DLSU ISSN (Print): 2345-8216 | ISSN (Online): 2350-6814
BUSINESS
NOTES AND BRIEFINGS
VOLUME 12 | NUMBER 1 March 2024

MODELS OF SMALLHOLDER FARMER UPLIFTMENT: A MULTIPLE CASE STUDY ON PHILIPPINE RICE FARMING COMMUNITIES

Written by:

Ms. Beata Maria F. de Ocampo
Department of Financial Management
RVR COB College of Business
DLSU-Manila
beata.deocampo@dlsu.edu.ph

Abstract

Smallholder farmer upliftment is an urgent global concern and, thus, related to three United Nations Sustainability Goals 2030 of #1(no poverty), #2(food security), and #10(reduced inequalities). With smallholder farmers providing 90% of the rice food supply, the world recognizes their importance. However, despite many programs at different levels of society, many farmers remain in subsistence situations, some even locked in a cycle of debt. Using a theoretical sampling approach on selected Philippine rice farmer respondents in the provinces of Quezon, Iloilo, Laguna, and Pangasinan, four basic models of farmer upliftment emerged: (1) Empowered Farmer; (2) Farmer-Entrepreneur; (3) Contract Farming and (4) End-to-end Value Chain. The findings on the sustainability of such models emphasize sustained farming support, education towards entrepreneurial orientation, the values of financial literacy, and contractual obligation. Exemplary cases are a local government-led initiative that partnered with the national government to help the farmer association with their value chain and a landless, elementary-level smallholder farmer who spotted an entrepreneurial opportunity, set up a vegetable business, and led his siblings to farming, leading them to resilience. Insights on youth engagement in agriculture and the importance of external intervention from the government and the private sector also emerged from the research. ***Keywords:*** *contractual obligation; entrepreneurial orientation; financial literacy*

1 Introduction

"Doon sa amin sa Macalelon ay yanong hirap magtalok. Lalo at tagsangit ay yanung tigas ng lupa at nagbibitak-bitak ang mga talukan. Sahod-ulan doon kaya kadalasan ay isang beses laang naani ng palay. Ay, yanung hirap ng buhay ng mga magbubukid."

(In Macalelon, [Quezon,] it is very tough to plant rice. Especially during summer, the soil gets really hard and cracked. It is rainfed, and so, more often than not, harvest happens only once [a year]. The life of farmers is truly very hard.)

Ate[1] Mina (not her real name), the eldest daughter of a family of farmers, related how they lived in extreme poverty in their remote town. Ever since she can remember, there have been no irrigation facilities until recently. However, the water supply remains irregular, often flowing in meager amounts. In another province in Southern Luzon, Laguna farmers claimed that despite being installed with irrigation facilities, irrigation water only comes out when rain occurs. For both Quezon and Laguna, there are also those farmers who are not fortunate enough to have water pipes running through their land to support irrigation.

Such are accounts of farmers in predominantly rainfed farming communities. Those farmers who benefit from irrigation might be considered at an advantage, being able to plant rice two times a year or sometimes, in good conditions, even three (Global Yield Gap Atlas, n.d.). However, the Philippines was the top disaster country in 2022 and 2023, ranking first in the World Risk Index among 193 countries mainly due to typhoon devastations (Bündnis Entwicklung Hilft, 2022:2023), farmers' livelihoods are continually threatened. Yields are generally still low at 3.29 metric tons per hectare (MT/ha) for rainfed and 4.47 MT/ha for irrigated farms (PhilRice, 2016). Moreover, with small farm sizes of less than a hectare for most (NEDA, 2023), the income from rice farming is not sufficient. 83% of farming households have their primary income in rice, which only accounts for 51% of the household income, necessitating the need to augment incomes (PhilRice, 2016).

Other sources of income for those who can afford are small-scale hog- and poultry-raising and vegetable planting. However, the majority do not have the depth of pocket to engage in agribusiness. Considering the demographics of rice farmers with an average age of 56 and high-school level education (PhilRice, 2016b), those who do not have resources engage in ad hoc activities providing labor for construction, coconut harvest, and tricycle operations (Mendez et al., 2021b; Mendez et al., 2021c).

A summary of the woes of Filipino farmers (and fisherfolk) in general is summarized in the FAO (2023) country programming framework (CPF). The aggregation of overpowering interrelated factors underscores the lack of resilience of farmers (and fisherfolk) which is corroborated by the Philippine Development Plan 2023-2028 (NEDA, 2023) as follows:

- declining productivity and the resulting low level of competitiveness
- limited application of technology
- high vulnerability to climate variability
- persistent degradation of natural resources
- persistently high level of agricultural trade protection resulting in high domestic prices
- inadequate budget allocation for agricultural farmers and fisherfolk
- limited access to financing by small farmers and fishers;
- limited market support and underdeveloped value chains
- inadequate infrastructure to support commodity value chains
- insufficient investment in research and development
- limited diversification of the farming system
- high post-harvest losses ranging from 15 percent in rice to 50 percent in fruits and vegetables
- resilience of the sector, along with the food sector, is rapidly being eroded due to their high dependence on imported inputs (fossil fuel,

[1] Common among Filipinos are titles of respect, which may also be terms of endearment like "Ate" which means older sister, whether of blood relations or not. Other commonly used titles of respect are "Kuya" for an older brother, "Mang" and "Aling" are general titles of respect for an adult male and female, respectively. "Ka" is like "Mang" or "Aling" but is more preferred in rural towns and may be used for both males and females.

fertilizer, feeds, wheat, etc.) that are currently at risk.
(World Bank, 2014 as cited in FAO, 2023)

Filipino smallholders are included in 80% of the world's farmers operating on less than two hectares of land although majority of the Filipino farmers have farm sizes of less than a hectare (NEDA, 2023; PhilRice, 2016). The aggregated farms of the world's smallholders form only 12% of the world's total farmland but the food produced in Asia and sub-Saharan Africa accounts for an estimated 80% of the world's food production (Lowder et al., 2014). Despite their pivotal role, smallholders grapple with multifaceted challenges jeopardizing their livelihoods and food security, e.g., limited access to resources, markets, and technology. Further, their situation is exacerbated by climatic variability, health risks, fluctuating prices, and financial instability, thus further increasing their vulnerability (Fan & Rue, 2020).

