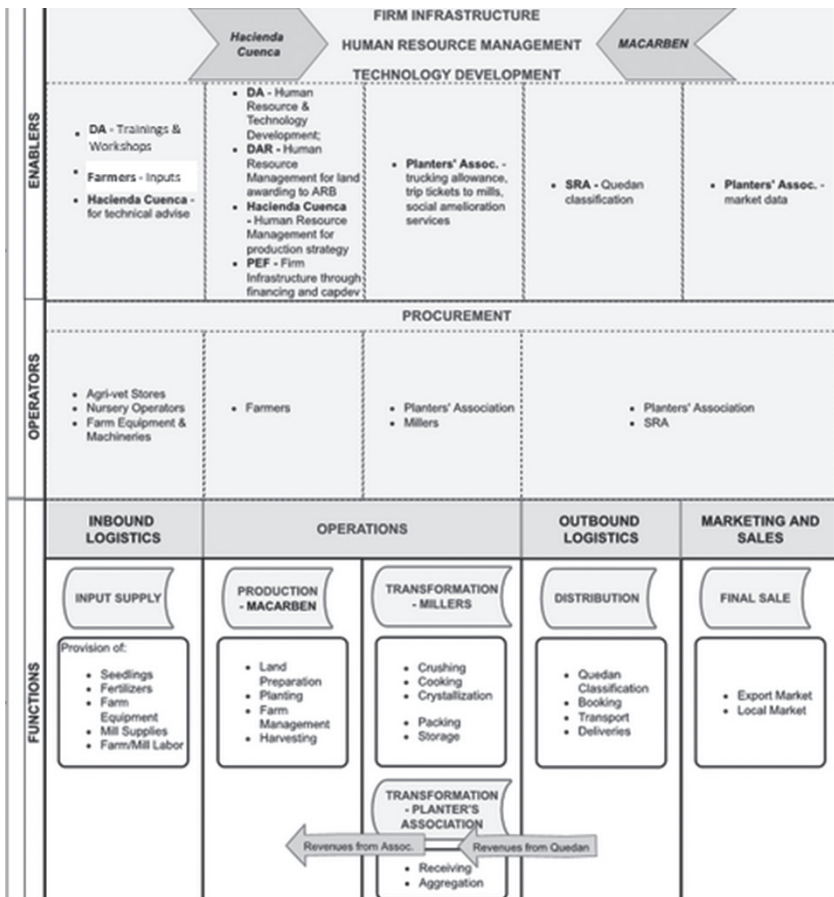
Table 4. MACARBEN's Production Performance for the crop years between 2017 and 2020

Crop Year	Plant Kind	Total Area	Percent of Total Area	Actual Tonnage	Ave. TC/ha	LKG/TC	Gross Proceeds from <i>Quedan</i> (PhP)	Production Cost (PhP)	Cost/ha (PhP)
2017-18									
	New Plant	39.4	60%	2,366.83	60.07	1.99			
	Ratoon	26.61	40%	1,159.92	43.59	2.06			
	Subtotal	66.01		3,526.75	51.83	2.03	8,585,587	6,891,097	104,394.74
2018-19									
	New Plant	28.42	45%	1,580.57	55.61	1.99			
	Ratoon	34.91	55%	1,863.11	53.37	2.06			
	Subtotal	63.33		3,443.68	54.49	2.02	9,767,443	8,199,301	120,159.62
2019-20									
	New Plant	8.17	32%	547.85	67.05	1.78			
	Ratoon	17.75	68%	1,084.18	61.08	1.87			
	Subtotal	25.92		1,647.44	64.07	1.84	4,572,602	4,900,516	189,063.10

Value Chain

Figure 6 summarizes the value chain of MACARBEN. The first of the primary activities is input supply, which includes fertilizer and cane points, which are mostly procured and used by the farmers. The second is production—land preparation, planting, and farm management. This activity is mostly undertaken by MACARBEN members and their hired labor. Harvesting is also an activity under production. Procuring an input supply up to harvesting the sugarcane may take anywhere between 11 and 16 months. Harvest time is usually September to October.