Nevertheless, there is optimism that smallholders could be part of inclusive growth and the creation of more job opportunities if they are integrated into a diversified rural economic framework and agrifood value chains. Even subsistence farmers can be empowered to manage resources sustainably and benefit from goals around education, peace, and gender equality (Fan & Rue, 2020).

In this regard, for this study focusing on the pragmatic experience of Filipino smallholders, the research question is: What are models of smallholder rice farmer upliftment in the Philippines? The sub-research question is: What are important insights that could be gleaned from the experiences of smallholder Filipino farmers in finding sustainable solutions towards farmer upliftment?

2 Scope and limitations

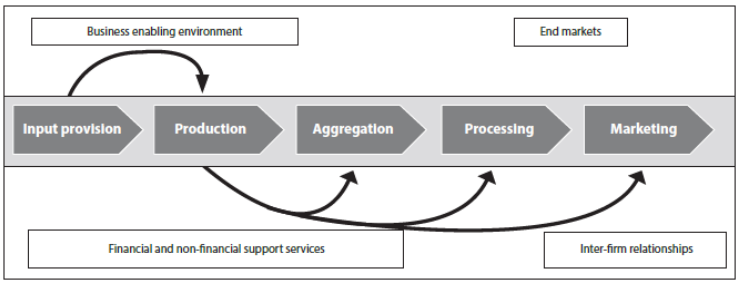
This research focuses on Filipino smallholder farmer accounts and experiences related to their resilience to socio-economic and environment-related challenges. It will not include detailed discussions of country-level infrastructure or policies, e.g., green revolution, agrarian reform, rice trade liberalization, and associated economic and political implications.

3 Theoretical frameworks

3.1 The Philippine rice value chain

Understanding of the Filipino farmers' situation may be viewed through the lens of the rice value chain as can be seen in Figure 1, particularly in the discussion of the end-to-end value chain model.

Figure 1. The value chain analysis framework (Mataia et al., 2020, p.21)



3.2 Farmer Entrepreneurial Orientation

As previously established, rice farming alone is insufficient for Filipino smallholder farmers to sustain their family's livelihood. An entrepreneurial orientation is, therefore, a vital trait for farmers to discover opportunities and act on them.

While there are many scholarly positions on entrepreneurial orientation, the researchers chose Kangogo et al.'s (2021) proposition of three applicable traits applied to agriculture—innovativeness, risk-taking behavior, and proactiveness. Innovativeness is the willingness to be creative and to experiment in working on new products and technology. Risk-taking is investing a large amount of resources, whether owned or borrowed, to engage in a new or unknown venture. Being proactive is anticipating market trends toward creating a first-mover advantage.

4 Research objective and methodology

This exploratory multiple-case study is aimed at discovering various models of upliftment for Filipino smallholder farmers and gaining valuable insights into their experiences. Theoretical sampling was initially conducted on rice farming communities in Lucban, Quezon province, and to establish replication logic and to discover other upliftment models, the interviews were extended to Quezon (Macalelon), Laguna, Iloilo, Pangasinan, and Ifugao. The criteria for choosing 25 farmer respondents are that they should be: (1) smallholders with land holdings of less than two hectares, (2) with or without irrigation, (3) across various demographic profiles, and (4) of different experiences, including those of ex-rice farmers. Cross-case synthesis was employed to categorize and analyze the models. Data

triangulation was done through interviews with subject matter experts and document review from scholarly literature, statistical reports, authoritative global reports, and news accounts for currency of information (Eisenhardt & Graebner, 2007; Yin, 2018). Please see Table 1 for the profile of the farmer respondents.

Table 1
Profile of farmer respondents

Location	Farmer ID *(age)*	Type of farmer	Water source	Education	Source of income *(primary + other income)*	Resilient?
Quezon (Lucban)	Senior (69)	Rice	rainfed	Elementary	farmer/landowndner + poultry/piggery + OFW children	Yes
Quezon (Lucban)	Youth (39)	Rice	rainfed	College level	farmer/landowner + hired hand + vegetable planting	Struggling
Quezon (Lucban)	Mid-age (48)	Rice	rainfed	HS	farmer hired hand + Tricycle/ Coconut / Construction	Struggling
Quezon (Lucban)	Mid-age (55)	Rice	rainfed	Elementary	farmer/tenant + vegetable planting/Hired hand / Coconut	Struggling
Quezon (Lucban)	Senior (62)	Livestock (buffalo)	N/A	HS	Livestock raising (contract farming)	Yes
Quezon (Lucban)	Mid-age (49)	ex-rice farmer	N/A	HS	Art (painting) + OFW wife	Yes
Quezon (Lucban)	Mid-age (44)	Vegetable (ex-rice farmer)	own irrigation	Elementary	expanded vegetable business (leased lands, hired workers)	Yes
Quezon (Lucban)	Youth [husband (32) & wife (33)]	Vegetable	own irrigation	HS/college (education)	vegetable business	Yes
Quezon (Lucban)	Mid-age/ youth [husband (42) & wife (35)]	Vegetable	own irrigation	HS/HS	vegetable business	Yes
Quezon (Macalelon)	Mid-age [wife (43)]	Rice	own irrigation	College (Agriculture)	farmer/landowner + vegetable planting/tricycle driver (husband)	Yes
Quezon (Macalelon)	Senior (68)	Rice	rainfed	College level (engineering)	farmer/landowner + vegetable planting/ construction	Struggling
Pangasinan	Male (40)	ex-farmer	N/A	Elementary	corporate driver	Struggling
Pangasinan	Male (30)	Rice	NIA irrigation	College (Agriculture)	Agrifeeds sales + farmer helper as needed	Yes
Ifugao (upland)	Female (45)	ex-farmer	rainfed	PhD (business)	education (state univ.) + farmer helper as needed	Yes
Iloilo (upland)	Female (63)	Rice	rainfed	Elementary	farmer/landowner + vegetable farming	Struggling
Iloilo (upland)	Male (43)	ex-farmer	N/A	Masteral level	education (state univ.)	Yes
Iloilo	Male (57)	Rice	NIA irrigation	HS	farmer/landowner + vegetable farming	Struggling
Iloilo	Male (40)	Rice	NIA irrigation	HS	farmer/landowner + vegetable farming	Struggling
Laguna	Female (54)	Rice	NIA irrigation	College (Agriculture)	LGU employee + landowner	Yes
Laguna	Male (47)	Rice	NIA irrigation	HS	farmer/landowner + poultry/ vegetable farming	Yes
Laguna	Male (73)	RIce	rainfed	HS	landowner + handicrafts business	Yes
Laguna	Male (40)	Rice	NIA irrigation	HS	farmer tenant + bakery business	Yes
Laguna	Male (55)	Rice	rainfed	HS	farmer/landowner + vegetable farming/ construction	Struggling

Notes. *NIA stands for National Irrigation Administration, a government-owned and controlled corporation that provides for irrigation development and management (https://www.nia.gov.ph/content/overview).*

5 Analysis and Discussion

5.1 Experiences of struggling farmers

Agriculture is the sector where smallholder farmers remain the prime target of poverty eradication strategies locally and globally. Especially in remote and rural areas, farmers are considered to be under subsistence poverty levels (Gill et al., 2016; NEDA, 2023; The World Bank, 2020).

Cycle of debt. For various reasons across the Philippine history, farmers stay poor, caught up in a cycle of debt (Lubang, 2019).

One remarkable case is that of a farmer in Lucban, Quezon. Ka[1] Bernardo (not his real name), age 56, married with four children, high school graduate, grew up with his parents being tenant farmers, and they were just focused on planting, growing, and harvesting rice and vegetables in a rainfed farm. With the Comprehensive Agrarian Reform Program (CARP) implementation, their family's status shifted from being tenants to landowners. With this change, they had to provide capital to buy farming inputs to continue farming. Previously, they just provided labor.

Not having enough funds and the knowledge to run a business, *Ka* Bernardo was forced to take out loans and soon found himself having extreme difficulty managing his finances. He could not meet the credit obligations while his farm had continuously been at a loss month after month. So, deciding with his family, he sold the CARP-granted land and just opted to be a hired hand for other farmers while continuing his other sources of income, particularly in picking coconuts and doing construction work. He said:

> *"Hindi [na ako] namumuhunan… basta may trabaho araw-araw, may kita at may kakainin." (I am no longer investing in capital…. as long as I have daily work, I earn money and have food on the table.)*

In an Iloilo agricultural town, *Ka* Kado (not his real name), age 57, married, high school graduate, also benefited from being a CARP land grantee. He is the farmer association's president. He said that there is existing government support accorded to the community, namely, irrigation by the National Irrigation Administration (NIA) and provision of certified seeds and other farming inputs, farm mechanization, credit assistance and assistance during times of calamities, especially typhoon devastations under Department of Agriculture's Rice Competitiveness Enhancement Fund (RCEF) program.

The Rice Competitiveness Enhancement Fund (RCEF) under the Department of Agriculture was created under the Republic Act No. 11203 or the "Rice Tariffication Law" on February 14, 2019. It aims to ensure

food security and make Philippine agriculture viable (Department of Agriculture, n.d.).

However, despite such government support, *Ka* Kado and his colleagues claimed they were still heavily indebted and under the control of so-called financiers as they needed to purchase farming inputs to supplement the RCEF-provided materials. With the continuously increasing prices of seeds, fertilizers, and pesticides, they succumbed to external creditors, mostly farming input suppliers themselves or rice traders who, *Ka* Kado claims, dictate payment terms and farmgate prices. Other socio-economic factors like increasing oil prices drive inflation up, and consequently, the cost of farming inputs increases while, with the increasing rice importations and alleged rice smuggling (Philstar, 2022; Talavera, 2022), the cost of rice is driven down. This results in losses for farmers who need to pay off debts, which are often loan balances from the previous harvest seasons.

In the case of an upland farmer in another Iloilo town, *Aling*[1] Pura (not her real name), age 63, like *Ka* Kado, is the farmer association's president. She related similar difficulties of the farmers being entrenched in a cycle of debt. In her exasperation, she said:

> *"Ang kumikita ay ung negosyante ng fertilizer at binhi." (Those who profit are the fertilizers and the seeds' businessmen.)*

She related how, in stark poverty, among farmers and even in the marketplace, part of their survival is performing barter of produce when there was no money for the family's basic needs.

Still on the aspect of credit, in the province of Laguna, the municipal agriculture officer, Ma'am Aida (not her real name), related an issue on the Department of Agriculture-provided credit facility managed by the Agricultural Credit Policy Council (ACPC) supposedly to help farmers get out of the cycle of debt. However, despite credit being provided at no interest and with just minimal processing fees coursed through the Landbank of the Philippines, she claimed that while there were good-paying farmers, many avoided fulfilling their obligations. As such, the sustainability of the credit assistance was impacted, and the community's access to this facility was affected.