Figure 6: MACARBEN Sugarcane Value Chain



Source: Wilma Guinto, personal interview, 19 November 2021.

The next primary activity is aggregation, which is fulfilled by the Planters' Association. The group subsidizes transportation from the farms with a trucking allowance, organizes the trips to mills with trip tickets, and provides social amelioration services (this will be further discussed in the section on support activities). Truckers and milling laborers handle the transportation of sugarcane to the mills, and they charge the Planters' Association by distance. The millers then fulfill the processing of the sugarcane. This is arguably the most capital-intensive role in the local value chain. MACARBEN usually transacts with either the La Carlota Sugar Mill or the Lopez Sugar Corporation. The raw sugar is issued their classification and *quedan*, which documents the amount of sugar produced by the sugarcane from the Planters' Association. The millers then warehouse the raw sugar and send the *quedan* back to the Planters' Association, which handles the marketing of this warehoused raw sugar. The Association gives gross revenues from selling the raw sugar to MACARBEN in full. MACARBEN then splits the revenues evenly among its members. The process from aggregation to the issuance of revenue has a turnaround time of about two weeks.

Throughout their time in operations, MACARBEN, the Planters' Association, their former landowner, Mr. Cuenca, national government agencies such as the DA and DAR, and their various development partners, including PEF, have conducted support activities. For instance, MACARBEN handles its human resources needs by recruiting and managing members, mitigating the impact of pole vaulting on the remaining members, and supervising revenue distribution among members after the cropping year. The Planters' Association provides subsidies for transportation and data on the market. They also provide social amelioration services such as death and maternity benefits through the Department of Labor and Employment (DOLE). National government agencies like the DA help with agricultural extension services that deal with technology development, procurement of inputs and machines, and training of farmers. Ideally, the DAR helps MACARBEN with human resource management, particularly with managing the system of awarding land to ARBs. Mr. Cuenca, their former landowner, guided the ARBs in their production strategy, especially in the initial stages of the transition.

The last support activity, firm infrastructure, is the foundation of a value chain. This support activity dictates the structure of the value chain. It includes financing, planning, and investor relations. MACARBEN currently fulfills this role. In the beginning, however, they relied on help from Mr. Cuenca and other partners because they did not yet have the capacity to strategize and engage other stakeholders and investors. When PEF came into the picture in 2017, its initial role was to provide the financing for a specific activity: reclaim the leased 80 hectares from Mr. Cuenca. However, their role expanded to include filling the void in the firm infrastructure role.

Role of PEF

As with any agrarian reform program, PEF targets poverty alleviation in the design of its initiatives. As a credit provider, it is in a position to take on the role of financing productive assets and activities of poor individuals, with the assumption that an increase in productivity will lead to an increase in their income. This, in turn, is assumed to be the mechanism through which beneficiaries can lift themselves out of income poverty in perpetuity. This can be interpreted from the programs described in their Blue Book, as well as the data that they collect and monitor for these programs and partnerships.

In 2017, outstanding production-related cash advances needed to be paid to the DAR and to Mr. Cuenca for the reclamation of their leased 80 hectares. Thus, MACARBEN sought the financial support of PEF. Smallholder farmers appreciated this access to affordable financing the most, since it curbed their dependence on informal lenders who charge high interest rates.⁷ Firm infrastructure was a void in the value chain. This was reflected in MACARBEN's need for investors or partners that could help boost their capital and skills, and manage the long lull between cash flows. Thus, it was imperative at the start for PEF to maximize partnerships and collaborations with other industry stakeholders on behalf of MACARBEN. On top of issuing a loan and a grant, PEF leveraged its relationships with stakeholders in the area for financing, provision of machinery, and skill enhancement or capacity-

⁷ Access to affordable credit also minimized the practice of selling their standing cane for low prices.

building projects for MACARBEN and other farmer cooperatives in the area.