CARP grantees' inability to cope is a common experience, as claimed by the Philippine Congress Magsasaka party-list representative. For example, in Tarlac, a Central Luzon province, many farmers opted to sell their land to a housing developer. He said there was insufficient support for farmers, and farming ceased to be sustainable for them (email communication, June 4, 2022). This presents yet another sustainability implication for farming in the Philippines. Aside from the decreasing land areas meant for food production, not having farmlands by traditional farming families further discourages the younger generation from continuing farming, being forced to move out of the farms they grew up in, and then, the family has to look for another livelihood (Elauria, 2015).

Not fully subscribed to an *Ayuda* mentality. With the increasing inflation due to various global movements, most notably the increase of oil prices sparked by the Russia-Ukraine war and the ongoing COVID19 pandemic, the government resorted to cash dole-outs or distributing "ayuda" to impoverished sectors of society, usually in the amount of a few thousand pesos (Cabuenas, 2022; Reyes, 2021). *Ayuda* is a Tagalog work adapted from the Spanish vocabulary, which means help. It connotes financial assistance in the form of dole-outs from the government, usually given out as an intervention strategy to mitigate income volatility among among low-income transients (Albert & Vizmanos, 2018). However, *ayuda* is only a stopgap measure and is insufficient as farmers cannot cope with the onslaught of factors coming together.

In Laguna, in the morning of August 29, 2023, one of the researchers witnessed the distribution of ATM cards or bank cards used for ATM withdrawals to registered farmers. It is noteworthy that despite such initiative from the government to continue cash dole-outs, there were still a good number of farmers who did not claim this benefit. When asked what they needed during the interview, most requested irrigation and credit facilities for business. Some indicated farming inputs with the knowledge that the RCEF seed program will finish during the dry season of 2025. Without an indication of the continuation of the program, they might have to buy more certified seeds and fertilizers, which, for now, they have the benefit of getting a considerable amount for free.

This gives the impression that, generally, farmers are well aware that their problems could be better addressed with systemic and infrastructure improvements. As such, encouraging them to join in programs will entail more than just financial incentives.

Youth in family farms. Agriculture seems to have ceased to be lucrative for many farmers besides being a manual and labor-intensive endeavor (Ritchie, 2021). In

this regard, the general sentiment is for parents to encourage their children to study and finish college or have the same fate as themselves.

There is a waning interest among the young in farming families. Some respondents did not finish studying but still "escaped" from farming by going to the urban areas to work as hired help or as factory workers, as is the case of the pair of husband-and-wife respondents in Lucban, Quezon until they were encouraged by their eldest sibling to return to their town and engage in a lucrative vegetable business.

An exceptional case of a farmer who abandoned rice farming is *Ka* Eric, age 49, who is fortunate to be gifted with the talent of painting and being supported by his wife working abroad. He decided to abandon rice farming altogether. Nevertheless, he continues to advocate for the welfare of farmers through his art.

Of the college- up to post-graduate-level educated farmers among this study's respondents, all did not want to study Agriculture. However, they did so as their localities had no other option. They are now gainfully employed by the government and are still working for the upliftment of agriculture in their own respective capacities.

An important insight here is that despite being highly educated and having gainful employment, if needed, they still help on the family farm in one way or another, including getting their hands dirty and helping out on the farm. Especially as it is getting harder to find workers, children still part of the household are "forced" to be the additional pair of farming hands. Especially for indigenous people, the community and family spirits are very strong. As such, there is an expectation for the children of farmers not to abandon their parents to work. The professor respondent from Ifugao said:

"If your parents are farmers, you work on the farm."

The bond or strong family spirit is essential to the continuity of agriculture among the young.

In the following sections, the relevance of youth guidance and support by the family patriarchs play a crucial role in the youth engaging in sustainable farming. Some gems were discovered in this multiple case study toward understanding the case of resilient farmers. One is guidance and support towards entrepreneurship, and a fascinating finding is having seen young children as early as nine years old find joy in getting their hands dirty in helping out on the farm, enjoying the discovery of agriculture and nature, and togetherness with the parents. There seems to be a sense of pride in farming, especially as it has allowed the family to afford the modern conveniences of having cellphones, wide-screen televisions, and transport—a remarkable departure from the image of being subsistence farmers belonging to the marginalized sector of society.

5.2 Farmer upliftment models

Despite the generally difficult situations of smallholder farmers, various models of hope in uplifting farmers' conditions emerged from the ensuing discussion of conducted interviews of farmers and subject matter experts and literature. There are four main classifications identified.

The first two models focus on the individual farmer, while the last two require the community's cooperation to uplift the farmer's conditions.

Empowered Farmer Model. A farmer is empowered when they can freely make decisions about the whole farming process, which is the case for inherently self-sufficient farmers who possess the capitalization needed for their farms to be operational. This could be through inheritance from the previous generations, continuing support from other family members, or an existing stable business.

Such is the case with Mang[1] Tino (not his real name). At age 69, his four daughters have graduated from college and are now all gainfully employed, with one working overseas. His other two sons have also become farmers like him, and they help with each other's farms. Aside from getting support from his daughters, he has a piggery and a poultry farm, and despite his advanced age and having enough provisions for his whole family, he chose to continue rice farming. He shared that his children were already encouraging him to stop working, but without fail; still, he wakes up early in the morning, does the whole day's work enthusiastically, and enjoys the company of friends and family after a long day.

However, many farmers are less endowed than Mang Tino and are even entangled in a cycle of debt as related previously. As such, an agricultural network called MASIPAG (2013), composed of nongovernmental organizations, scientists, and farmers across the country, proposes another route for the "empowerment" of farmers. Their advocacy is about strengthening the biodiversity of farms that chemical pesticides and fertilizers disrupt. They provide traditional seeds and allow farmers to try them in

demo farms as proof that pesticides are unnecessary. After harvest, the seeds could be replanted, unlike the hybrid seeds provided by the Department of Agriculture, which have the GURT technology, making the seeds produce a high yield only for the first planting. GURT was instituted as an intellectual property safeguard for the companies that spent on researching and developing the different high-yielding varieties (Lombardo, 2014). MASIPAG considers this empowerment as the farmers would not be tied to buying seeds, fertilizers, and pesticides for every planting season, as traditional seeds could be replanted over and over again, even by the next generations. Because of biodiversity, the crops also do not attract pests, and fertilizers can be produced organically, thus freeing farmers from the initial high costs of farming inputs (personal communication, November 25, 2022).

Other documented ways of farmer empowerment are through Climate-smart villages, which the Consultative Group implements on International Agricultural Research (CGIAR), a global partnership of various organizations aimed at global food security. Like the MASIPAG method of introducing technologies, farmers are allowed to try them in demo farms, ably guided by technologists to guide them. Through farmer learning groups, farmers can evaluate the technologies and give feedback to one another. They are then allowed to make the choice as to what technologies they will incorporate into their farming systems. With the technology transfer, some farmers are provided opportunities for other income (CCAFS, 2013).

Farmer-Entrepreneur model. From one of the earliest propositions, Shane and Venkataraman (2000) proposed that entrepreneurship is discovering an opportunity, deciding to exploit it, and then exploiting such entrepreneurial opportunity to create future goods and services.

Ka Henry (not his real name), age 44, an elementary graduate, the eldest of six brothers and three sisters from an impoverished rice-farming family, decided to continue farming in their hometown. As for all his siblings who also did not finish higher education, they opted to move away and work in factories. When he discovered a vegetable farming opportunity, he followed through and built up his business model.

Ka Henry may not have been highly educated, but he possesses the elements of entrepreneurial orientation of innovativeness, proactivity, and ability to take on risks (Kangogo et al., 2021)

Being proactive, he grew his knowledge of agricultural technologies beyond the rice farming he grew up with and aspects of business management.

With an innovative mindset, he always sought opportunities to improve their family condition. So, when he discovered a vegetable farming opportunity, he followed through and built up his business model. He was open to changing his old ways of farming to accommodate the new business.

And lastly, but most remarkable was his risk-taking capability, hinging on his learned financial literacy. Through a mutual-savings scheme called “paluwagan” system, he raised his initial P100,000 and borrowed P100,000 from a sibling working abroad. A *paluwagan* system is an informal type of community-based financial service wherein each member in the group commits a fixed amount to contribute to the "pot" regularly. At previously agreed schedules, members could withdraw a certain amount of money (Recio, 2021).

As he did not have his own land, he rented 2.7 hectares of uncultivated land at P20,000 per year. He hired people to prepare the land and started planting tomatoes.

He proudly recounted that it was in 2018 when he was able to sell when the farmgate price for tomatoes was high and earned about P6 million (equivalent to about $114,000 at P52.67:US$1 in 2018; https://www.bsp.gov.ph/statistics/external/pesodollar.xlsx). Compared to rice, which requires about 3 months to grow, tomatoes only need 1.5 months.

Ka Henry also experienced losses, though, especially during typhoons or when prices in the market dipped, but generally, with his business model, vegetable farming remained a lucrative endeavor. Seeing how his siblings working in the factories did not improve their living conditions, and despite having worked for more than a decade, they have not had the chance to start having their own homes. He then encouraged his siblings working in local factories in nearby provinces to join him in vegetable production. He provided the initial capitalization and taught them the ins and outs of vegetable farming. Two of his siblings started their own business with their spouses, and in a few years, they finally procured their own homes. Noteworthy of *Ka* Henry’s account is his emphasis on financial literacy, which includes savings and honoring one’s contractual obligations. He, therefore, taught his siblings how to be independent.

Before being a vegetable farmer, *Ka* Henry was a rice farmer and even a farmer association president once.

He chose to be an independent entrepreneur due to several of his observations back then. He related several important insights that somehow contributed to the deplorable conditions of rice farmers: (1) Middlemen controlled the farmgate prices; (2) Their farmer cooperative went bankrupt as many farmers borrowed money but did not fulfill their contractual obligations; (3) On the side of the government, he expressed a lack of trust as he observed corrupt practices such that the assistance did not arrive in a timely fashion, e.g., planting season is in January to March, but the assistance would arrive in November-December when planting season was over and; (4) He also claimed that as the farmer association president, he witnessed how the promised financial help slowly gets diminished as it gets passed down from the levels of the municipality, the barangay and then, to the cooperative. He claimed that only 20% of the benefits reach the farmer association.

Contract farming model. Contract farming is a type of farmer-entrepreneur model, but this is primarily based on the community. It presupposes a cooperative endeavor among community members to deal with entities, whether government or non-government organizations, which assure the existence of a market. Here, the value of fulfilling one's contractual obligation is very important for the continuity of endeavor.

In Quezon, *Ka* Ernesto (not his real name), age 62, was offered a dairy farming contract with 16 other community members. They were given either cows or carabaos for breeding and milk production. The milk production provided the daily income as they were brought to a processing plant to produce chocolate milk. The contract stipulates that when the calves of the cows and carabaos were sold, the farmer and the contractor split the proceeds. After ten years, the original parents already become the farmers' property.

In the fourth and last farmer upliftment model of this research is another type of contract farming model wherein the farmers were assured of a market for their vegetables through the Department of Agriculture's nationwide system of selling fresh produce in high-demand areas to serve communities with low-income families. (Source: https://www.da.gov.ph/kadiwa-to-enter-metro-manila-markets/#:~:text=The%20KADIWA%20is%20an%20initiative,communities%20with%20low%2Dincome%20familiessystem)

The local government unit spearheaded the coordination and the connection of the farmers and the market. However, beyond providing a ready market for the farmers' produce was an end-to-end assistance from input provision to marketing. This illustrates the wide disparity of farmers blind to market information that would make individual decisions on what vegetable to plant in between rice plantings. Farmers in Quezon and Laguna employed some guesswork and based their decision on what fetched good income in the previous season. As humorously related by one farmer:

> *"Kapag nagtanim ng saging ang isa, saging na din ang itatanim ng iba. Gaya-gaya na lang. Kaya sabay-sabay na luhaan."*
> *(When one farmer plants bananas, the others will plant the same. That is why everyone loses.)*

Without market knowledge of the supply and demand, the farmers could not anticipate which vegetables could fetch the optimum price. In this particular example, some of the farmers were forced to sell their bananas at the very low price of P5/kg (or US$0.09/kg at P55.3236:US$1 in 2023; (https://www.bsp.gov.ph/statistics/external/Table%2012.pdf).