MACARBEN farmer members had an incremental increase in income of about PhP 12,000 to PhP 15,000 per farmer or a total of PhP 20,000 to PhP 25,000 income per farmer in 2019–2020. Although this increase was still not able to pull the ARBs out of poverty, it improved farmers' well-being and happiness. It also enabled the ARBs to save, which they then used to purchase farming assets such as rice threshers and hand tractors, to improve their homes, or invest in other livelihood activities. As observed with partners, small farmers have a higher chance to move out of poverty in an individually managed block farm setting than in a collective block farm, where income is shared equally with their members. An individual farmer who employs good farming practices can gain higher yield and income as one's output is his alone after paying his financial obligations to the cooperative. On the other hand, in a collectively managed BF where income is shared equally, the higher the number of farm owners in the consolidated farm, the lower their share dividend is. Thus, block farming alone cannot be enough to support a sustainable household; both the cooperative and the farmer must have diversified income streams.

Diversification

Diversification, whether on the cooperative or farmer level, still needs additional support to be viable. Like some cooperatives assisted by DAR where PEF first implemented BF, such as MACARBEN and the Crossing Ibus Farmer's Credit Cooperative (CIFCC), the cooperatives ventured into peanut production, intercropping it with sugarcane. Initially, they were enthusiastic and encouraged by the results. However, as more coops engaged in peanut intercropping, supply overtook demand, and prices dropped. Assistance with value-adding activities, such as processing and product packaging, which would require additional investment, was needed to support the diversification projects. Most farmers also planted rice, mostly for household consumption. The occasional sale of the excess did not merit a substantial increase in income. Since most have been exposed to working with only sugar, there is difficulty in venturing into planting other crops because of limited skills and behavior.

Table 5: Income differences in 2018 for individually and collectively-managed and diversified BF.

	Individual Farmer-initiated ⁸					Coop-initiated ⁹			
	Sugar Cane only	Corn intercropped w/ sugar	Corn only	Corn intercropped w/ squash	Eggplant only	Sugar Cane only	Peanuts in-ter-cropped w/ Sugar	Peanuts only	Palay
Harvest Cycle	11-12 months per cycle	Harvest after 65 days	Harvest after 65 days. 3-4 times/year	Harvest after 70 days. Planting of corn starts on the 2nd cycle.	Harvest after 70 days and up to 6 months	11-12 months per cycle	Planting starts 1 week after sugar-cane planting; 1-time harvest	Max 3 cycles	2 cycles
Prod. Yield/ha	80 tons	70 sacks	120 sacks	2 tons	4 tons/month/ha	64 tons/26 ha Block farm	10-15 sacks (45 kg/sack)	65-75 sacks	100 sacks of palay/60 sacks of rice
Selling Price (PHP)	1,400/LKG bag	500/sack	500/sack	8-18/kg	15-20/ kg	1,500/LKG bag	1,500-800/sack	1,500-1800/ sack	1,800-2,000/ sack

⁸ The individual-initiated farms were from two members of the Crossing Ibos Farmers Credit Cooperative (CIFCC), based in Kabankalan and Ilog. Compared to MACARBEN's block farm that is solely managed and operated by the cooperative, CIFCC's block farm is run by each of the participating farm's owners. CIFCC is only responsible for financing inputs, labor, etc.

⁹ MACARBEN's BF is managed and operated by the cooperative after which dividends/shares are just distributed to the members.

Table 5 continued...

	Individual Farmer-initiated				Coop-initiated				
	Sugar cane only	Corn inter-cropped with sugar	Corn only	Corn inter-cropped with squash	Eggplant only	Sugar cane only	Peanuts intercropped with sugar	Peanuts only	Palay
Total Sales (PHP) ('000s)	146	55	60	16	360	119.23	15	97.5	108
Production Cost/ha (PHP) ('000s)	90	4	15	5	40	107.27	5	20	90
Net proceeds/ Harvest (PHP) ('000s)	56	31	45	11	320	11.96	10	77.5	78
Add'l income from diversification/Year (PHP) ('000s)	56	31	135	11	320	11.96	10	77.5	156
Total diversification income (PHP) ('000s)				497					243.50
Add'l Income/Farmer (PHP) ('000s)				497					2.77 ¹⁰

Source: data encoded by Wilma Guinto from MACARBEN. The data for sugarcane do not include other proceeds like income from molasses and trucking allowance. For coop-initiated diversification, additional coop net income is shared equally; however, those that participated directly gained more from the labor income and profit share.