This underscores the importance of contract farming with a ready market at a pre-agreed price, and as such, the planting time, the initial capitalization, and the efforts do not go to waste. The one-town-one-product (OTOP) establishes the steady supply of a particular commodity. It enriches the community by providing a regular income source, generating jobs, and increasing incomes as new products and services are further developed (Absolor et al., 2022; Malinao, 2022).

However, the most critical aspect of the success of this model is the mutual fulfillment of contractual obligations. The buyer guarantees the purchase volume, and on the farmer's side, there must not be side-selling, refusal to harvest, or the creation of spot markets (Hambloch, 2022; Loquias et al., 2022).

End-to-end Value Chain model. In an agricultural town in Iloilo province, a local government invested in the activities of farmers by providing the initial capitalization, assets, and staffing to assist the farmer association in the production, research, development, and marketing of their products. It is an end-to-end value chain support. Contract farming which provides a ready market for farmers is only a small subset of this model.

Before the local government's initiative to fully support the farmer association, there was only a day wherein farmers could bring their produce to sell at the

local market, and intermediaries dictated the farmgate prices according to the demand for the products. With full support from the local government, a storehouse was built for the produce, manned by three full-time personnel to manage sales and coordination, inventory, and accounting. Farmers could already sell their produce every day. More importantly, the type of crops they would plant would be according to the demand as coordinated with the Department of Agriculture for farmers to meet a contractual obligation for produce at a reasonable price. Indeed, the LGU provided the business enabling environment, as shown in the Philippine rice value chain illustrated in Figure 1.

Another development in this town is the institution of several farm schools wherein students at the high school level start learning about agriculture. Demo farms were also allocated for research and product development to increase the farmer association's range of products.

The idea of an end-to-end value chain model is not new, as illustrated by Nestlé's development of Moga, India as a milk district in 1962 (Porter & Kramer, 2006). In the case of this Iloilo agricultural town, the local government could not be an income-generating entity due to its nature, but it has empowered the farmer association through the resources and other support to make the farmers' business sustainable.

Another well-publicized case is the collaboration of one of the top fast-food companies in the country, a Catholic non-government organization, and a government financial institution called Farmer Entrepreneurship Program (FEP), which started in 2008. Jollibee Foods Corporation, Catholic Relief Services (CRS), and the National Livelihood Development Corporation (NLDC) organized smallholder farmers through a clustering approach. It helped them with productivity, financial literacy, and credit, which prepared them to supply their produce to various stores of Jollibee (Gueye, 2020). To this day, this end-to-end value chain has helped smallholder farmers tie the times during the worst of the pandemic (Rappler.com, 2023; Rivera, 2022). Collaboration across the industry, NGO and government aligns with the United Nations Sustainability Goal #17 (partnership for the goals).

5.3 Synthesis of the farmer empowerment models according to theoretical frameworks

The empowered farmer model illustrated the ideal situation of a self-sufficient farmer who can make independent decisions on his farm due to resource availability, but most Filipino smallholder farmers are resource-strapped.

The farmer-entrepreneur model may be considered another ideal yet achievable situation, as illustrated by Ka Henry, who had a natural entrepreneurial orientation of proactiveness, innovativeness, and possession of risk-taking behavior. He became an empowered farmer despite having limited resources by learning financial literacy along the way and, with it, the value of honoring one's commitment.

In the contract farming model, in line with Mataia et al.'s (2020) value chain analysis framework, the business enabling environment, financial and non-financial support services, and end markets paved the way for farmers to stabilize their livelihood. This addressed the farmer's limitations on resources, access to markets, and technology while ensuring a steady supply of products for the contracting agency. The success of this model is hinged on the mutual meeting of contractual obligations, but the sustainability of the farmers' livelihood would depend on the contracting agency's continuous support.

In the Philippine context, however, the end-to-end value chain model seems to be the most practical and sustainable endeavor through the support given to farmers across the whole value chain while developing the farmers' association towards entrepreneurship and sustainability. In this model, critical was the support and vision of the local government unit (LGU) to not just provide the enabling environment but, at the same time, encourage farmers to collectively develop an entrepreneurial orientation by encouraging innovation to develop more products and proactiveness to develop and maintain markets. At the start, the LGU absorbed all the risk by providing the assets and skilled workforce required to start a business--a critical enablement for resource-strapped farmers. Fan and Rue (2020) refer to this as a "commitment to treat smallholder farms as viable businesses (p. 14)" which was crucial for unleashing their capacity to support broader development goals. Meeting contractual obligations and having financial literacy are implicit in ensuring the improvement of the profitability and sustainability of smallholder farming. In this regard, various United Nations Sustainability Goals are addressed, particularly #1 (no poverty), #2 (food security), and #8 (reduced inequality) (The World Bank, 2020).

6 Conclusion and Recommendations

Important learnings that can be gleaned from this multiple case study are as follows:

6.1 Role of LGU leadership in the end-to-end value chain

While this study's scope does not include country-level infrastructure support to agriculture, e.g., farm-to-market roads, land reforms, irrigation support, and reforms, among others, the most apparent way to uplift farmers is to help them in the end-to-end value chain. This has been documented even in scholarly articles. However, an important contribution of this study is an illustration of how an end-to-end value chain could protect farmers from intermediaries to cut rice prices (Arcalas, 2022; DA-AFID, 2017). Two valuable insights here are on the roles of the governing body, i.e., the local government unit taking the initiative and providing leadership, and the role of the farmers as partners. Like a skillful project manager, the local government unit planned and coordinated, provided human and infrastructure resources, empowered farmers to become partners through training and involvement in research and development, and enforced audit procedures to discourage corruption. On the other hand, the farmers, recognizing their role as partners as part of the farmers' association and as individual farmers, acted as committed participants, ensuring that contractual obligations are met.

6.2 Steady flow of income empowers farmers towards resilience

The pattern seen in the farmer interviews across all respondents establishes that the resilience of the farmers depends on having a regular flow of income, whether the farmer is a landowner or not, has irrigation or not, whatever gender, marital status or education, having an established source of income rather than just labor-based ad hoc engagements equips the farmers with a safety net even in the face of environment-related devastations. Such is the essence of farmer empowerment wherein farmers can make decisions about their business and would have some leverage in negotiating with business partners, especially financiers or creditors who may dictate the payment terms and farmgate prices.

6.3 Farmers expect infrastructure development over piecemeal *ayuda*

Ayuda or dole-outs must be meant to be a stopgap rather than a long-term solution to the farmer's problems. For example, empowering farmers is to provide dependable and maintained agriculture infrastructure to give them the ability to harvest a sizeable amount of "fish" rather than just being handed a few "fish."

6.4 Financial literacy and the value of fulfilling one's contractual obligation

While financial literacy is a critical aspect of entrepreneurship, fulfilling one's contractual obligation cannot be emphasized enough. Financial literacy is not just about knowing how to handle money but also having the value of commitment towards contractual obligations to build up credibility on the personal and community levels, which could ensure the credit support's sustainability. The same is true in contract farming, that despite the offer of competitors for higher prices, farmers must respect their commitment.

6.5 Gems on youth engagement in agriculture

Two main insights on youth engagement arose from most cases in the provinces surveyed. The first is the strength of the Filipino family spirit. There is an unwritten rule that children should be helping their parents in farming regardless of whether they graduated from college or even up to the post-graduate level. It is, therefore, important to keep the youth interested and engaged in agriculture. The second is teaching them financial literacy and guiding them in business startups, which could encourage youth agribusiness.

6.6 Future research

The researchers recommend further research on the following:

- Expand the study to search for other farmer upliftment models around the country or abroad with similar environments.
- Study the farming challenges of upland farmers which are different from lowland farmers due to more restrictive conditions for irrigation and accessibility to government support.
- Develop innovative configurations and collaborations across various government agencies to improve the rice value chain further. For example, as suggested by one of the farmer respondents in this study, a synergy between the National Food Authority [2] (NFA) and the Department of Agriculture (DA) could be fostered

[2] The National Food Authority (NFA), created on September 26, 1972 through Presidential Decree No. 4, has the role of acquisition, maintenance and distribution of rice buffer stock to sustain the government's disaster relief program during emergencies or calamities (https://nfa.gov.ph/about-us). NFA is also used by the government to

to transfer the burden of drying newly harvested rice from the smallholder farmer to NFA or a more appropriate government body. In the RCEF program of the DA, machinery like drying machines is provided. This may also help standardize the quality of rice that goes to the market and is stored for emergencies and uplift farmers who indicated drying of newly harvested rice as one of their challenges due to the lack of space or facility.

- Research on other models of partnerships of the public, private, and non-government non-profit that uplift farmers and other marginalized sectors of society while discouraging corrupt practices. Policies on corporate social responsibility and collaboration with government agencies could encourage the private sector to engage.

References

Abdul Mottaleb, K., & Mohanty, S. (2014). *Farm size and profitability of rice farming under rising input costs*. https://doi.org/10.1080/1747423X.2014.919618

Absolor, J. L., Orpia, C. B., Garcia, M. T. T., & Batara, O. A. (2022). The economic significance of One Town One Product (OTOP) Program in the Province of Ilocos Sur. *International Journal of Social Science Research and Review*, *5*(12), 170–186. https://doi.org/https://doi.org/10.47814/ijssrr.v5i12.654

Arcalas, J. Y. (2022, July 11). Agri leaders : Cut middlemen layers to lower food prices. *Business Mirror*.

Bündnis Entwicklung Hilft. (2022). *World risk report*. Bündnis Entwicklung Hilft. https://weltrisikobericht.de/wp-content/uploads/2022/09/WorldRiskReport-2022_Online.pdf

Bündnis Entwicklung Hilft / IFHV. (2023). *World risk report*. https://reliefweb.int/attachments/c095742d-f207-4cdd-a998-18e0cc6cac31/WRR_2023_english_online-1.pdf

Cabuenas, J. (2022, November 6). Philippine government to spend P206.5 billion for ayuda in 2023 as inflation soars. *GMA News Online*. https://www.gmanetwork.com/news/money/economy/850498/philippine-government-to-spend-p206-5-billion-for-ayuda-in-2023-as-inflation-soars/story/

CCAFS. (2013, July 8). *What are Climate-Smart Villages?* CGIAR Research Program on Climate Change, Agriculture and Food Security . https://ccafs.cgiar.org/news/what-are-climate-smart-villages

DA-AFID. (2017, October 30). Piñol : Liberate farmers from middlemen. *Department of Agriculture*. https://www.da.gov.ph/pinol-liberate-farmers-from-middlemen/

Department of Agriculture. (n.d.). *Rice Competitiveness Enhancement Fund (RCEF)*. Retrieved June 29, 2022, from https://rcef.da.gov.ph/rcef/

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management*, *50*(1), 25–32.

Elauria, M. M. (2015). *Farm land policy and financing program for young generation in the Philippines*.