¹⁰ The farms are not of the same area, nor the inputs and fertilizers applied are exactly the same. Multiple factors, such as but not limited to, the differences in soil quality, input quality (cane points, fertilizers), total farm size, cost of labor, price of sugar/sugarcane, and overall farming practices and processes need to be considered when assessing the (dis)advantage of running an individual or cooperative-initiated block farm. The table above only aims to show that although MACARBEN's BF the average yield is higher than other observed coop-initiated BF's, an individual-initiated BF can yield more if the farmer is very capable and well-equipped.

Discussion

Inefficiencies in the primary activities

Owing to its long history, the value chain and niche in the world market for sugarcane in Negros Island is highly institutionalized. This includes all the gaps and inefficiencies among its primary activities. For example, based on the *quedan* system, farmers get paid for the sugar produced in mills, not the sugarcane that they grow. Therefore, the inefficiencies of extracting sugar in the mills directly squeeze out the potential revenues of the farmers. Millers are also not incentivized to address inefficiencies because the cost of this inefficiency is shared with the farmers. Truckers and milling laborers also choose the millers that benefit them, not the farmers. Lopez Sugar Central, for example, can produce up to 2.0 bags per ton, but truckers and milling laborers prefer La Carlota because the farther distance means they can charge more even if La Carlota has a lower recovery rate at 1.4 to 1.8 bags per ton. In addition, excise taxes on both inputs (fuel) and the end-product (sweetened beverages) further squeeze their potential profits from both sides. Quotas from the *quedan* system and the unabated imports of sugar and its substitutes also limit the earning potential of Negros cane sugar.

What block farming has essentially done is replace former haciendas in the value chain. No other changes have been made to the process. What has been added is the additional transaction costs of organizing the multiple ARBs and retooling their skills to include farm management. The farmers were also left to procure their own equipment, produce their inputs, and build working relationships with downstream actors, such as the planter's associations and the millers.

This study then finds that interventions would best be coursed through support activities: industry, value chain, market studies, financing, community or organization development, skills enhancement or upgrading, and building partnerships to help fulfill the support activities that are lacking. In fact, this is the role that PEF took on from 2016 to 2020.

Agrarian reform transfers land, identities, and relationships

We deepen our analysis by revisiting the spirit and the goal of AR programs. The various definitions of AR have given rise to a multitude of positions and possible solutions to the matter (Putzel 1993), and the majority of recent efforts point to enhancements in productivity and efficiency. An example is how the SRA and PEF have emphasized block farming as a viable method to increase or consolidate output, share liabilities, and benefit from economies of scale. The literature, on the other hand, points toward issues related to what most ARBs do with their land once awarded, which is either to sell them outright or lease them back to their previous owners or other operators instead of cultivating it for themselves. Pedro Ogatis, manager of MACARBEN, agonizes over the lost opportunity that their cooperative had, because numerous members opted to claim their individual land titles from the cooperative's block farming initiatives. This issue stifled the efficiency and productivity of the project. The perspective adopted by this study is that although improving productivity and efficiency in ARBs is important, a supplementary understanding of the ARB's transition from farm worker to farmer may provide useful policy insights.

First, the CLOA procedures may be amended at the level of DAR if block farming is to be the strategy for improving farmer welfare. The more successful block farms implement a combination of a mother CLOA and individual titles. Another option is to implement a right-to-first-refusal policy, which means that farmers with individual titles need to first offer their title to the cooperative before selling it outside. Pedro Ogatis strongly recommends that, at the very least, the sale or lease of a farmer-member's individual title be conditional on their financial obligations to the DAR.

Second, AR "refers not only to a redistribution of land" or "bundle of rights" (Lanzona 2019, 273) but also the output and activities within the value chain, the ingrained roles, and identities of the various actors within it and their order in society (Putzel 1993). Part of CARP's mandate was to end unfair ownership practices, which started with the *encomienda* system instituted during the Spanish colonization, and continued on to the modern *hacienda* system,

serving as the basis of the relationship between the landowner and the farm worker. This relationship, poverty incidence (PSA 2020a), the pull of higher-paying jobs (Briones 2017), the desire to move to other livelihoods,¹¹ and the specificity of the assets inherited from the former landowner pressure the farmer to continue in agriculture (Lanzona 2019). With the development of a human capital framework for decreasing inequalities, understanding the transition from being solely a farmworker to being both a worker and landowner can help improve the criteria and decision-making process on the best use of awarded land (Lanzona 2019). This transition is made even more difficult in the context of expanding agrarian reform programs, due to the multidimensionality of asset specificity (De Vita, Tekaya, and Wang 2011). There is a specificity not only in the resources passed, such as the physical land, but also in the skills, information, and processes. The context, resources, capabilities, and knowledge that served most ARBs adequately as farm workers or tenants are insufficient for them new landowners. As laborers, they handled only a few primary activities (planting, growing, and harvesting), but as landowners/farm managers, they suddenly needed capacities for the whole value chain (marketing, distribution, and overall planning). This reveals the hidden costs for ARBs.

Lastly, studying the farmers' personal relationships or sense of stewardship with the land and each other may also be necessary for a successful transition. The Land for Food framework, for example, looks at the relationship of the farmer with the land, and its ability to provide not only economic stability, through the value chain, but also access to food itself and food security.¹² This may be affected by the type of crop a farmer plants and harvests. For example, a farmer cultivating palay may have more access to food in the form of rice once it has been milled, than a farmer planting sugarcane who cannot eat his crop.

¹¹ Employment rate for agriculture has been steadily declining, from 29 percent in 2015 to 23 percent in 2019.

¹² The United Nations Committee on World Food Security treats a person “food secure” when they “have the physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO 1996).

We draw this framing from the strong relationship of indigenous peoples towards their land, which serves not only as a sustainable and climate-resilient source of food but also of their identities as stewards of the land (Woodley et al. 2009). Moreover, as temporary farm workers transition to becoming farmers in a block farm, there is a need to ensure that incentives are aligned. This requires much organizing to increase social capital among members.

On top of improvements in economic returns through effective productivity and efficiency measures, the alternative approach hopes to achieve renewed and empowered roles within the value chain, and cultivate a strong sense of stewardship for the land to help address the growing need for more effective agrarian reform. Although the increase in income from block farming was still not able to pull the ARBs out of poverty, it increased farmers' well-being and happiness. This small increase in income has also enabled the ARBs to save, which they then used to purchase productive farming assets. Further research into the ontology of 'well-being' and 'happiness' would likely surface any motivations and mitigating measures for pole vaulting.

Recommendations

Based on the lessons learned from the MACARBEN case study, listed below are considerations for future ARB-related ventures:

Role of industry structure, value chain, and interlinked financing

Grants and loans should be conditional on the farmers' needs, but on criteria that are not solely dependent on their ability to produce. The role of interlinked financing is vital to the success of implemented programs and their intended output. Financing projects must consider profiling the industry structure of the crop (e.g., five competitive forces) and the value chain, especially if their crop is deeply integrated with global markets. When done correctly, these two profiles should adequately inform the breadth of services, links, and uncontrollable factors that financial support can be responsive to. In the case of MACARBEN where the development of the area is crucial to the success of the group, grants/loans can be bundled with projects that have

resource management and capacity-building, which in turn has the potential to improve social cohesion.

Labor versus land productivity

Although productivity may not be the sole basis for determining farm model success, marginal improvements can still be made on existing metrics. Currently, most productivity figures are measured in terms of ton cane (TC) or bag (LKG) per hectare of land which relates to land productivity. However, to reflect the welfare of the farmers more accurately, a metric that could be considered is labor productivity. Whereas TC or LKG is only able to show how much a hectare of land can produce, labor productivity metrics, or ton cane or bag per farm worker produced per season, considers farmers as an important factor of production, especially now that they own the land they till.

Organizational support for the transition of ARBs

Although some ARB groups are formed from their organization (of farm workers), newly formed groups may have issues in organizing and managing themselves as farm/landowners. The experience of MACARBEN shows that rifts or disagreements may occur, i.e., in deciding on strategies for farm management or land ownership. The development of a tool to assess the general level of community organization and self-determination will also help in assessing the necessary support that a prospective or newly formed group may need to help make their transition to farm/landowners smoother and better.

Organizational support includes helping ARB cooperatives design resiliency strategies. For example, the lesson from the MACARBEN experience is that it is wiser to implement conservative expansion strategies during or after a “boom” or good harvesting cycle, and an equitable limitation on withdrawals during or after a “bust” or bad harvest cycle. The limited expansion should aim to limit the inclusion of opportunistic members who are buoyed by the good season but may also be quick to leave once conditions are not as favorable. Hence, tightening during bust cycles would also be good to implement; it can test whether members share not only in the rewards but also in the risks and costs.

A tool for assessing how ARBs perceive the value¹³ of their awarded land may provide insight into the readiness of an ARB organization to make cohesive decisions. Some factors that can be assessed are:

1. The specificity of their assets (Lanzona 2019). For this question, we ask: can an ARB's land and skills be readily used for other productive uses? If not, would it be more efficient for them to “outsource” the productive use of their land and skills, such as contracting their former landowner to manage the land they own?
2. The level of uncertainty (Lanzona 2019). As farm workers, even when they earned less than the minimum wage, there was certainty that their wages would come on a daily basis. As farm owners and managers, their income is dependent on how productive the season is. Thus, they shoulder much of the prolonged risks. Because of the specificity of the assets and this lack of information on the part of the ARBs, high levels of uncertainty encourage “outsourcing” or vertical integration decisions, which run counter to the spirit of agrarian reform to empower smallholder farmers.

While block farming is a viable solution to the consolidation of ARB land, feasibility studies can be conducted to investigate the optimum level/size of block farming that allows them to benefit from achieving scale. The use of labor productivity metrics would greatly benefit this approach. Farmer profiles, including those from market research, can also inform opportunities to diversify. Financial support can then be interlinked with these studies, where grants or loans may be conditional on the recommendations from such studies. Most importantly, their basic needs, like food and shelter, need to be met during this period of learning and transition. Otherwise, there would be a strong reason for farmers to pole vault.

¹³ This can be noted against the propensity of the ARB to sell or lease the land or the propensity for the farmer to continue to cultivate the land for agricultural purposes.

Conclusion

The flagship AR program in the Philippines was designed, not for efficiency considerations, but rather for equity, redistribution, and farm worker welfare. As newly minted landowners, ARBs need capital and technical support as they assume more downstream roles in the agricultural value chain. However, the metrics for measuring the success—and therefore the credit- or grant-worthiness of an ARB organization—were mostly tied to their land productivity (efficiency). The idea of block farming also addresses efficiency considerations.

In this paper, we propose a reframing of the metrics used to assess, monitor, and evaluate agrarian reform support programs. We use the MACARBEN as a case study to provide recommendations for future ARB partnerships. Chief among these is the study of the value chain of the crop/s to identify gaps and their industry profile to provide context to such gaps in the chain. These gaps can then be used to identify partnerships and services that can be provided to the ARBs to minimize the transaction costs of fulfilling their primary activities. In other words, financing service providers can use the value chain to design interlinked financing contracts with farmers. Alternatively, the value chain and industry profile can provide insight into the viability of the crop/s and identify alternative markets.

Other recommendations for future ARB projects include the use of labor versus simply land productivity to measure the success of the program. This, in turn, should foreground the importance of labor as an input and as the beneficiary of AR and whole production process.

While block farming is one way to consolidate smallholder lands and fulfill the role of input supply and production in the sugarcane value chain, it attempts to maintain the status quo and adds the burden of organizing, skills upgrading, and procurement to the farmers. Land redistribution should be concerned not only with the transfer of rights to the land but also with asset specificity and uncertainty within the primary activities of the value chain, the ingrained roles, the identities of the various actors therein, and their order in society. Beyond improving efficiency and profit margins, a genuine AR program must begin reconciling ARBs' relationship with the land they till.

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