FAO. (2023). *FAO programming framework in the Philippines 2018–2024*. https://doi.org/https://doi.org/10.4060/cc4236en

Gill, I. S., Revenga, A., & Zeballos, C. (2016). Grow, invest, insure: A game plan to end extreme ooverty by 2030. In *Grow, Invest, Insure: A Game Plan to End Extreme Poverty by 2030* (Issue November). https://doi.org/10.1596/1813-9450-7892

Global Yield Gap Atlas. (n.d.). *Philippines: Rice production in the five Southeast Asian countries, Vietnam, Thailand, Myanmar, Philippines, and Cambodia*. Retrieved May 3, 2023, from https://www.yieldgap.org/philippines

Gueye, G. (2020). *The Farmer Entrepreneurship Program (FEP) Project Case Study*. www.crs.org

Hambloch, C. (2022). Contract farming and everyday acts of resistance: Oil palm contract farmers in the Philippines. *Journal of Agrarian Change*, *22*(1), 58–76. https://doi.org/10.1111/joac.12462

bring down rice prices and compete with commercial traders (Lagare, 2023).

Kangogo, D., Dentoni, D., & Bijman, J. (2021). Adoption of climate-smart agriculture among smallholder farmers: Does farmer entrepreneurship matter? *Land Use Policy*, *109*(July), 105666. https://doi.org/10.1016/j.landusepol.2021.105666

Lagare, J. (2023, April 6). Rice prices expected to rise – DA. *Inquirer.Net*. https://newsinfo.inquirer.net/1753124/rice-prices-expected-to-rise-da

Lombardo, L. (2014). Genetic use restriction technologies: A review. *Plant Biotechnology Journal*, *12*(8), 995–1005. https://doi.org/10.1111/pbi.12242

Loquias, M. P., Diga, L. N., & Placencia, S.G., et al. (2022). Factors Affecting Participation in Contract Farming of Smallholder Cavendish Banana Farmers in the Philippines. *Agricultural Research*, *11*, 146–154. https://doi.org/https://doi.org/10.1007/s40003-021-00544-0

Lubang, S. A.-F. (2019). Towards Liberation from Debts of Filipino Farmers. In *FFTC Agricultural Policy Platform*. https://ap.fftc.org.tw/article/643

Malinao, C. W. M. (2022). Evaluation of the impact of some factors on coffee producers towards sustainable rural development in Lagawe, Ifugao of Philippines. *Universal Journal of Agricultural Research*, *10*(6), 595–609. https://doi.org/10.13189/ujar.2022.100601

Mataia, A. B., Beltran, J. C., Manalili, R. G., Catudan, B. M., Francisco, N. M., & Flores, A. C. (2020). Rice value chain analysis in the Philippines: Value addition, constraints, and upgrading strategies. *Asian Journal of Agriculture and Development*, *17*(2), 19–42. https://doi.org/10.22004/AG.ECON.307976

Mendez, K., Vidallo, R., Rosimo, M., Angeles, D., Rosales, B., Bernardo, E., & Gonsalves, J. (2021). *Portfolio of climate resilient options for farming and fishing communities in Guinayangan, Quezon*. https://hdl.handle.net/10568/114770

Mendez, K., Vidallo, R., Rosimo, M., Servano Jr, G., Urdelas, F., Bernales, L., Bernardo, E., & Gonsalves, J. (2021). *Portfolio of climate resilient options for farming and fishing communities in Ivisan, Capiz*. https://cgspace.cgiar.org/bitstream/handle/10568/114772/Ivisan Research Report_ver02 (2).pdf?sequence=1

NEDA. (2023). Chapter 5 - Modernize agriculture and agribusiness. In *Philippine Development Plan 2023-2028* (pp. 125–138). https://pdp.neda.gov.ph/wp-content/uploads/2023/01/PDP-2023-2028.pdf

PhilRice. (2016). *The rice data analytics dashboard*. Ricelytics. https://www.philrice.gov.ph/ricelytics/profilemain/province/56

Philstar. (2022, April 8). *Large-scale agricultural smuggling as economic sabotage*. https://www.philstar.com/nation/2022/04/08/2173182/large-scale-agricultural-smuggling-economic-sabotage

Porter, M. E., & Kramer, M. R. (2006). Strategy & society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 1–16. www.hbrreprints.org

Rappler.com. (2023, January 4). *How Jollibee is helping farmers recover from pandemic*. https://www.rappler.com/brandrap/goodrap/jollibee-farmers-road-to-recovery/

Recio, R. B. (2021). How can street routines inform state regulation? Learning from informal traders in Baclaran, Metro Manila. *International Development Planning Review*, *43*(1), 63–88. https://doi.org/10.3828/idpr.2019.32

Reyes, C. M. (2021). *Eradicating Poverty in the Philippines by 2030: An Elusive Goal?* (Discussion Paper Series No. 2021-42). https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2142.pdf

Ritchie, H. (2021). *Smallholders produce one-third of the world's food, less than half of what many headlines claim*. https://ourworldindata.org/smallholder-food-production

Rivera, D. (2022, October 30). Jollibee program helps farmers earn P360 million. *PhilStar Global*. https://www.philstar.com/business/2022/10/30/2220182/jollibee-program-helps-farmers-earn-p360-million

Shane, S., & Venkataraman, S. (2000). The Promise of Enterpreneurship as a Field of Research. *Source: The Academy of Management Review*, *25*(1), 217–226.

Talavera, C. (2022, February 11). *Philippine rice imports to hit 2.9 million MT*. Philstar. https://www.philstar.com/business/2022/02/11/2159950/philippine-rice-imports-hit-29-million-mt

The World Bank. (2020). *Transforming Philippine agriculture during COVID-19 and beyond*. https://openknowledge.worldbank.org/bitstream/handle/10986/34012/Transforming-Philippine-Agriculture-During-COVID-19-and-Beyond.pdf?sequence=4&isAllowed=y

Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage.