VALUE CHAIN INTEGRATION, CLUSTER COOPERATION, AND SUSTAINABLE LIVELIHOODS:

BRIDGING SMALL FARMERS TO HIGH VALUE MARKETS

A Dissertation

presented to

the Faculty of the Graduate School

at the University of Missouri-Columbia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

---

by

RENE C. TACASTACAS

Dr. James Rikoon, Dissertation Supervisor

MAY 2011

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

VALUE CHAIN INTEGRATION, CLUSTER COOPERATION, AND SUSTAINABLE LIVELIHOODS: BRIDGING SMALL FARMERS TO HIGH VALUE MARKETS

Presented by Rene C. Tacastacas,

A candidate for the degree of doctor of philosophy,

And hereby certify that, in their opinion, it is worthy of acceptance.

Professor James S. Rikoon

Professor Jere L. Gilles

Professor Mary Hendrickson

Professor Corinne Valdivia

ACKNOWLEDGEMENTS

Five years and ten months—the length of time it took me to complete my doctoral study at the University of Missouri. Along the way, many individuals have enriched my life and contributed their time, effort, and resources towards my fulfillment of a higher education. It is only fitting then that I now express my deepest gratitude to these people who have become part of the long journey of my academic career…

…Professor Sandy Rikoon, my mentor, for painstakingly reading my manuscripts, challenging my ideas, suggesting new insights, providing comments, and editing my writing style; my committee members for their assistance and support: Drs. Jere Gilles, Mary Hendrickson, and Corinne Valdivia; Dr. Elizabeth Barham for her inspiration and guidance in starting out my specialization in the sociology of food and agriculture.

…my Jesuit superiors and friends: Frs. Danny Huang, Jose Magadia, Timothy McMahon, Douglas Marcouiller, Bill Abbott, Mike Harter, Ralph Huse, Steve Koenig, and other Jesuits, for their financial, moral, and spiritual support during my years in special studies.

… Gus Santos for generously welcoming me into his house in Columbia, Missouri; Lucy and Warren Zahler for the parental support they extended to me; Lucy and Ben Rivera for taking care of me in St. Louis City as their adopted son; the Filipino-American Community of Mid-Missouri and of St. Louis City for their valuable friendship and companionship.

… my colleagues in the Rural Sociology Department at Mizzou for their help, contribution, encouragement, and camaraderie throughout the course of my PhD program: Cecilia Turin, Justin Thomas, Mike Morrison, Faustine Williams, Billy Jivetti, Bill McKelvey, Jill Lucht, Lila Khatiwada, Joe Tillman, Casey Locke, Debi Word, Donielle, Eleazar Gonzalez, and many others.

…Bishop John Gaydos and Msgr. Gregory Higley for allowing and giving me the opportunity to exercise my priestly ministry in the Diocese of Jefferson City; the Catholic

parishioners of Brunswick, Indian Grove, and Hurricane Branch Church for the hospitality and generosity they provided me while at Brunswick, Missouri and for the many memories of collaborating together to build the church as a community of disciples.

…Joan Uy of the Catholic Relief Services (CRS) for her invaluable insights and for being an inspiration in the work of social development; Terry Tuason and Randy Paler of CRS for their helpful contributions to my research; Imelda Esteban, Erlinda Sayago, and the staff of Kaanib Foundation for their assistance in providing me the important information I need for my study and for sharing with me their experiences in working with people; Tyrone Uy of Jollibee Foods Corporation for the fruitful discussion about small farms and big firms.

…the Jesuit Retreat House community in Malaybalay City, Bukidnon and the Loyola House community at Xavier University, Cagayan de Oro City for their generous hospitality and companionship while I performed my field data collection.

…the farmers in Impasugong and Sumilao municipalities in Bukidnon who welcome me into their homes and endured the hours of interviews and discussions; Henelito and Rose Idagan for teaching me how to farm and produce food, for the assorted vegetables I brought every time I visited their farm, and for deepening my appreciation of rural living.

…the Rural Sociological Society, John D. Bies Scholarship, and Curators' Grant-in-Aid Scholarship, for the financial assistance during my data collection in Bukidnon, Philippines.

…my own family, my brothers and sisters, together with their families, for supporting me in many ways and for their constant prayers.

…everyone else whose name is not mentioned here but has been a great part in my intellectual journey…my sincerest thanks to all of you. You have endowed me with good things and fruitful experiences. Most importantly, I would like to express my deepest gratitude to God for all the wonderful blessings He has showered me through all these years.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

VALUE CHAIN INTEGRATION, CLUSTER COOPERATION, AND SUSTAINABLE LIVELIHOODS: BRIDGING SMALL FARMERS TO HIGH VALUE MARKETS

Rene C. Tacastacas

Dr. James S. Rikoon, Dissertation Supervisor

ABSTRACT

This study explores the conditions for the possibility of an effective participation of small vegetable farmers in the modern value chains and the effects of this participation on the farmers' livelihood sustainability. Taking a confluence of ideas from the literatures on value chains, clustering, and sustainable livelihoods, it examines how market relationships could be shaped through structures of producer-buyer reciprocity and horizontal cooperation among farmers that could mediate impacts on farmer households. Markets constantly evolve and may thus be re-engineered to favor relationships that potentially benefit both the upstream vegetable producers as well as the downstream end-buyers. Based on an examination of the processual dynamics engaged in by the small farmers in supplying a fast-food company with assistance from external agencies, I generate a number of generalized observations about the possible conditions through which participation in the modern value chains improves the prospects of livelihood sustainability of the small farmers. I argue that attaining sustainable livelihoods through participation in modern value chains is challenging and difficult, involving a continuous and arduous process of innovative learning on the part of small farmers and an unremitting assurance from the side of the end-buyers to integrate small producers in their supply chain. The role of external development agencies proves critical in establishing the reciprocal and redistributive patterns of relationships between producers and buyers. In the final analysis, a value chain vision of external interventions helps facilitate the inclusion of small farmers in the modern markets and promotes their competitive advantage in the long run.

CHAPTER 1

HISTORICAL BACKGROUND AND INSTITUTIONAL CONTEXT

Introduction

Developing countries are presently experiencing similar changes in the agro-food sector as those in the developed countries. In the Philippines, while the traditional wholesale and retail markets still predominate, the country now increasingly sees a parallel growth of modern marketing system that cater to supermarkets, food processors, restaurants, fast-food chains, hotels and other institutional buyers. Over the years, the country has been gradually developing a dualistic supply chain characterized by the presence of traditional spot markets and traders on one hand and of modern institutional buyers on the other (Concepcion & Digal, 2007). The rise of the modern agro-food sector will certainly persist in the long-run, because of increased population, rapid urbanization, and changing consumer tastes and preferences, among other things. Supermarkets alone constitute more than 5,000 retail outlets in 2007 with combined sales of over Php100B ($217M) (Macabasco, 2009), up from just 496 outlets in 1994 then to 3,989 outlets in 2001 (Digal & Concepcion, 2004) or a 908% increase from 1994-2007. Sales from hotels and restaurants have grown from around Php61B ($1.33B) in 2002 to around Php138B ($3B) in 2008, representing an increase of 126% over a period of six years (NSO, 2003, 2009). As in the developed countries, increasing family incomes, personal consumption, and changing lifestyles drive some of these changes as high income consumers demand year-round availability of fresh produce, increased variety of goods, high quality, and food safety (Balsevich, Berdegue, Flores, Mainville, & Reardon, 2003; T. Reardon & Berdegué, 2002; Weatherspoon & Reardon, 2003). Concomitant to the emergence of modern markets are the changes in the

procurement systems involving, among others, geographical expansion of supply sources, new standards or regulations, improved marketing strategies, and establishment of new distribution networks (Ghezán, Mateos, & Viteri, 2002; T. Reardon, Timmer, Barrett, & Berdegue, 2003).

There are opportunities and promises presented for the small growers in the growth of these modern markets. To mention a few, the increased national and global demand for fresh vegetables requires corresponding increases in supply sourcing, thereby creating employment and livelihood opportunities to small farmers. Vegetable production in itself is a good livelihood prospect due to its higher value-added potential (Reardon and Berdegue, 2002; Reardon et al., 2003; Boselie, Henson and Weatherspoon, 2003), especially the high-value temperate crops. Since vegetable production possesses a relative lack of economies of scale, small producers can become competitive, particularly in certain specialized crops not amenable to capitalization and mechanization (Reardon and Berdegue, 2002; Boselie et al., 2003). The possibility therefore is ripe for small farmers to experience substantial income growth in the continually changing agro-food sector.

On balance, there are also threats and perils attendant to the rise of modern markets. Evidences abound indicating that the modernizing horticultural chains typically discriminate against the small farmers. African small farmers who used to supply the United Kingdom markets with fresh produce are replaced by large commercial farmers since only the latter can qualify their produce to the UK requirements in terms of cost, quality, delivery, product variety, innovation, food safety and quality systems (Dolan & Humphrey, 2000). They were virtually eliminated from the UK vegetable chains by 2001, while before, for example, they used to supply 40% export share for Kenyan green beans, snow and snap peas into the UK supermarkets in the 1980s (P. Gibbon & Ponte, 2005). In Argentina, small farmers are resorting to alternative markets to sell their produce or are abandoning farming altogether since they cannot fulfill the

supermarkets' and fastfood chains' quality standards, volume requirements, and regular delivery (Ghezán, et al., 2002).

Small farmers are often marginalized or even excluded from the globalizing fresh produce trade channels since the downstream[1] players in the marketing system prefer large farmers who can more readily fulfill market demands with stringent and homogeneous quality standards in sufficient production volumes (Ghezan, Mateos, and Viteri, 2002; Weatherspoon and Reardon, 2003; Reardon et al., 2003; Cacho, 2003). High input costs, lack of access to credit, absence of extension, high transport costs, and inadequacy of infrastructures, especially in developing countries, force small farmers into producing in circumstances with less optimum levels of agricultural output which in turn reinforce their persistent poverty. Marginalization compounds their present problems as it minimizes their participation and access to potentially lucrative markets. Exclusion from the markets poses even a greater peril as it substantially distances them from the upscale fresh vegetable chain and relegates them to the usually shallow[2] local markets. It seems the outlook of peasant crop production in the new social and economic global geography is not at all encouraging as production becomes concentrated among better-resourced farmers who possess greater capabilities in accord with the Northern markets (Daviron & Gibbon, 2002). Thus, in the presently reconfigured agro-food sector, small farmers face different sets of threats and perils that drastically affect the security of their livelihoods.

[1] Downstream players represent the buyers and consumers. Upstream players are the producers and suppliers.

[2] Shallow markets are characterized by recurring supply gluts as they are easily saturated while demand of commodities remains low. Risk of downward movement of prices often occur in these markets.

Towards an Attempt at Restructuring Markets

The changes in the agro-food sector and their consequences to small farmers confirm the predictions made by Karl Polanyi (1886-1964) more than fifty years ago. In his book, The Great Transformation (1943), Polanyi theorized the transformation of the human economic organization from "markets in society" to "market society." He predicted that the growth of the self-regulating market economy would result in the "dis-embedding" of the social and cultural relations from which the whole rubric of social organization rested. In pre-market society, social and cultural institutions were primary and markets were subsumed under the larger human economy. Markets then were characterized by reciprocity, redistribution, and household relations. Values such as social justice, equality, moral obligations to others, responsibility, and community were strongly operative in most human organizations. Markets were indeed embedded in the social relations of the human economy. However, in the modern market society, everything seems to be subsumed under the free market system, including people and social institutions. Capitalism becomes preeminent with the quest for profits and surplus accumulation as the overriding principle. In recent years, neo-liberalist thinking provides primacy to the efficient functioning of the market system while its control resides in the hands of private individuals or corporations who have the means to produce and to market the products more efficiently. People, land, and capital become mere dispensable commodities and acquire exchange values. The market shapes human conditions as it becomes the primary force and logic in society. Socio-economic relations and the dynamics of the larger human organization are becoming "dis-embedded" in the market society. What used to be "markets in society," today's reality now becomes "society in markets."

The marginalization and exclusion of small farmers from the modern food retailing systems are telling examples of how free market system allows the destruction of social and

economic relations in society in the pursuit of efficient procurement systems and effective supply chain management in the food sector. In this case, Polanyi's analysis implies the existence of increased risk in the modern food sector as it does not guarantee the provision of secure livelihoods for small growers especially in the developing countries such as the Philippines. If market forces alone are allowed to operate, small farmers cannot find a niche in the modern marketing systems since they face enormous financial, technical, and organizational challenges which are beyond their means to address or access as discrete household units. Yet the changing food sector is sure to stay and the bigger task for all stakeholders therefore is how to "re-embed" society in the modern markets. The search must continue for innovative avenues to make small farmers active participants in the food value chains in hopes of assisting them attain sustainable and meaningful livelihoods, despite the dim prospects painted by previous cases.

As an attempt to "re-embed" markets in society, this case study investigates the possible institutional arrangements through which small farmers can actively participate in the changing agro-food sector of the Philippines. In particular, it explores the structures and processes of participation of small vegetable growers through integration in modern value chains and, at the same time, through cooperation among producers as clustered production units. A value chain, broadly defined, is a sequence of activities to transform inputs into outputs with value added for the customers. Michael Porter (1985) defines value chains as interlinked network of firms, resources, and knowledge streams in the creation and delivery of value to end consumers. Clusters are geographical concentration of producers. This study also examines the outcomes of this participation in terms of generating sustainable livelihoods for the small farmers. The goal therefore is to study the conditions for the possibility through which small

vegetable farmers in the Philippines may effectively participate in the modern value chains in a way that provides for sustainable livelihoods.

Thus, the twin questions that are uppermost in this research: How does value chain integration and cluster cooperation improve the quality of participation of the small farmers in the fresh vegetable value chains? What patterns of livelihood outcomes are generated by the farmers' participation in the modern value chains?

The Case Study Background

In January 2008, Jollibee Foods Corporation (JFC) started considering the possibility of tapping small farmers in the countryside to be one of their suppliers of agricultural commodities. Jollibee Foods Corporation is the leading fast food chain in the Philippines to date with more than a thousand stores both in the country and abroad, either as company-owned stores or franchises. Its social development arm, Jollibee Foundation (JF), spearheaded the initiative as a concrete way of integrating corporate social responsibility into the structures of its business organization. Jollibee Foundation invited Catholic Relief Services (CRS) to be its partner for a pilot project that would enable Jollibee Foods Corporation to procure part of its food supply requirements from the small farmers.

Established in 1943, Catholic Relief Services (CRS) is the official international humanitarian agency of the Catholic community in the United States, working under the U.S. Conference of Catholic Bishops specifically as its relief and development arm. The mission of CRS includes the alleviation of suffering and provision of assistance to people in need in more than 100 countries worldwide without regard to race, religion, or nationality (CRS, 2010b). In the Philippines, CRS has three major programs: (a) peace and reconciliation; (b) emergency response; and (c) agriculture and natural resource management. Only recently did CRS embrace

a development program of farmers under the Agro-NRM in order to promote market-driven strategies aimed at enhancing farmers' active participation in the modern agro-food markets. In this project, CRS serves as the development facilitator to organize the farmers at the community level through an intermediary local government unit (LGU) and/or non-government organization (NGO). Likewise, it acts as the link between the producers upstream and the buyers downstream in the market chain.

In the hope of better implementing the proposed initiative with Jollibee Foundation, Catholic Relief Services solicited the participation of the National Livelihood Development Corporation (NLDC). NLDC is a Philippine government owned and controlled corporation (parastatal), a subsidiary of the Land Bank of the Philippines which functions as the official depository bank of the government. Its mandate is to provide a fund delivery system and organizational machinery for socialized livelihood credit. It primarily assists agrarian reform beneficiaries and communities in actively engaging in community-based enterprises through a package of livelihood and enterprise development program and interventions (LBP, 2010). NLDC provides micro-financing for the production activities of the small farmers through its accredited local lending institutions such rural banks, cooperatives, or non-government organizations. The micro-finance institutions (MFIs) directly serve the credit needs for the livelihood and enterprises of the marginalized sectors, primarily the agrarian reform communities.

After a series of planning sessions from January to April 2008, the three agencies agreed on a partnership with the common principle of establishing direct links between the small farmers, as the producers to be mobilized by the CRS, and Jollibee Foods Corporation, as the buyer to be facilitated by the Jollibee Foundation. The National Livelihood Development Corporation would serve as the financing arm to assist the small farmers' credit needs in the production and marketing of their produce. Together in May 2008, they launched the project

entitled “Bridging Farmers to the Jollibee Chain.” The plan was to work together for the establishment of a mutually beneficial business relationship between modern agro-food markets like Jollibee Foods Corporation and small farmers in the rural areas. To make this happen, each of the three agencies promised to contribute Php3M (roughly US$65,000) as its counterpart for this project to be implemented for at least three years (May 2008-May 2011). The project envisioned that, once organized, small farmers could posses the number, geographical spread, and production required to provide JFC with stable and diversified sources of quality agricultural commodities. In turn, JFC’s numerous food outlets around the country would serve as a large market for the farmers’ produce. In particular, as agreed upon by the three agencies, the project sought to:

- *Organize 300 farmer-households into agro-enterprise clusters to consolidate product supply and pool transport logistics;*
- *Assist farmers to engage in value-adding activities to enhance their compliance of quality requirements; and*
- *Increase farmers’ knowledge about farming practices and new technologies to improve farm productivity, reduce production cost, and improve overall competitiveness—increase household incomes in the process. (CRS, 2010)*

According to a document prepared by CRS (2010), the Catholic Relief Services, Jollibee Foundation and the National Livelihood Development Corporation agreed on the choice of five sites for the project, three in Luzon and two in Mindanao. Three factors made up the basis for the decision. First, there should be a local partner which the CRS, JF, and NLDC were previously familiar with. The local partner could be the municipal government (LGU or Local Government Unit), a non-government organization already operating in the area, or a local people’s organization. Second, an agrarian reform community (an organized group of beneficiaries from the government’s land reform program) and a micro-finance institution affiliated with NLDC should be present in the area. This was to facilitate the provision of credit to the project beneficiaries as the NLDC was only allowed to disburse loans to agrarian reform beneficiaries

through an accredited micro-finance institution. Third, the farmers in the prospective areas should be producing a product that Jollibee Foods Corporation would need in considerable volumes so the farmer could be motivated to produce according to the prevailing market opportunities.

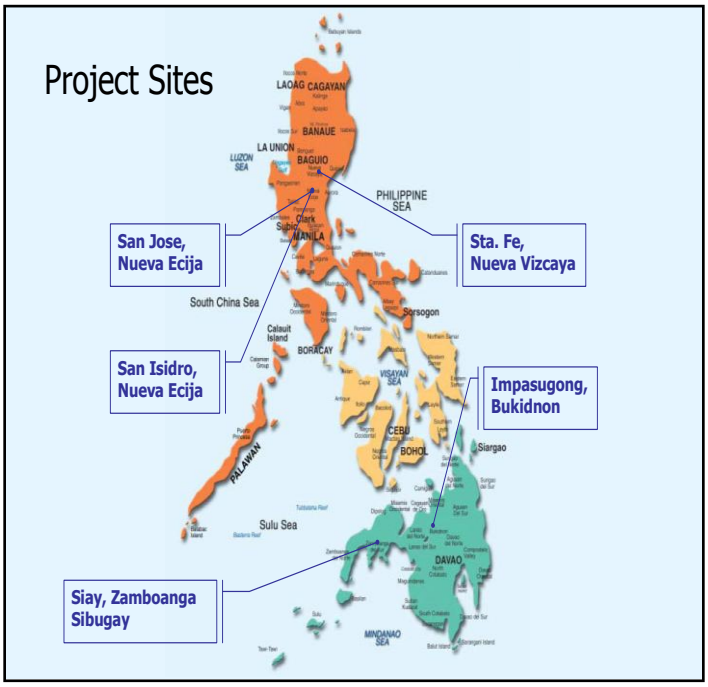


Figure 1.1. Five sites in the Philippines chosen for the project
Source: CRS, 2010

After the initial implementation for one and a half years, or at the end of 2009, the project had realized several opportunities as well as setbacks, necessitating a change in strategies and operations in certain areas and products. One product (carrots) had to be discontinued due to poor quality standards. Another (Philippine lime) was removed because of high freight costs. Still another (rice) could not be delivered due to lack of access to an integrated rice mill capable of processing high quality grains. Project organizers were forced to make adjustments as to how best to proceed in the sites where these products were produced. In contrast, the production and marketing of onion bulbs proved successful in two project sites,

San Jose in Nueva Ecija and Impasugong in Bukidnon. There were 30 farmers involved in the project from San Jose, Nueva Ecija. They had been producing onion bulbs for at least four decades already, resulting in the first delivery of sixty (60) tons of fresh onions to Jollibee Foods Corporation. For the farmers in Bukidnon, on the other hand, onion was totally a new crop for them. The 35 farmers who initially participated in the project had to go through trial production stages and continuously learn the cultural practices for onion production and its accompanying technology. But, for the very first time, they were actually able to deliver more than two (2) tons of onions to Jollibee Foods. While sorting out the bigger sized onions for repacking, Ruben Halasgo happily remarked, *"puede man gyud diay motubo ang sibuyas dinhi. Tan-awa, ubay-ubay sad ni. (Onions can actually grow here. Look, these are plenty.)"* Though small in volume, the growers realized that the most important experience for them was to see onions harvested from Bukidnon. Regular production and scaling up were then put in order.

The case of the small farmers producing onions in Impasugong, Bukidnon is the central focus of this study. I made the choice for several reasons. One, small farmers in Impasugong, Bukidnon are practically subsistent, resource-poor farmers with very low volumes of production. Many households produce for their own consumption and the surplus sold to nearby local markets. Land ownership limited to an average of 1.5 hectares. Lack of credit financing prevents them from expanding their area coverage for production. Mostly, they produce corn, cassava, and tropical vegetables using traditional technologies. High value temperate vegetables are grown by only a few who reside in the highlands. Two, the farmers in Impasugong are atomistic, highly dispersed, and not market-oriented. They act individually on their own. They haven't set up an organization through which they can pool their resources together and take advantage of the economies of scale. Their highly dispersed production areas, compounded by low production volumes, prove uncompetitive in the modern markets.

Besides, they are mostly production-focused, i.e., they produce and only then they find a market. Thus, they are not used to producing high quality products at reasonable volumes to fulfill market requirements.

Three, since they have been unorganized without the benefit of an experience of a formal producers' association, they have not been connected to large and potentially profitable institutional markets. Some have actually tried producing for corporate markets before, but the relationship fizzled out even before it could really take off to the next stage, due mainly to technical problems on the part of the farmers and organizational difficulties on the part of the assisting NGO. Finally, promoting a new product and a new technology in a new locality as Bukidnon is an attempt at diversifying sources of production in the Philippines. Luzon is the main supplier of onion bulbs in the country, but it can only provide the domestic market from the months of February until about August. This is the dry season in the country and the time when Luzon becomes free from usual typhoons which total more than 20 per year. The supply for the other months comes mostly from imports from other Asian countries. Hence, promoting the establishment of an onion industry in southern Philippines may reduce the country's import dependence of this product.

There is something unusual therefore in the case of Bukidnon farmers, yet its being unusual is the very challenge faced by the project organizers and Jollibee Corporation as well. On one hand, this is a case where the initiative really comes from a private business company with the primary intention of integrating the small farmers in its complicated supply chain management. Linking the small farmers to its supply chain is a risk on the part of the company, because of previous cases of non-delivery and poor quality produce. Henry So, a Purchasing Manager of JFC, admitted,

> *What worries me right now …for example, when we experience heavy rains already…sometimes mid-May, we experience that already. When that happens,*

I always have the doubt whether they will or will not deliver. Meaning, if the prices in the market outside shoots up Php 40, will they deliver? I don't know. Honestly, I don't know. It's okay if they tell me they lost due to flooding, etc. That's perfectly fine, but my biggest worry is if they zero me out, not because we will run out of supply, since we can still find a chunk from the traders…the pole-vaulting is my worry.

The company has low tolerance for non-delivery of products and a high rejection rate for less than optimum quality products, while small producers sometimes have the tendency to renege on their promise because of higher prices offered somewhere else. The company cannot afford to sustain such a relationship when trust has already been betrayed. But the Chairman and Chief Executive Officer himself of Jollibee Foods Corporation, speaking about the new program to fellow business leaders during the Corporate Social Responsibility Expo 2009 in Manila, bravely suggests that "the most sustainable corporate social responsibility that a company could have is one that is strategically linked to its business structure."

On the other hand, no one of the farmers had ever produced onions before and this was their first time to produce them and to a large institutional market at that. According to the marketing consultant of CRS, Joan Uy, CRS made the decision to encourage the farmers to produce onions in Impasugong, Bukidnon for several reasons. First, market demand for onion is high, being an essential ingredient in kitchen preparation. Second, onions fetch higher prices and potentially higher profit margins; thus, the possibility for higher value added for small farmers. Third, as mentioned above, diversifying geographic sources of production may be good for the economy in terms of reducing import dependence and providing locally-produced supplies during lean months of the year. Lastly, Bukidnon is located in the middle of Mindanao Island, free from the recurring ravages of typhoons that visit the country; hence, the possibility of year-long cropping cycles.

Moving to a new crop presents a big challenge for the organizers on how to manage the financial, production, and marketing processes of mobilizing atomistic farmers in order to come up with reasonable volumes of production, regularity of supply, high quality standards, and safe produce. The task is daunting and huge. The initial experiences prove difficult and full of setbacks, as will be detailed later. Yet the organizers continue to struggle in making this linkage feasible and possible amid all the adversities. They hope that small farmers could eventually become business partners with modern agro-food markets and not simply charity beneficiaries of big business. With this vision as the backdrop, this study examines the structures and processes involved in the interface of modern agro-food markets and small producers—the better to document how such a vision becomes translated into reality.

The Setting: Municipality of Impasugong, Bukidnon, Philippines

The Municipality of Impasugong[3] is located in the northeastern part of the landlocked province of Bukidnon (Fig. 2) and composed of thirteen (13) villages. It is characterized by mountains, deep canyons, and gorges with numerous rivers and creeks which come from the mountain ranges within the territory. The terrain is predominantly rugged, sloping at 18^0 or above and covering 72% of the total land area. Impasugong has a land area of 107,167 hectares with around 83% classified as timberlands and only 17% alienable and disposable[4] lands. Of the 17% alienable and disposable lands, 72% or 13,117 has. are devoted to agricultural production. Being located at an elevation between 500 to more than 1,200 meters above sea level,

[3] Data comes from the official website of the Municipality of Impasugong as found in http://aeronslair.tripod.com/index.html and from the 2009 Annual Report prepared by the Municipal Planning and Development Office.

[4] Alienable and disposable (A&D) are terms to describe lands classified as privately owned with a formal title or privately occupied with a tax declaration to evidence virtual "ownership." As the name suggests, these lands can be transferred, sold, or leased to another party.

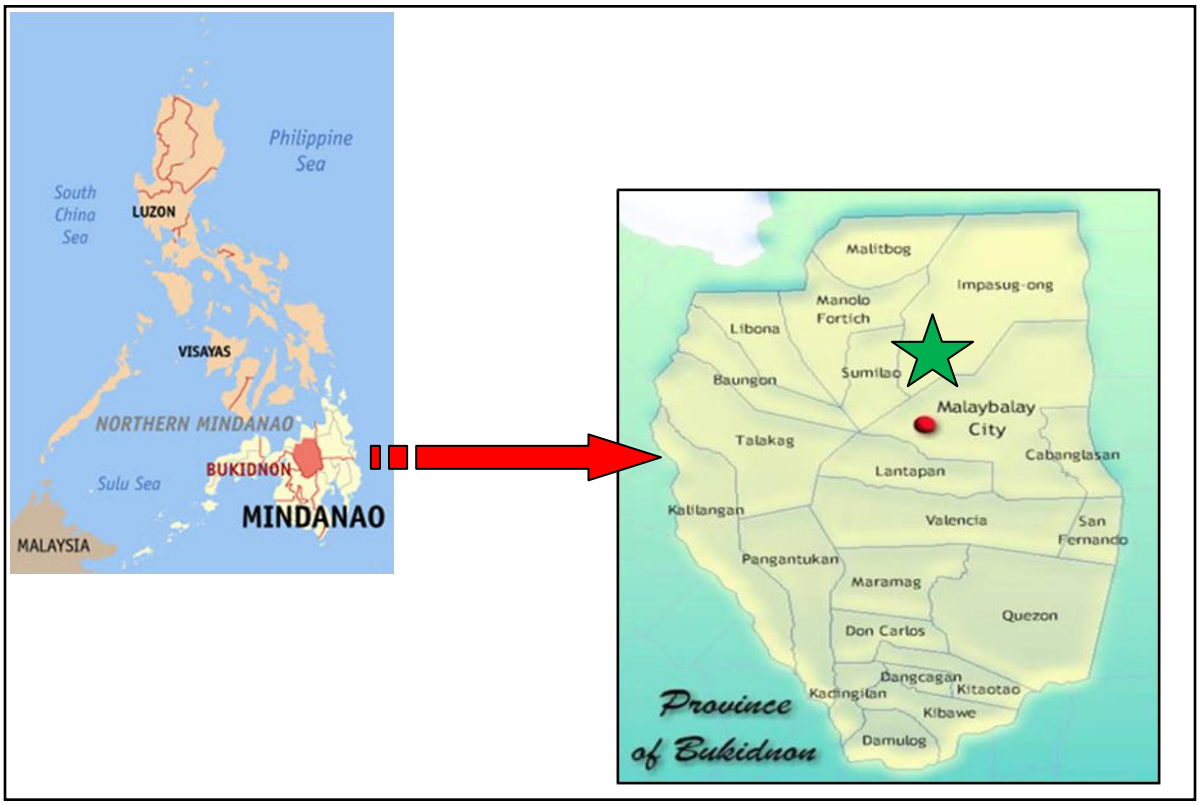


Figure 1.2. Map of the Philippines and Bukidnon Province showing the Municipality of Impasugong
Source: http://www.pcij.org/i-report/2007/Ph_locator_map_bukidnon.jpg

Impasugong has a cool and moist climate, most suitable for vegetable production. The temperature ranges from 16^0C to 31^0C throughout the year.

In 2007 survey, Impasugong has a population of 39,315 with 7,896 households and growing at a rate of 3.25% annually, much higher than the national average of 2.04% (NSO, 2008). About 65% (25,554) of the total municipal population constitutes the members of an indigenous people's group called the Higaonon tribe. Three quarters of the population (75%) engage in farming as the major source of livelihood. Major crops produced include rice, corn, pineapple, banana, sugarcane, coffee, abaca, vegetables, fruits, and legumes. Vegetables are mostly of the temperate varieties as they grow well in the highland villages of the municipality, such as broccoli, lettuce, carrots, Chinese cabbage (wombok), potatoes, etc. The presence of multinational companies engaged in agricultural plantations help provide employment for the

local people. Del Monte is into pineapples, DOLE into bananas production, and A. Brown Resources into palm oil.

Additional employment opportunities in the municipality come from giant firms which undertake poultry contract breeding and growing operation. These firms include San Miguel Foods Inc., Monterey Farms Corp., Swifts Foods Corp., Purefoods Corp., Tyson Agro-Ventures and Vitarich (http://www.bukidnon.gov.ph). In 2007, poultry farms operated in 28 sites with an estimated combined population of 775,000 heads. Nine commercial cattle farms are also present in the municipality, holding around 1,143 heads. The local government maintains 649 hectares of communal ranch, with 300 heads to support the breeding and dispersal program of the municipality.

Households living below the poverty line are estimated at 54% of the total households, based on an aggregate income of Php 3,000 (US$ 70) per month (MPDO, 2010). In addition, low educational attainment, lack of stable markets, poor infrastructure facilities, lack of finances, less vibrant commerce and trade, and poor access to lands and resources are some factors conniving for the persistence of poverty in the municipality. In 2006, Impasugong ranked first in the province of Bukidnon in terms of malnutrition rate, with 24% of children aging 0-5 years old below normal weight.

The high poverty, low productivity, and unstable income situation of the small farmers in Impasugong, Bukidnon contribute to the worthiness of its being made one of the project sites. More importantly, their being resource-poor, atomistic, and subsistent farmers are a good case in investigating how linkages with modern agro-food markets could make a dent in their lives and livelihoods.

What follow are the discussions on Philippine agriculture in general and the vegetable industry in particular to set the wider institutional environment under which this research is

undertaken. The succeeding section specifically describes the state of agriculture in the Philippines over the last 30 years and points out its strengths and weaknesses. This is followed by a detailed description of the health of the country's vegetable industry and a portrayal of the structural changes taking place in the domestic agro-food sector. This chapter ends with a note on the significance of this research not only in terms of helping small farmers attain secure livelihoods but also in terms of attempts to modernize vegetable farming itself and subsequently improve agriculture and the economy as a whole.

Philippine Agriculture

Agriculture remains strategically important to the Philippines. It provides food to a population of over 91 million people as of 2009 and growing at a rate of 2% annually (FAOSTAT, 2010). Particularly, the urban dwellers who constitute 66% of the total population rely heavily from the rural sector for their food provision (FAOSTAT, 2010). Poverty incidence in the Philippines officially recorded in 2009 puts the figure at 26.5% of the total population live below the poverty line, based on an annual per capita poverty threshold of Php 16,836 or Php 46.12 ($1.07) (NSCB, 2011). The latest poverty figure is equivalent around 4.9 million households or a total of 23.14 million Filipinos. Simply said, one out of four Filipinos is poor. Considering that 70% of the poor are based in the countryside and depend directly on agriculture-related economic activities for their major source of livelihood, agriculture has become their major source of income and employment (Balisacan, 2006). Gross Value Added (GVA) of Agriculture accounts for 18% share of the country's Gross Domestic Product (GDP) in 2009 and agricultural employment constitutes a third (33%) of the total labor force (NSO, 2010). When auxiliary services to agriculture such as agri-business enterprises are included, agriculture actually represents about two-thirds of the labor force and nearly 40% of GDP (David, 2006). In addition,

it is a vital source of raw materials for the rest of the economy as well as a source of surplus labor for the industry and services sectors. Until hitherto, the Philippines remains a predominantly agricultural economy (Habito & Briones, 2005).

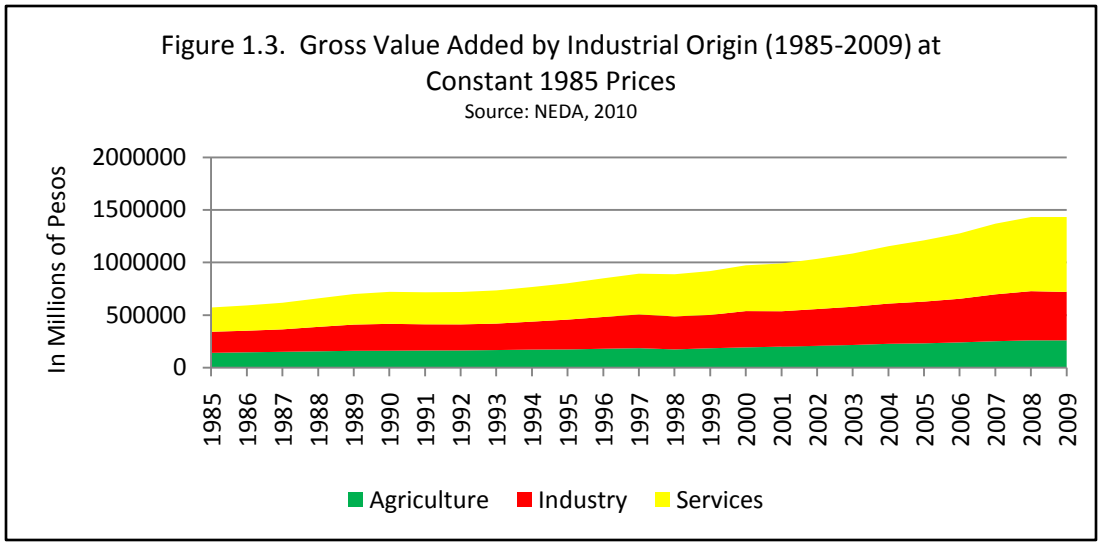


Figure 1.3. Gross Value Added by Industrial Origin (1985-2009) at Constant 1985 Prices
Source: NEDA, 2010

Philippine agriculture has performed poorly over the past 25 years and still struggling out of the quagmire of underdevelopment. Growth has been anemic and erratic. Agricultural production grew at a much slower pace compared to industry and services sector (Figure 1.3). From 1985-1995, the agriculture sector expanded at an average of only 2.1% per annum (Figure

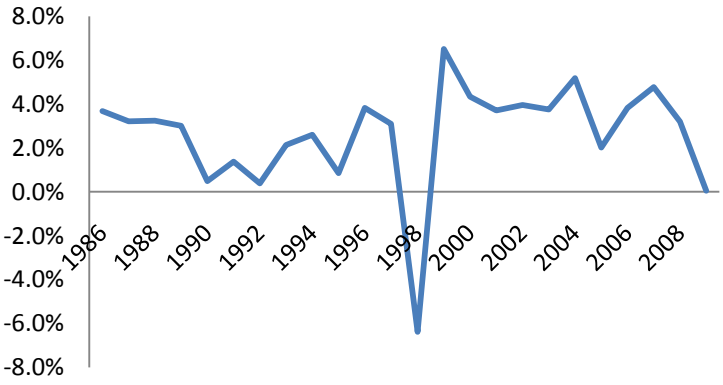
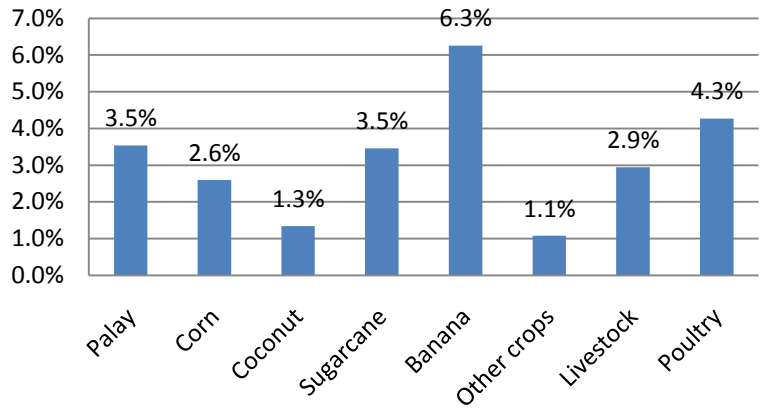


Figure 1.4. Growth Rates of the Agricultural Sector (1985-2009)
Source: NEDA, 2010

Figure 1.5. Average Annual Growth Rates of Selected Agricultural Commodities (1990-2009)
Source: BAS, 2010



1.4). It made a slight rebound from 1996-2005 at 2.9% per annum, but slumped back to 2.0% per annum from 2006-2009. In 2009 alone, agriculture grew only 0.37% while GDP expanded a bit by 1.1% in real terms from the preceding year. Worse, agriculture further contracted by 2.9% in the first quarter of 2010 while the GDP unexpectedly ballooned by 7.3%.

Figure 1.5 shows the growth rates of major Philippine agricultural commodities. All these major commodities managed to post an average positive growth rate from 1990-2009.

Palay or unhusked rice posted an average growth rate of 3.5%, corn 2.6%, coconut 1.3%, sugarcane 3.5%, banana 6.3%, other crops 1.1%, livestock 2.9% and poultry 4.3% (BAS, 2010a). Among these commodities, banana, a non-traditional export crop, showed a good performance on the average, followed by the poultry sub-sector. However, the recent trend reveals a downswing in all these commodities. The slowing down of production could pose a grave concern considering that population growth rate outpaced

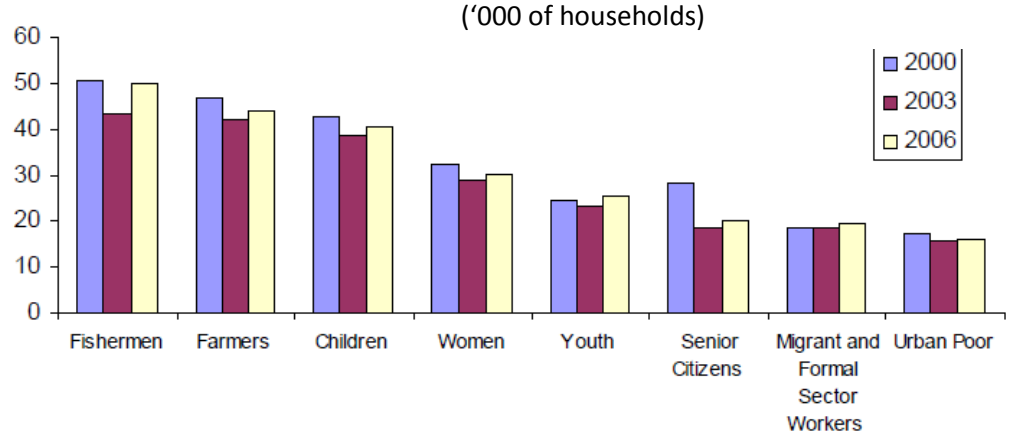
Table 1.1. Population Count and Growth Rates

YEAR	POPULATION	GROWTH RATE	SOURCE
1960	27,087,685	2.89	Census
1970	36,684,486	3.08	Census
1975	42,070,660	2.78	Census
1980	48,098,460	2.71	Census
1990	60,703,206	2.35	Census
1995	68,616,536	2.32	Census
2000	76,504,077	2.36	Census
2007	88,574,614	2.04	Census
2009	91,983,000	2.00	FAOSTAT

Source: NSO, 2010; FAOSTAT, 2010

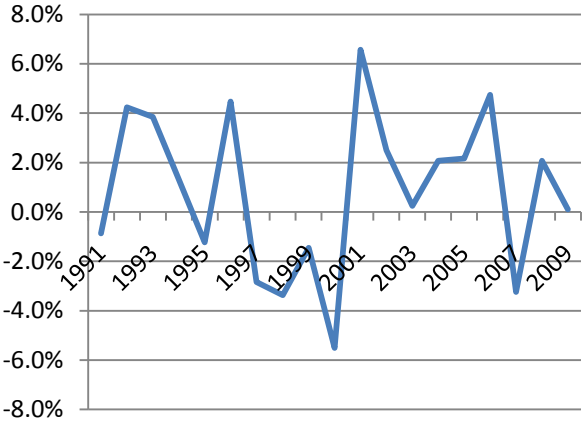
agricultural production output growths. The country's main staple rice and corn, for example, registered growth rates of -3.3% and 1.5% respectively in 2009, while population expanded annually at 2.0% from 2007 to 2009 (Table 1.1). In fact, the country experienced a shortage of

Figure 1.6. Poverty Incidence among the Basic Sectors: 2000, 2003, and 2006 ('000 of households)



rice supply and a spike in prices in 2008. The government needed to import up to 2.7M tons to shore up domestic stocks to smooth supply requirements and stabilize prices (AFP, 2008). Additional data in Figure 1.6 show that farmers and fishermen are the poorest among the sectors with poverty incidence (measured as number of poor households against total households) of 44% and 50%, respectively (NSCB, 2010).

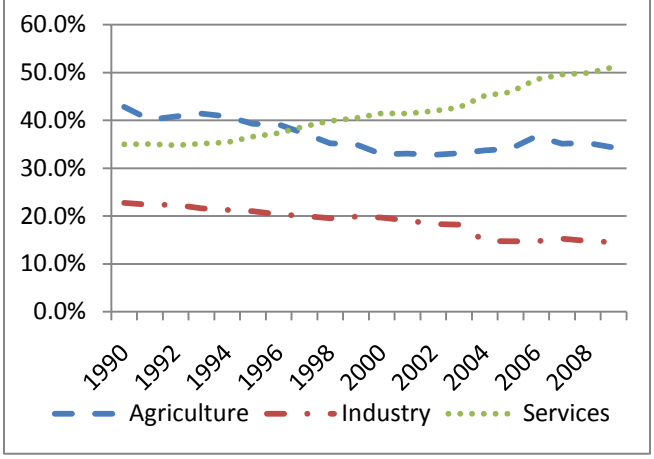
Figure 1.7. Growth of agricultural employment (1991-2009)
Source: BAS, 2010



Growth of employment in agriculture also showed an erratic and declining trend, averaging only 0.89% over the last two decades (Figure 1.7). From 1990 until 2000, the share of agricultural employment to total labor force decreased by 0.4% annually. It

began to pick up again starting in 2001, albeit slowly. The share of agriculture in the labor force in 1990 reached a high of 43%, then it was down to only 34% at the end of 2009 (Figure 1.8). The industry sector follows a similar and consistent decline, although industrial output increased much more. Only the services sector registers big increases over the years. This situation shows that labor is migrating out of both the agriculture and industry sectors and converging in the services sector.

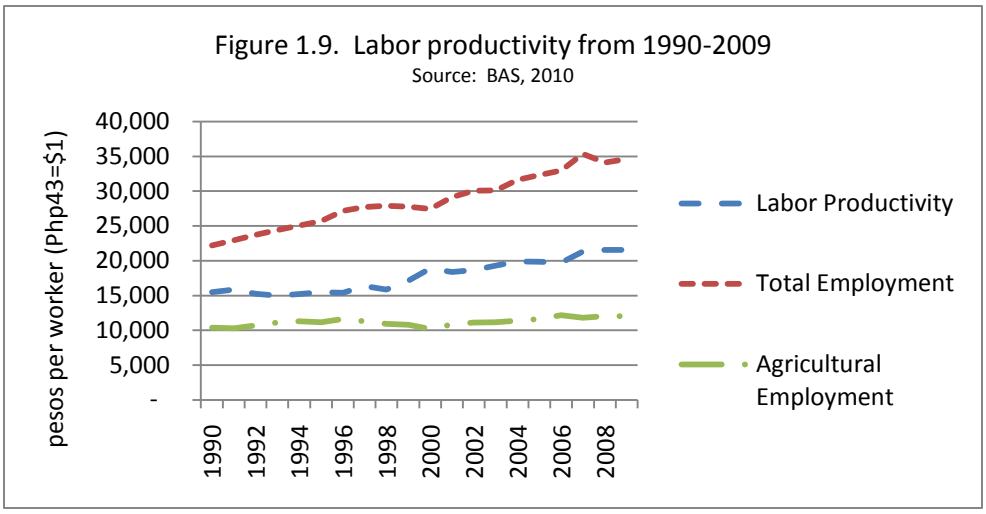
Figure 1.8. Share of employment in total labor force by industrial origin (%)
Source: NSCB, 2010



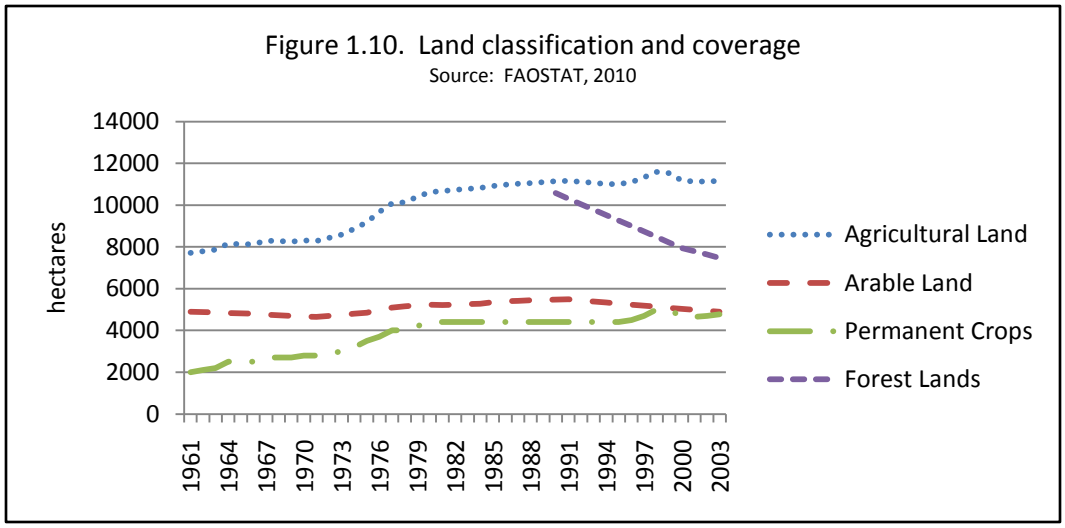
However, a positive development in the agricultural sector is its increasing rate of labor productivity (Figure 1.9). Though employment in agriculture remains mediocre and practically stagnant since 1990, productivity has improved by 2.17% (NSCB, 2010). According to David (2006), labor productivity of the crops subsector, except for banana, did not increase as much as the poultry and livestock subsector. Improvements in labor productivity were due to the use of modern technologies in banana plantations and commercial poultry and livestock operations as well as the positive effects of increasing scale of production that resulted from the expansion of animal operations and fruit plantations.

Philippines has a total land area of over 29.8 million hectares, of which 39% (11.5M has.) represents agricultural land (FAOSTAT, 2010). Philippine agricultural lands are classified as arable[5] land (44% or 5.1M has.), land for permanent crops (43% or 4.9M has.), and the rest for

[5] Arable land means land suitable for cultivation.



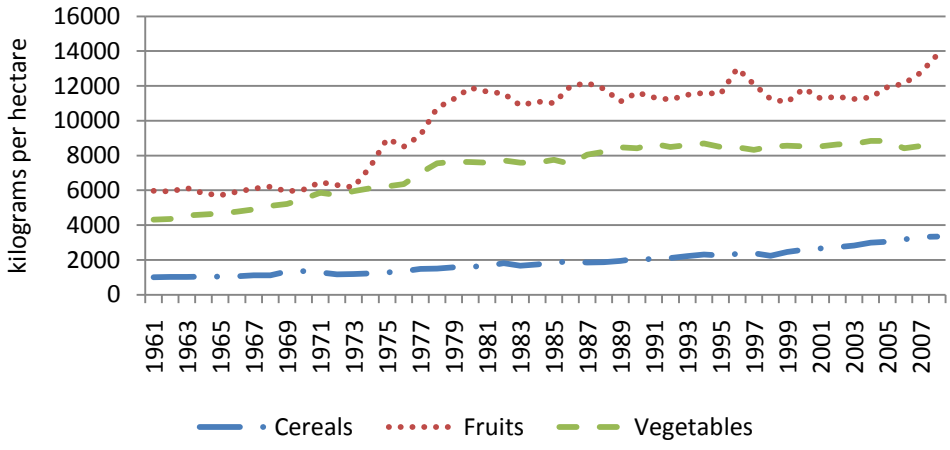
other agricultural purposes. Rapid expansion for new production sites occurred after the Second World War and began to slow down during the 1960's when land frontiers closed (Hayami, 2000). The passage of the agrarian reform law in early 1970's under the Marcos regime opened the uncultivated lands to small farmers, resulting in a dramatic increase of agricultural land area (Figure 1.10). Beginning in 1980 until hitherto, there has been no considerable expansion of land area for crop cultivation as the only remaining areas were considered forest lands and watersheds. Yet even these remaining lands have been subject to constant incursion as shown in the dramatic decrease of forest lands in Figure 10.



While the prospect for large-scale production extensification through hectarage expansion becomes dimmer for Philippine agriculture, improvements in land productivity are possible through consolidation or other processes. Over the years, cereals, fruits, and vegetables posted positive gains in terms of yields (Figure 1.11). Aggregate yields for cereals such as rice and corn followed a slow increase over time, except during the 1970's when new high-yielding varieties were introduced under the Green Revolution program. But the fruits and vegetables subsector reveal promising figures. The growth of nontraditional exports such as bananas, pineapples, and mango fuelled the increases in productivity (David, 2006). Constant conversion of farms into banana and pineapple plantations and access to international knowhow gradually spread to smallholder farms. A case in point is the introduction of chemical spraying to induce flowering which promoted the rapid expansion of the mango industry and growth in yields.

The uneven performance of Philippine agriculture can be attributed to several factors, both exogenous and endogenous bottlenecks. The occasional occurrence of natural disasters constrained the growth of the sector. The cyclical experience of extreme climatic conditions

Figure 1.11. Comparative Yields for Cereals, Fruits, and Vegetables
Source: FAOSTAT, 2010



such as the *El Niño* and *La Niña* phenomena, typhoons, floods, and other calamities devastated substantial farmlands in different parts of the country at different times. In fact, last year in 2009, the heavy downpour brought about by Typhoons Ondoy and Pepeng devastated large tracts of lands in the Luzon island, costing the economy around Php 27.1B (US$590M) in damages, particularly in agriculture. This resulted to the decrease of agricultural output in 2009 by 1.42% (BAS, 2010b). The long dry spell brought about by the *El Niño* phenomenon experienced just in the first two quarters of 2010 affected much of the country's crops and fisheries sectors, causing another contraction to agricultural production by 2.9% (NSCB, 2010). In addition, the international financial crisis in 1997 and again in 2008 exacerbated the real growth of the sector, reducing over-all demand of agricultural commodities and consequently outputs as well as prices.

However, the more significant reasons for agriculture's performance are due to the policy and institutional environment under which it operates. Price intervention policies, public expenditure allocations, and governance weaknesses conspire to constrain real growth in the sector (David, 2006; Habito & Briones, 2005).

The first major reason relates to economic disincentives arising from policy interventions on prices which created a bias against agriculture. From the 1970s until the 1990s, one bias was evident in the overvaluation of the Philippine currency to protect the industrial sector and to defend an unsustainable deficit in the balance of payments (David, 2006). The overvalued peso caused lower prices on agricultural products, but increased the prices of tradable goods in the foreign markets, making exports less attractive due to uncompetitive pricing (Habito & Briones, 2005). Moreover, David (2006) argues that the liberalization program started in the 1990's reversed the pricing bias to protect the agricultural sector, but the protection favored the import-competing Philippine commodities rather than the export

sectors; thus, perpetuating the regime of price distortions in agriculture. For instance, the policy of maintaining high corn prices lowers the international competitiveness of the hog industry in which the Philippines has a comparative advantage in terms of labor and other inputs. Exchange rates increased during the financial crisis in 1997, resulting to the depreciation of the peso as well as other regional currencies in Asia, benefiting the tradable goods sector and made export prices more competitive. The government-sanctioned monopoly in the trade of key farm products also contributed to price distortions (Habito & Briones, 2005). The government exercised monopoly powers in the international trading of rice and corn while undertaking domestic marketing operations aimed at stabilizing prices across seasons and narrowing geographic differences in prices. It similarly holds monopoly control over the trading of coconut oil, soybean oil, wheat, and sugar. This intervention proved economically wasteful and particularly costly to taxpayers without achieving the conflicting objectives of lowering food prices to consumers, raising producer prices, and stabilizing regional prices (David, 2006).

The second major reason concerns the inefficient public budget allocations within the agriculture sector, compounded by the low economic returns of many government projects and programs. David (2006) noted that government expenditures were redistributive in nature, financing essentially private goods and services which could be better left to the private sector. Examples included the foreign and domestic grain trading, the provision of seeds and planting materials, animals, agro-processing factories, tubewell irrigation, post-harvest equipment and facilities, credit, and so on. These production support services were characterized by overpricing of government procurement, underutilization of farm and post-harvest equipment and facilities, and poor quality and late delivery of seed and planting materials.

Instead, the government could have prioritized allocations to long-term productivity-enhancing investments such as irrigation, market infrastructures, research and development,

and extension. But such projects were underfunded and/or poorly designed and implemented. For instance, irrigation expenditures declined beginning in the 1980s, despite its being the single most productivity-enhancing public investment. At the end of 2009, total irrigated area was 1.54 million hectares, while the remaining area still to be irrigated remained at 1.59 million hectares (BAS, 2010a). Besides the lack of funds to construct new irrigation infrastructures, many of the existing irrigation systems in the country failed to distribute water efficiently and equitably, while others badly needed repairs (David, 2006).

Another important yet underfunded investment was agricultural research and development. Available study showed that R & D represented only 0.4% of GVA in agriculture, in contrast to an average of 1% among developing countries and 2-3% among developed countries (Pardey, Roseboom, and Anderson, 1991). Research expenditures were even misallocated with the government spending more on commodities, such as cotton and sericulture (production of silk), in which the country has no historical advantage or market potential, while rice and corn received so much less (David, 2006). Finally, inadequate physical infrastructure, poor management of port facilities, monopoly elements in the shipping industry, and counterproductive regulations and policies severely hampered the competitiveness of Philippine agriculture.

The third reason is the general weakness and ineffectiveness of the government bureaucracy in spurring agricultural development. Some of the specific shortcomings include over-centralization, politicization of the bureaucracy, lack of clear organizational framework, fragmentation or weak coordination, weak technical and managerial capability, unclear communication lines, unstable budget, and corruption (Habito & Briones, 2005). In addition, the country's weak private property rights do not provide incentives for long-term investments in land and other capital development as well as the adoption of sustainable management

practices (David, 2006). Secure private property serves as collateral for credit, increasing the availability and lowering the cost of long-term investment funds. It promotes efficient use of agricultural resources. In the same vein, while land reform implemented in the 1970s indicated that the transfer of land ownership significantly increased the welfare of beneficiaries directly (Deininger, Olinto, & Maertens, 2000), the slow and incomplete implementation of the Comprehensive Agrarian Reform Law (CARP) since 1987 prevented land markets from functioning efficiently and discouraged long-term agricultural investment (David, 2006). The value of land as collateral declined, limiting the availability and/or raising the cost of agricultural investments. At the same time, conversion of farm lands to non-agricultural uses accelerated to facilitate private land sales or avoid the land reform process altogether.

Amid the lackluster performance of agriculture over the years, there remain some bright spots that could provide hope for the eventual improvement of the sector. The new regime in the Philippines under President Benigno Aquino III, installed in June 30, 2010, has received a clear majority mandate from the Filipino people during the last national elections based on a platform that champions the fight against corruption in the government bureaucracy. With a trust rating of 87% of the population, people believe that he can deliver his promise of bringing much needed reforms to state governance, and that includes the agriculture sector (SWS, 2010).

But even in the agriculture sector itself, certain aspects are worth highlighting. For instance, the livestock and poultry subsectors show increasing gross value production across time despite some bouts of erratic growth rates, helped in part by growths in labor productivity buoyed by the adoption of modern technologies and the increasing economies of scale. The yields of the fruits and vegetables subsectors reveal significant increases, much higher than grains production, implying greater value added from these sectors compared to rice and corn. In particular, the vegetable subsector presents opportunities especially for the generation of

livelihoods of small farmers and for the upgrading of the agriculture sector as a whole. Improvements in the overall performance of agriculture in general partly hinges on the development of the vegetable industry to make agriculture more competitive and productive. It is in this light that this study seeks to find solutions to the lingering problem of agricultural underdevelopment by way of looking at the possibilities of linking small farmers with modern markets. Thus, a discussion of the vegetable industry in the Philippines is in order.

The Philippine Vegetable Industry

The Philippine fruits and vegetable[6] industry command less attention and support from the government despite its promise as a potential income earner to agriculture and to the economy as a whole, besides nutrition and other benefits. This results from the government's priority for national self-sufficiency in grain staples for human consumption and animal feed over other commodity crops. Within its over-arching policy framework, budgetary allocations are concentrated on making the country attain sufficient productivity levels especially in rice in order to fulfill the cereal demands of the increasing population. Support services for rice, including government's monopoly operations on trading, continuously receive disproportionate shares of government spending. Yet rice self-sufficiency remains elusive and production contributes only 17% of value to total agricultural output as of 2009 (NSCB, 2010). In fact, the country has been importing rice since 1960s, except for some years particularly from 1978 to 1983 when it exported a sizable quantity out of bumper harvests (FAOSTAT, 2010). Interestingly, the Philippines became the leading rice importer in the world in 2009 with its commitment to procure 2.05M metric tons from international sources for 2010 (Olchondra, 2009). The political and cultural nature of rice as the national staple compels the government to

[6] Disaggregated data pertaining to vegetables alone are not available, but it is lumped together with fruits as a subsector under agriculture.

sustain supply and price levels even at its own disadvantage. In contrast, the fruits and vegetable sector contributes more than 30% to the total gross value in agriculture (BAS, 2010a; Briones, 2008; FAOSTAT, 2010), making it a major component of the country's GDP. Although riskier than grains due to their perishable nature, vegetables, together with fruits, are the much vaunted "high value commercial crops" which commensurately have higher value added than cereals production. There is no doubt that vegetable production enhances the country's food security and household incomes, especially for the small farmers, while supporting the health and nutrition needs of the whole population.

Vegetables are produced all-year round and extensively throughout the archipelago on both highland and lowland cropping areas. The main production areas for highland vegetables are in the Cordillera Administrative Region (CAR), Northern Mindanao, Region VII (Cebu), and Southern Mindanao. The major production areas for lowland vegetables include Region I (Ilocos, Pangasinan), III (Nueva Ecija, Tarlac), and IV (CALABARZON) (Johnson, Weinberger, & Wu, 2008). In 2004, a great majority of vegetables were produced in the island of Luzon (73% of total production), followed by Mindanao (17%), and then the Visayas islands (11%) (Remotigue, 2005).

Based on a census in 2002, there are 4.8 million agricultural farms in the Philippines, covering 9.7 million hectares with 1.9 million under 1 ha. and an additional 2 million between 1 and 3 has. (BAS, 2008). Although the number of farms increased by 4.6% from the 1991 level (4.6M), total farm area decreased by 3% by 2002 (NSO, 2005). Conversion of farmlands to residential and commercial purposes accounted for the reduction of farm area, while land distribution to farmer-beneficiaries through the government's land reform program resulted in the increase of the number of farms. In the course of implementing the agrarian reform program, the government awarded a total of over 4 million hectares from 1988 to 2009 and

farmer-beneficiaries numbered 812,800 households by mid-year of 2009 (DAR, 2010). The net effect was the reduction of average farm size from 2.2 has. to 2.0 has. per household (NSO, 2005). In this situation of decreasing hectarage among farmer-households, vegetable production could become an alternative to sustain the livelihoods of small farmers as it provides greater value added and hence better income relative to traditional crops.

Production. Total farm area planted with vegetables was only 5.5% of total agricultural land and expanded sluggishly over the past 40 years (1970-2008) (FAOSTAT, 2010). In 1970, there were 462,160 hectares and it rose to more than 627,000 hectares in 2008, representing an annual average growth rate of 1.8% in a span of almost four decades (FAOSTAT, 2010). But production performed relatively better from 2.5M metric tons in 1970 to 5.3M in 2008 or an annual average growth of 4.3% (Figure 1.12).

In terms of yields, the vegetable industry likewise registered a decent average annual growth of 2.5% from 1970 to 2008. In terms of yields, the Philippine vegetable industry showed a practically flat growth during the last decade. Philippines has a yield record of 8.51 MT/ha in 2008, below par performance relative to the average among the Southeast Asian countries (9.77 MT/ha), but favorably better than some of its neighbors (Table 1.2).

Figure 1.12. Vegetable Production and Area harvested
Source: FAOSTAT, 2010

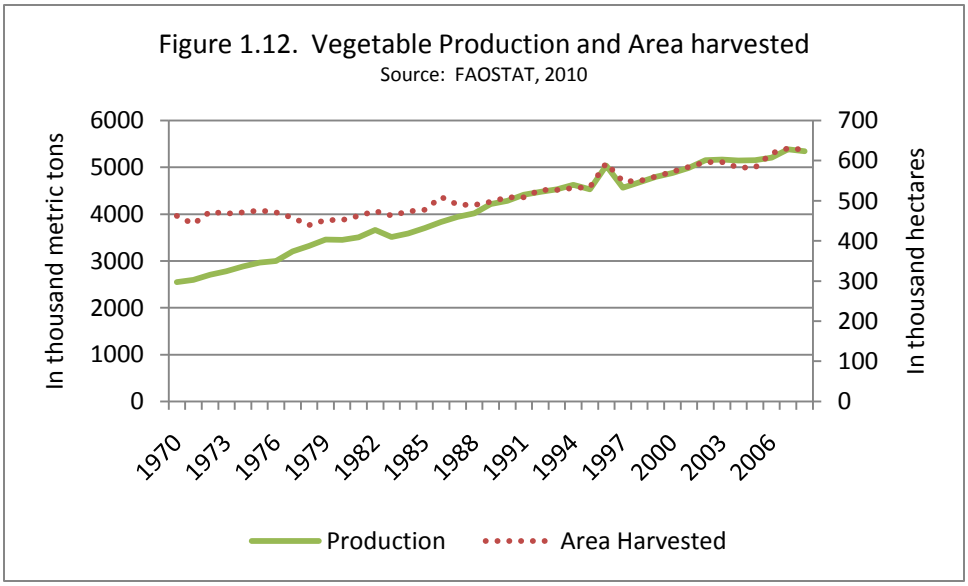


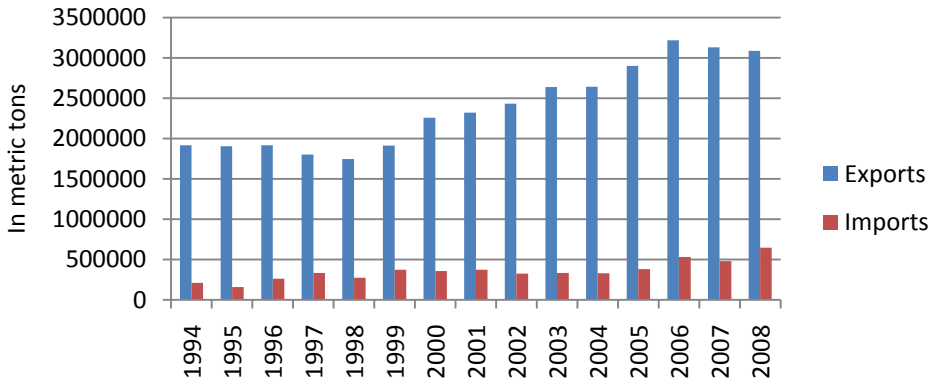
Table 1.2. Average vegetable yields among Southeast Asian Countries

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Singapore	16.67	16.67	16.67	17.11	17.65	17.30	18.21	18.32	18.32
Malaysia	16.27	16.37	16.52	16.47	16.55	16.54	16.82	17.57	17.84
Myanmar	11.83	12.28	12.56	12.81	13.03	12.95	13.03	13.16	13.16
Viet Nam	11.47	11.80	11.76	11.72	11.78	11.92	11.92	11.92	11.92
Indonesia	7.76	7.76	7.82	8.63	8.58	8.79	8.68	8.68	8.88
Thailand	8.85	8.87	8.69	8.64	9.02	8.74	8.89	8.89	8.88
Philippines	8.53	8.53	8.64	8.67	8.83	8.85	8.41	8.54	8.51
Cambodia	6.27	6.22	6.25	6.25	6.25	6.25	6.25	6.24	6.24
Laos	6.43	5.96	8.16	6.08	6.37	8.42	6.13	6.16	6.16
Timor-Leste	2.22	2.22	2.20	2.20	2.20	2.20	2.20	2.20	2.20
South-Eastern Asia	9.12	9.27	9.41	9.56	9.67	9.83	9.66	9.71	9.77

Source: FAOSTAT, 2010

Philippines has been a net exporter of fresh fruits and vegetable since 1983, but the quantity of both exports and imports is not very significant (Figure 1.13). In 2008, the country exported more than 3 million MT of vegetables valued at around US$24M (FOB) while it imported more than 646,000 MT valued at US$5.4M (BAS, 2010a). The value of imports increased by an average of 4.9% per year from 1994 to 2008, while exports grew even faster by 9.1% during the same period (BAS, 2010a). The reduction of tariffs on imports reduced the prices of imported vegetables, making them more attractive to local consumers. The increasing

Figure 1.13. Exports and Imports of Vegetables from 1994-2008
Source: BAS, 2010

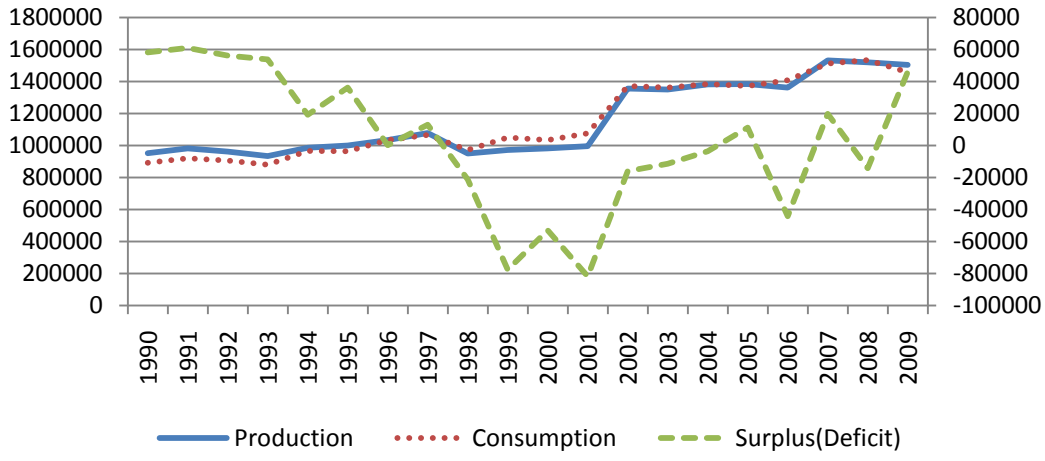


imports pose a threat to local producers who might have to bear with declining farm-gate prices at the expense of reducing profit margins. Worse, the proliferation of smuggled vegetables into the country, especially coming from China, has become a major problem of the vegetable industry as these illegal imports outcompete the local production,.

Consumption. The population of the Philippines swelled to more than 91 million people in 2009, increasing at an annual average rate of 2.0% from 2000 to 2007 (NSO, 2010). The rising population increase resulted in the increases of total consumption with supply barely keeping up. Supply of vegetables steadily rose at an annual rate of 2.8% from 1990-2009, but consumption grew a little bit faster at an average rate of 2.9% in the same period, indicating that consumption outpaced production growth by an average of 0.1% annually (Figure 1.14). This warrants the need to import vegetables which is actually increasing over time in order to fill up the deficit. Demand for imported *vegetables is growing, particularly among high income classes, since they are better packed and of* superior quality than the locally produced, attributes that make them more attractive to institutional markets and supermarkets that cater to the high-end consumer markets.

From 1993 to 2003, the daily per capita food intake in Filipino households increased

Figure 1.14. Production and Consumption of Vegetables (1990-2009)
Source: BAS, 2010



from 803 grams to 886 grams, representing a 10% rise over a period of 10 years (Table 1.3). Daily food intake reached its highest level so far in 1982 at 915 grams. The dietary pattern in Filipino households consisted of rice-vegetable-fish as these three food groups contributed the largest share of total food intake through the years since 1978 until 2003. In 2003 alone, rice contributed 34.2% of the per capita one-day total food intake of 886 grams, vegetables 12.5%, and fish 11.7% (FNRI, 2004). The Food Nutrition and Research Institute also reported that consumption of rice and rice products showed no substantial change, but consumption of other

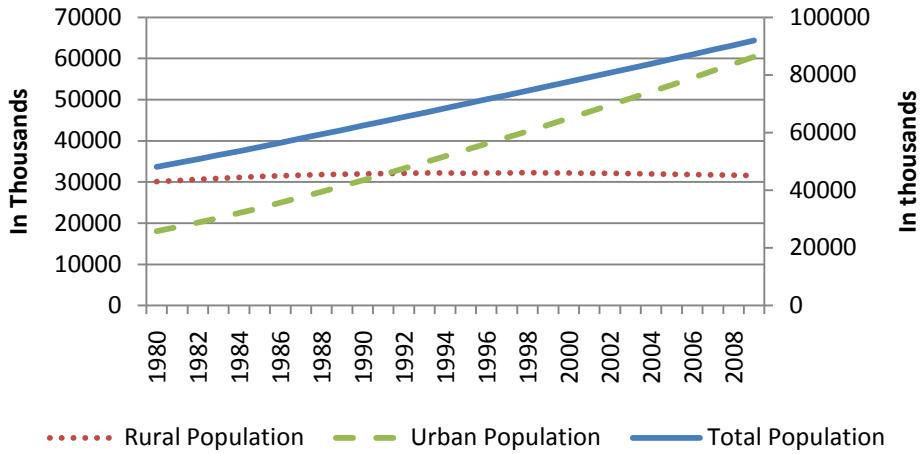
Table 1.3. Average daily per capita consumption (1978-2003)

Food Group/Sub-group	Consumption (g), Raw as Purchased				
	1978	1982	1987	1993	2003
Cereals and Cereal Products	**367**	**356**	**345**	**340**	**364**
Rice and Products	308	304	303	282	303
Corn and Products	38	34	24	36	31
Other Cereals and Products	21	18	18	22	30
Starchy Roots and Tubers	**37**	**42**	**22**	**17**	**19**
Sugars and Syrups	**19**	**22**	**24**	**19**	**24**
Fats and Oils	**13**	**14**	**14**	**12**	**18**
Fish, Meat and Poultry	**133**	**154**	**157**	**147**	**185**
Fish Products	102	113	111	99	104
Meat Products	23	32	37	34	61
Poultry	7	10	9	14	20
Eggs	**8**	**9**	**10**	**12**	**13**
Milk and Milk Products	**42**	**44**	**43**	**44**	**49**
Whole Milk				35	35
Milk Products				9	14
Dried Beans, Nuts and Seeds	**8**	**10**	**10**	**10**	**10**
Vegetables	**145**	**130**	**111**	**106**	**111**
Green Leafy and Yellow	34	37	29	30	31
Other Vegetables	111	93	82	76	80
Fruits	**104**	**102**	**107**	**77**	**54**
Vitamin C-rich Fruits	30	18	24	21	12
Other Fruits	74	84	83	56	42
Miscellaneous	**21**	**32**	**26**	**19**	**39**
Beverages					26
Condiments and Others					13
Total	**697**	**915**	**869**	**803**	**886**

Source: FNRI, 2004

cereals did increase which included breads and bakery products, noodles, and snack foods from wheat flour. Vegetable consumption, contributing 12.5% share to the total food intake, declined over the years as well as the consumption of corn and corn products, roots and tubers, and fruits. The food group that saw increases over the years was meat and meat products, poultry, eggs, milk, fats and oils and sugars, typical of the dietary changes as in developed countries.

Figure 1.15. Philippine population trends from 1980-2009
Source: FAOSTAT, 2010



Vegetable consumption per day reached 111 grams in 2003, translated into 40 kg/capita/year (Table 1.3). Despite a 23% declining per capita vegetable intake from 1978 to 2003, the aggregate growth in vegetable consumption might have been accounted for by the rise in population. In a survey conducted in 2004 in the cities of Davao, Cagayan de Oro, and General Santos City, annual per capita vegetable consumption was about 87 kilos, an increase of 118% from the figure in 2003 (S. B. Concepcion, 2005). A huge discrepancy of 47 kilos daily per capita was quite unimaginable over a period of only 5 years, perhaps a possible scenario happening due to the lack of official government-sponsored statistics. The latest official figures

were done in 2003 and released to the public in 2004. Nonetheless the 2004 survey would like to indicate an increasing pattern of per capita vegetable consumption.

The population trend in the Philippines indicated a sharp rise in urbanization. In a span of 30 years from 1980 to 2009, urban population rose at an annual average growth rate of 4.26% compared to rural population at just 0.17% (Figure 1.15)(FAOSTAT, 2010). In 2009, urban population comprised 66% of the total population, while rural population was down to only 34% (FAOSTAT, 2010). Consequently, total vegetable consumption among urban population increased more rapidly at 4.42% per annum (1980-2003) than among the rural population at 0.2% (Digal & Montemayor, 2008; NSO, 2010).

As mentioned earlier, Filipino diet is heavy on rice, vegetables, and fish. Food from animal sources constitutes 30% of daily intake, while 70% are of plant origin, though consumption of meat and poultry shows increasing pattern. Rice is the staple food and present in every meal. Being an archipelago, the country has an ample supply of fish and a good variety of fish. The smaller ones are preferred, since they are much cheaper than the larger, deep sea fish. Meat and meat products are relatively more expensive than fish. Those who can afford to buy prefer to purchase meat and meat products. But in general, Filipinos use vegetables as major ingredients for soups. They usually prepare vegetables only as a small part of a meat or fish dish and very seldom as a meal in itself (Digal & Concepcion, 2004). Vegetables have the negative connotation as being the “poor man’s diet” (Digal & Montemayor, 2008) and thus less preferred than meat or fish. When incomes are not sufficient, Filipinos choose to cut back on fruits and vegetables, while not sacrificing the meager portions of meat, fish, and poultry (Aguilar, 2005).

Population growth in general and rapid urbanization in particular drives the growing over-all demand for vegetables. Increasing incomes across all sectors will likewise push

vegetable consumption in the uptrend. Table 1.4 shows that household incomes increase by 209% between 1988 and 2006, while correspondingly family expenditures at 229%. Food consumption is also increasing. To note, the spike of oil prices worldwide beginning in 2006 drastically reduced family incomes and expenditures. Although per capita vegetable consumption decreased among Filipinos in general, the high income urban households show a different trend. In a survey among households in Mindanao in 2004, Concepcion (2005)found that the upper income market segment has fewer in number but larger per capita buying power, purchase larger volumes and higher value vegetables. Their increasing incomes accompanied by changes in lifestyles drive the rising demand for a wider variety of high quality foods which are healthier, exotic, and available year-round. High income households in the urban areas are increasingly becoming more aware of the health benefits of vegetable consumption. They diversify their choices of vegetables to include temperate fresh produce such as lettuce, broccoli, cauliflower, carrots, cabbage, potato, etc. They value convenience in terms of procuring vegetables in supermarkets and groceries. They prefer fresh, high quality, and processed produce. Dining out at restaurants, hotels, or fastfood outlets is becoming a fast growing trend, especially for the predominantly young Philippine population (Singian, 2005). In fact, the percentage of food consumption outside of homes shows a huge increase of 470% over a period of 18 years from 1988-2006. In 1988, food consumption outside of homes was around 7% of total family food consumption and increased to 14% in 2006, almost doubled after nearly 20 years (Table 1.4). As a result, the food sector as a whole is transforming with these increasing demands for more quantity, better quality, and wider variety of fresh produce from the vegetable producers. The rise of institutional markets such as the supermarkets, hotels, restaurants, fast food chains, and other modern retail outlets are making a strong presence in

most urban centers of the country. Thus, newer marketing channels concomitantly emerge from these modern institutional markets.

Table 1.4. Average Annual Family Income, Expenditures and Food Consumption (1988-2006)

	1988	1991	1994	1997	2000	2006
Ave. Annual Family Income	40,408	65,186	83,161	123,168	122,000	125,000
Ave. Annual Family Expenditure	32,521	51,991	67,661	99,537	118,839	107,000
Food Consumption	16,488 51%	25,216 49%	32,274 48%	43,995 44%	51,814 44%	44,298 41%
Food Consumed at Home	15,382 47%	23,240 45%	29,433 44%	39,317 40%	45,872 39%	37,985 36%
Food Outside the Home	1,106 3%	1,976 4%	2,842 4%	4,678 5%	5,942 5%	6,313 6%

Note: 1988-1997 based on 1988 prices; 2000-2006 based on 2000 prices; in Pesos; percent is share of annual family expenditure; Php43=$1

Source: NSO, 2010

Marketing. The main marketing system of vegetables in the Philippines still revolves around the major role of the wet markets[7] as the primary retailer for both the consumers and the institutional markets (Digal & Concepcion, 2004). The wet markets source a wide range of sellers from the sidewalk vendors, sari-sari stores,[8] tianggues,[9] groceries, supermarkets, hypermarts, warehouse and discount clubs, and convenience stores (Catelo, 2006). Produce in the wet markets in turn come from the wholesale markets or trading posts or landing areas. Spot pricing exists in the wholesale markets that regularly fluctuates daily or even within the day itself. Collectors, traders, brokers, consolidators, vegetable processors and wholesalers are the active intermediaries between farmers and consumers in the wholesale spot markets. Transactions occur at many different channels, ranging from three layers (farmer-

[7] Wet markets are the traditional markets of a locality offering for sale a variety of fresh vegetables, fruits, fish, poultry, and meats. In contrast, dry markets offer processed foods, canned foods and non-food items. These markets are usually located alongside each other.

[8] They are the local equivalents to mom-and-pop stores, normally as an extension of the household residence.

[9] *Tianggues* or *talipapas* are an aggregation of stores or makeshift stalls that function as an open-air market of a neighborhood.

wholesaler/retailer-consumer) to a high of nine layers (farmer-agent-assembler/wholesaler-financier/wholesaler/shipper-agent/wholesaler-agent/wholesaler-wholesaler/retailer-retailer-exporter/consumer) (Johnson, et al., 2008; Milagrosa, 2007). The intermediaries largely control the transactions, including much of the prevailing prices of vegetables. Their power in these markets allows them to capture the greater share of the profit margins along the whole supply chain,[10] while not actually adding value to the production process. On the other hand, the mostly atomistic farmers are relegated to being price-takers, lacking in bargaining power and relying mainly on the intermediaries for the sale of their produce. Farmers often receive lower prices due to the many layers of business transactions, high perishability of vegetables, low quality packaging, or physical damages. In some instances when a supply glut occurs, farmers are forced to settle for a break-even price for their produce just to recoup production and transportation costs, while others just dump their produce along the highways even before arriving at the traditional wholesale markets.

Digal and Concepcion (2004) note that the traditional wet markets account for 75% of the bulk of the vegetables in the country, while the other 25% go to the supermarkets, fastfood chains, hotels and restaurants. Metro Manila, the nation's capital, is the largest single market for fresh vegetables in the Philippines, with a population approaching 10 million people and 2 million households. The demand for fresh vegetables in Metro Manila may surpass 340,000 tonnes per annum (Blatt, Concepcion, Dagupen, Lizada, & Murray-Prior, 2007). Northern Luzon (76%) and Mindanao (15%) supply most of the fresh produce for Metro Manila. Supermarkets purchase around 15% of vegetables while the rest are sold in wet markets (Shepherd, 2005). In Mindanao, 90 percent of households prefer to buy from wet markets and *talipapas*[11] in small

[10] Supply chain refers to the logistical and procedural activity in producing and delivering a final product or service to the customers (Webber & Labaste, 2009).
[11] The local name for *tianggue.*

quantities, three times a week (S. B. Concepcion, 2005). But the trend of shopping in supermarkets and groceries is expected to increase as consumers demand convenience and processed foods (Digal & Montemayor, 2008). Thus the flow of vegetables presently follows a dualistic supply chain as illustrated in Figure 1.16.

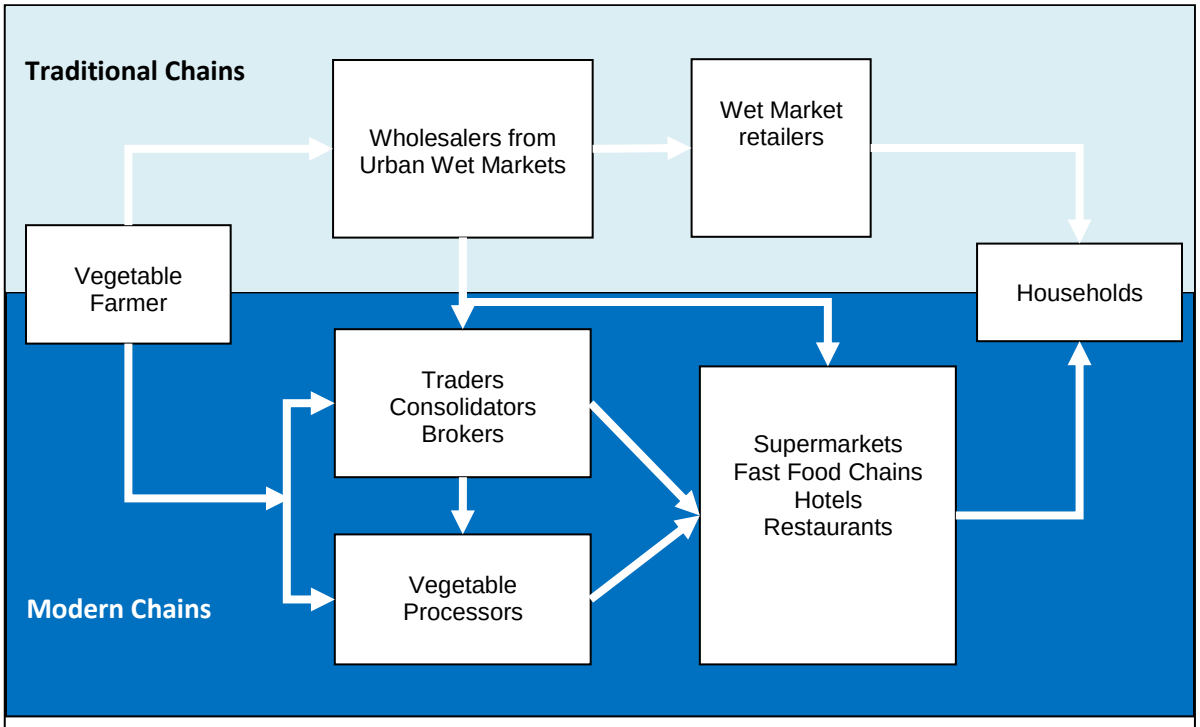


Figure 1.16. Traditional Chain vs. Modern Chain
Source: Digal and Montemayor, 2008

Despite the amenities of modernity, majority of the Philippine consumers at all income levels still prefer to procure their produce from the traditional market outlets for various reasons. First, they expect to find higher quality meats and fresh fruits and vegetables. Consumers have the impression that food items found in supermarkets are not anymore "fresh" unlike the ones offered in the wet markets. Second, ordinary consumers refuse to fully accept the idea of shopping in supermarkets (Digal & Concepcion, 2004). They perceive that produce found in supermarkets with all the attractive presentation come at a price and are thus more

expensive than the ones in traditional markets. Third, many of the supermarkets, especially in the provinces, do not carry a complete line of vegetables where consumers can avail of the convenience of one-stop shopping (Digal & Concepcion, 2004). On the contrary, wet markets offer a wide variety and assortment of vegetables as well as the general certainty of the availability of the items consumers need, since there are numerous stalls to buy from. Finally, consumers tend to relate with vendors before making a final sale especially about the sources and the "freshness" of the vegetables. An important part of the relating is the haggling either for better prices or for an extra bonus quantity. In contrast, supermarkets offer vegetables at fixed prices and on an as-is, where-is basis.

But the higher vegetable prices in supermarkets are part of the transition in the modern food retailing. Prices will tend to drop as supermarkets continue to spread which intensifies competition and as their supply chains become more developed (Coyle, 2006). The increasing food-safety and health consciousness of urban consumers will eventually make them prefer the better food handling practices, aesthetic presentation, and nice packaging of the modern supermarkets. The convenience of shopping in a nearby, clean and air-conditioned store will become a strong attraction for high income consumers who dread to tread the wet floors and humid environment of the wet markets. The availability of freshly-cut, ready-to-cook, ready-to-eat, microwaveable, pre-cut, pre-washed, canned foods, mixed foods, and frozen foods will readily serve the needs of the busy consumers who do not have sufficient time to prepare foods at home. Hence, the share of modern markets' sales of vegetables will inevitably increase.

And increase they surely did. According to Digal and Concepcion (2004), supermarkets rose from merely 496 in 1994 to 3,989 in 2001 or an increase of 704% over a 7 year period. Computed on a simple average every year, the increase rate amounted to around 100%. The supermarkets' share to total food sales also expanded considerably. The SM food retail

merchandising group, the market leader in food retailing, aggressively increased their number of stores from 36 in 2006 to 87 in the first half of 2010, or an increase of 142% (Table 1.5). Sales from the food group grew at an annual average of 31% from Php 41.6B in 2006 to Php 91.52B in 2009. The SM food group includes supermarkets, hypermarkets, and wholesale markets (Makro Stores).

Table 1.5. SM Group of Companies' performance from 2006-2010

	2006	2007	2008	2009	2010 (1st half)
Total Consolidated Sales	88.7B	122.5B	147.5B	160B	85B
Retail Sales	68.4B	98.2B	114.8B	123.9B	63.4B
% of total sales	77%	80%	78%	77%	75%
Food group	41.6B	60.52B	84.81B	91.52B	36.77B
% of total sales	47%	49.40%	57.50%	57.20%	58%
Annual Growth Rate		45%	40%	8%	
No. of stores	36	55	64	83	87

Source: SM Annual Financial Report, various years; in Pesos; Php43=$1

In 1995, supermarkets cornered 68% of the total value added in food, beverage, and tobacco industry, the rest (32%) by the grocery and small variety or *sari-sari* stores. Yet on the same year they represented only a mere 1% of the number of retailers compared to 80% for grocery and *sari-sari* stores, revealing a growing concentration of modern markets in the food sector. In greater Metro Manila alone in 1994, large food retailers controlled 79% of the total vegetable market while accounting for only 5.2% of the total retail establishments. The SM group of companies cornered 12% of total supermarket retail sales in 2005 (Planet Retail, 2005 cited by (Digal & Montemayor, 2008). The latest figures put the number of retail outlets in the country to be more than 5,000 establishments as of 2007, reaping combined sales of over Php 100B (US$217M) (Macabasco, 2009).

According to Reardon and Berdegue (2006), the pace of supermarket growth in an emerging economy like the Philippines will remain steady in the coming years. Gaiha and Thapa

(2007), using econometric analysis of supermarkets in selected Asian countries, confirm that the Philippines will achieve a considerably higher share at a projected 36% of supermarket sales relative to traditional markets by the year 2015, based on household incomes, urbanization rate, ease of entry of foreign direct investments, and women's participation in the labor force.

Furthermore, the government enacted the Retail Trade Liberalization Act (Republic Act No. 8762) in 2000 to open the domestic retail markets to foreign capitals in the distribution of food, healthcare, personal care, and luxury items. Consistent with its commitment to WTO in the eventual removal of barriers to foreign goods, liberalizing and deregulating retail trade sought to "promote consumer welfare by attracting, promoting and welcoming productive investments of foreign national to stimulate growth; and enabling Philippine goods and services to become globally competitive" (RA 8762). Subsequently, foreign retail outlets penetrated the country with Makro (Netherlands) and Pricemart (USA) leading the way. Although only a few foreign retailers invested in the country compared to other Asian countries, they actually cornered the wholesale market which supplied the goods for small *sari-sari* (mom and pop) stores, comprising 95% of the country's total number of retailers (Digal & Concepcion, 2004).

Hotels and restaurants groups also showed a growing trend. Total combined revenues increased from Php 163B in 2000 to Php 267B in 2005, while the number of establishments rose from 88,171 in 2000 to 95,812 in 2005. Jollibee Foods Corporation (JFC), the market leader in the fast food industry, consistently performed well over the years from its various lines of food outlets consisting of hamburgers/fried chicken, Chinese and Filipino cuisine, pizza, and baked products. Its consolidated systemwide sales jumped from Php 24B in 2001 to more than Php 63B in 2009 or an average annual growth of 13% (JFC, 2010). Total number of JFC's stores increased by around 91 units every year, starting from 832 stores in 2001 and reaching 1,557

stores by the end of 2009, excluding international expansion that covered around 124 more stores worldwide to date.

In the final analysis, although the marketing system of vegetables in the Philippines still operates basically in the traditional channels involving the predominant role of wholesale and retail wet markets, we are witnessing the continued emergence of the more modern high value markets which consists of supermarkets, hotels, restaurants, fast food chains, and other institutional buyers. The rise of modern markets will continue as relentlessly demanded by rapid urbanization, increasing incomes, and changing consumer lifestyles, among other things. By themselves, the institutional markets reinforce their active presence and strength in the domestic retail trade through their on-going expansion of food retail and service outlets and their ever improving operational efficiency and increasing economies of scale to reduce commodity prices as a way of attracting more consumers. The new markets will continue to remain as a lucrative and growing business.

Constraints in the Vegetable Industry. Amid the rich potential and the possibility for rapid expansion of the food sector in the Philippines, many constraints prevent its full development and contribution to agricultural growth as a whole. First, the extremely fragmented marketing channels lead to a convoluted supply chain and reduce the efficiency of distributing fresh produce in terms of cost and time. The multiplicity of agents or middlemen (wholesalers, brokers, retailers, consolidators, etc.) and the excessive number of food retailers and service outlets unduly lengthens the supply chain and thereby unnecessarily adds mark-up costs in every node of transactions between the producer and the final consumer. At the minimum, the price of the produce doubles from the farmgate[12] price once it reaches the consumer without actually adding value to the commodity. High vegetable prices act as a

[12] Farmgate price is the wholesale price the farmer receives in exchange for his produce.

disincentive to consume more fresh produce, perhaps a possible reason for the declining per capita vegetable consumption among most Filipino households.

Second, lack of access to market information results to sudden or even severe fluctuations of prices arising from differential levels of supply and demand, substantially contributing to risks and uncertainties to producers. There is a dearth of data related to marketing particularly on consumption, quantity, and quality requirements of the different types of markets (e.g., supermarkets, wet markets, export markets) (Digal & Montemayor, 2008). Supply gluts often occur since there is no coordination among major production areas on the volume of produce and the daily capacity of buyers to procure, dampening prices in the process. There is certainly a need for more research and information dissemination in order to match downstream market requirements and upstream production supplies. Reduced risks and uncertainties in the markets may translate into incentives to enhance and enlarge productivity, since producers will be more concerned with production than worried about depressed market prices.

Third, high input costs and marketing costs reduce profit margins of producers. Production cost per unit rises along with increases in procurement costs of fertilizers, pesticides, fungicides, and seeds. Improper use or overuse of chemicals unnecessarily jacks up farm expenditures, not to mention the possibility of intensifying chemical residues found in marketable produce. High marketing expenses arise from poor or, more often, absence of farm-to-market roads which increase transportation costs, underdeveloped post-harvest processing technologies and lack of cool chain facilities resulting in high spoilage, multi-layered marketing channels leading to undue price mark-ups or reduced farmgate prices, and the archipelagic nature of the country contributing to inter-island shipping and product handling costs.

Fourth, lack of organization or the absence of coalition building efforts among existing organized farmers' groups weakens the bargaining position of producers relative to the middlemen or the buyers. Atomistic farmers possess insufficient volume to demand better prices in the spot markets or to directly access institutional markets. More often, the quality of their produce is uneven and supply deliveries are unreliable. Alone, they cannot access resources from government institutions or avail themselves of the benefits from government programs. Consolidation may help them produce more and market more efficiently. Production programming and supply complementation across farmers' agglomerations may prevent market gluts and stabilize farmgate prices over time. They are desired, but much remains before realization.

Finally, vegetable productivity suffers from lack of extension services, improved cultural practices, quality seeds, better crop technologies, credit access, irrigation systems, and conservation practices. There are approximately 5.7M households engaged in commercial vegetable production in the Philippines (Aquino, 2004) and 80% of them are small farmers (Blatt, et al., 2007). The great majority of vegetable growers are resource poor and severely wanting of external assistance to commence commercial production, to expand area coverage, to diversify production, to try out new technologies, or to sustain uninterrupted yearlong production cycles either with new crops or new high-yielding varieties of existing cultivars. The lack of financial resources compels small farmers to "lock in" their production with credits provided by traders (Digal & Montemayor, 2008). According to Rosa Rosal, a vegetable grower from Impasugong, in such an arrangement, the trader markets and disposes the farmer's produce and gives the latter the return of his harvest at the end of the day, net of the loan provided beforehand. This relationship is never transparent as the trader never discloses actual prices and returns from the farmer and the latter just receives his share, fair or otherwise.

Further, the lack of irrigation system hampers yield improvements and the government just pays lip service about its establishment, especially in small farms. Another serious threat to productivity confronting small farmers is resource degradation such as soil erosion, worsening pest and disease problems, loss of biodiversity, and water pollution.

In the end, the problems that hounded the country's wider agriculture sector are basically the same problems that plagued the vegetable industry, although with some additions particularly pertinent to the nature of vegetable production and marketing. Adding to the woes of the vegetables sector is the continuing threat posed by the increasing legal imports and smuggled vegetables into the country. Producers cry foul to this on-going problem and demand greater protection for the domestic vegetable industry. But more than anything else, the issue is one of competitiveness of locally-produced vegetables. The imported ones are of better quality, cheaper, better packaged, and more aesthetically appealing. In the final analysis, this problem only highlights the real need for the local vegetable industry to find ways to enhance its own competitive advantage. The task is daunting and extremely challenging, yet the search can never cease. The mostly small vegetable growers can probably become efficient producers if the government supports them with research, extension, credit access, and public infrastructures, among other things. Local markets can probably streamline their marketing and distribution channels through public policy reforms and political will in the restructuring of marketing systems. The private sector can probably initiate integration of markets to promote productivity-enhancing economic activities in the upstream as well as to forge dynamic linkages with the downstream players of the industry. Aquino (2004) describes the vegetable industry as almost comatose but,

> *"before all the Filipino vegetarians hear the eerie flatline sound, the government must now act quickly, wear its surgical gloves, prepare the instruments and start the economic and political operation needed for its survival. The prophylactic operation could be messy but it is worth the risk."*

Significance of the Study

This research is part of those messy attempts to find solutions in helping the vegetable industry (especially the small farmers) emerge from its slumber, given the rich potential of the whole agri-food sector in the country today. The few studies that have come out in recent years point to the need of the government to refashion policies and public institutions towards reducing bottlenecks in the agriculture sector and enhance its competitiveness in terms of improving productivity levels on the part of the producers and greater efficiency in the marketing and distribution networks (Blatt, et al., 2007; Briones, 2008; Concepcion, Digal, & Uy, 2006; Digal & Montemayor, 2008; Johnson, et al., 2008). The diagnoses are valuable in that they reveal the existing ills and limitations, especially of the vegetable industry, from which we can start building alternatives to rectify the present situation. While they are good and well-intentioned as to the general indications to what we can pursue, there are however no actual blueprints from which we can proceed towards finding real and concrete solutions to the concerns of the vegetable industry. Essentially, everyone is asking the government to correct the whole predicament as if the government holds all the answers at its disposal. It may have much of the resources, financially and politically at least, to perform policy directions, but it sorely needs well-defined inputs and recommendations on the "how, when, where, and why" to direct those resources into particular pro-active commitments in view of maximizing their benefits to the greater population and to the wider economy.

Here is where this study situates itself—at the nexus of policy proposals and actual programming of desired events to take full advantage of the prevailing market-driven opportunities. It is an on-going analysis of the "already but not yet"[13] restructuring of market

[13] "Already but not yet" is a common description in Catholic theology related to the doctrine of the "kingdom of God," i.e., the kingdom of God is already at work in the world but not yet fully complete since it is still a continuing work in progress hindered by man's sinfulness.

and social institutions. "Already," we are seeing concrete efforts in terms of focusing the development of small farms which comprise the greater majority of vegetable growers, clustering of discrete households into larger production units, promoting mutual economic linkage relationships between producers and buyers, downloading of public financial resources to assist production of small farmers, accessing of research capabilities of educational institutions to improve productivity, and incipient yet guarded regard among micro-finance institutions in providing funds for the small producers. "But not yet" inasmuch as those initial efforts are largely baby steps and still have to grow into maturity. Time will prove the strength and effectiveness of these efforts—the private sector is taking the first initiative of linking with small growers, a non-government organization performing a myriad of coordination processes, a government-owned corporation facilitating access to available state financial resources, a local government unit chipping in their own funds to jumpstart production activities, a national government agency releasing resources to establish needed infrastructures, and disparate farmers willing to participate in new market arrangements. Many more minute yet significant initiatives are earmarked for experimentation in order to discover the possible constellation of ways towards synergizing the restructuring of market institutions.

In other words, this research does not simply seek to propose additional policy recommendations. Instead, it lays down possible actual innovations in the vegetable production processes that attempt to develop a competitive edge for small farmers and to actively contribute to the reinvigoration of the vegetable industry. While this research dwells on only one case, its grounded analysis provides concrete materials for replication to other situations about what institutional configurations and relationships actually function in today's modernizing markets. At the least, it can supply indicative powers to some future initiatives based on the real experiences of actual stakeholders who are doing pioneering activities to

promote the inclusion of small farmers in the potentially lucrative vegetable markets. The analysis will later prove that the attempts to restructure markets to swing the benefits of market engagements towards the small farmers are fraught with difficulties and frustrations, but, in the end, those attempts are worth the try.

CHAPTER 2

RE-EMBEDDING MARKETS TOWARDS SUSTAINABLE LIVELIHOODS

Introduction

The relative neglect by the government of the country's vegetable industry has resulted in its dismal performance over at least the past couple of decades. Undeveloped infrastructures, low credit access to production financing, insufficient research and development, and lack of other enabling institutions preclude the country's vegetable sector from achieving sufficient yield volumes, increased productivity levels, efficient marketing systems, and quality production processes for export expansion. Overcoming these constraints may eventually produce some improvements in the vegetable industry as it currently faces potential growth prospects because of rising population, rapid urbanization, increasing household incomes, and changing consumer trends, both domestically and internationally. Improvements in the industry may spawn more livelihoods for people and hopefully higher and more stable sources of incomes for the producers. A colossal challenge is to allow the changes in the agri-food markets to trickle down and benefit a greater number of people, especially the small farmers who comprise the huge majority of vegetable producers.

However, given the present set-up of the vegetable industry, the phenomenon of dis-embeddedness has already been occurring. "Dis-embedded" markets refer to the situation where markets are separate from the matrices of social, cultural, and political institutions from which they have been historically aligned and assume a determinative role as the primary logic of society. Concretely in the Philippine traditional wholesale and retail markets, farmers are always on the receiving end of the relationship while the middlemen and retailers win out in the

existing system of market exchanges. The farmers absorb the greater part of the risks and uncertainties in the production processes but receive inadequate remuneration for their products. The middlemen and retailers control the power in terms of pricing and market information, while capturing the greater portion of the value added in the production process. Moreover, in the increasingly modernizing agri-food markets, dis-embedding of markets shows its ugly head through marginalization and exclusion of small farmers from the vegetable supply chains in favor of the large commercial or better-off farmers. The changes in the agri-food markets could even have more dire consequences for the small producers since they cannot usually make the grade to fulfill the stringent quality and quantity requirements of modern markets. Thus, in both traditional and modern systems, market exchange and its complex of rules plays the decisive role of arranging society according to the economics of efficiency and profit, while the social and cultural development of peoples and events take a backseat.

Karl Polanyi (1944)warned us of the pitfalls of dis-embedding markets from the social, cultural, and political institutions of society. He advocated against the subordination of non-market forces to markets and the unfettered operations of market elements in the society. While dis-embedded markets established new or "better" ways of doing things, they also destroyed certain long-revered social and cultural traditions. While they created wealth and economic winners in society (e.g., market buyers), they also produced a majority of impoverished losers. While they trumpet about new inventions and more efficient utilization of technologies, they also irreparably exploited the natural environment. In short, dis-embedded markets favored the accumulation of wealth, but they also created tensions and contradictions in the process, such as environmental disruptions and labor problems. From his historical analysis of previous economic events, Polanyi observed that dis-embeddedness could never be complete since the tensions thus produced could give rise to another movement to counter the

hegemonic influence and address the consequences of purely market forces. The tensions could subsequently fuel public sentiments towards the search for new and creative solutions to society's existing predicament, a movement often called the "re-embedding" of markets.

The Polanyian concept of re-embedding can occur in multifarious ways. According to Getz (2003), attempts at re-embedding happen when governments impose minimum wage to protect labor, environmental standards to preserve the natural resources, ceilings/floors of commodity prices to shield either producers or consumers from erratic price fluctuations, declaration of state of emergency in places ravaged by calamities to prevent price gorging by vendors, tariffs to save local producers from unfair competition from abroad, and other policies that could modify market transactions. Moreover, private business companies engage in vertical integration of production operations to establish control over market whims, contracting or outsourcing certain production processes to undercut supply volatility, commodity futures to hedge risks, and other strategies to establish stability in an otherwise unpredictable and anonymous market exchange.

In this case study, I conceptualize embeddedness as the linking of small farmers with an institutional end-buyer specifically through value chain integration and through cluster cooperation. Operationally, value chain integration is the formal participation of the small vegetable producers as one of the many suppliers of a commodity (onion, in this case) of a large fast food corporation. Through a negotiated forward sales contract, the small farmers are bound to deliver their production of a commodity to the fast food company at a specified date, volume, and price. Cluster cooperation is the agreed upon collective action undertaken by individual farmers to engage in a joint production, processing, marketing, and distribution of a commodity for commercial sale to the market. The clusters are either formal or informal

farmers' organization, though with the same purpose of commonly producing a commodity for the market.

Inasmuch as re-embedding markets relate to the reconfiguring of market transactions in order to benefit a greater number of people in the economy, I closely analyze the processual dynamics of both the value chain integration and cluster cooperation in order to assess their effectiveness in forging innovative market and non-market relations as well as to determine the outcomes of this particular way of embedding on the sustainability of the livelihoods of the small farmers. Ultimately, re-embedding seeks to promote the welfare of peoples and any attempt of doing it must be geared towards their advantage. Hence, a set of outcomes of embeddedness should advance sustainable livelihoods for the producers. Operationally, I define sustainable livelihoods as referring to the ability of farmer-households to increase their incomes, to have a regular stream of income, and to have diversified sources of income.

This chapter discusses the theoretical merits of value chain analysis, contract farming, clustering, and sustainable livelihoods in view of synthesizing those salient concepts that combine to build a framework for generating hypotheses as regards the Polanyian movement of re-embedding markets as it is presently applied to the increasingly changing agri-food markets in developing countries such as the Philippines.

The Value Chain Analysis

Research on value chains have gone through a long history of development. The French researchers in the 1960s led the way when they started mapping out the physical flows of commodities, especially those that originated from its former colonies in Africa (Raikes, Jensen, & Ponte, 2000). "Filière" was the name given to this set of studies which literally means "channel." According to Raikes et al. (2000), the filière approach was primarily a framework to

examine the activities along the chain to ascertain that no bottlenecks occurred in the flows of the commodities from the production site to final consumers. Researchers trace not only the movements of goods but also the variability of the values in every activity using full cost accounting to determine its relative cost and contribution to the whole production process. Historical analysis of certain commodities also began with filière approach. The whole industry or the chain was therefore the focus of inquiry, intent on facilitating the movements of commodities from Africa to France through a determination of the historical trajectory of particular commodities and a measurement of activity-specific values in the chain. The filière approach significantly contributed the idea of a chain as characterized by physical flows of activities which became the most essential conceptual feature of modern value chain analysis.

In the 1980's, William Friedland (1984) introduced the concept of "commodity systems" as a systemic configuration of labor and other inputs (both social and economic) towards the creation of a commodity for final consumption. He recognized the importance of power being shared asymmetrically across the different activities in the chain. Differential access to power by different actors led to uneven control of certain activities in the chain. Power thus operated within the networked configurations along the commodity system and this observation provided the dynamic concept of the chain in which changes in one activity could affect the other activities as well.

Also in the 1980s, world system theorists with Wallerstein as the leading figure supplied the term "commodity chains," the precursor of the term "chain" applied to modern value chains to refer to a set of discrete activities or "network of labor and production processes whose end result is a finished commodity" (Hopkins & Wallerstein, 1994). Wallerstein was credited for analyzing the segments in the chain (boxes, as he called it) as containing surplus values which could be appropriated by the one who gained control over it, implying that there existed an

unequal exchange in the distribution of values along the chain. Hence, commodity chain analysis further strengthened the particular concepts related to history, power, networks, and system, but accentuated more the presence of surplus values in each discrete set of activities in every node of the chain.

Still another set of chain theorizing emerged from the complementary literature on international business organizations. Michael Porter introduced the "value chain theory" to focus on the industry (chain) itself and analyze the network of activities so as to establish coordinative linkages and improve the production and organizational processes to capture greater value added (M. E. Porter, 1987). Competitiveness could be attained through efficient management of the linkages and control over the activities in the industry. Such can be done through "higher-order" advantages as proprietary technology, product differentiation, brand reputation, customer relationships, and constant industrial upgrading (M. E. Porter, 1987). Porter brought more precision to the concept of value and the sources of value adding activities through coordination of widely dispersed production processes essential to the capture of surplus in a chain. He pushed modern value chain analysis into adopting an active search for greater value added, better coordination (later named as governance), and constant industrial upgrading.

Perhaps the more coherent framework that emerged in the literature was the "global commodity chains" of Gary Gereffi (1994). Gereffi defined global commodity chain (GCC) as a "set of inter-organizational networks clustered around one commodity or product, linking households, enterprises, and states to one another within the world-economy" (Gereffi, Korzeniewicz, & Korzeniewicz, 1994, p. 2). He built GCC upon the ideas of Wallerstein's commodity chains by focusing more on a smaller scale of inter-organizational networks (rather than world system) and introducing the more widely known dimension of governance.

The greatest contribution of the GCC approach is its explication of the governance structure in the chains, specifically in terms of which firms are most able to control various aspects of the production process and how they appropriate and/or distribute the value thus created. Governance is dichotomized as producer-driven and buyer-driven chains. Producer-driven chains include those industries in which transnational corporations or other large integrated industrial enterprises play the central role in controlling the production systems, including its backward and forward linkages, e.g., automobiles, computers, aircraft, and electrical machinery. Buyer-driven chains are those industries in which large retailers, brand-named merchandisers, and trading companies play the pivotal role in setting up decentralized production networks in a variety of exporting countries, typically located in the Third World, e.g., garments, footwear, consumer electronics, houseware, and a wide range of hand-crafted items (Gereffi, 1994). The significance about the dichotomy between these ideal types is the theorization of commercial capital ('big buyers' in the GCC literature) as the power broker that wields the authority over the many firms involved in the buyer-driven commodity chains, although it may have no equity relation to the firms actually producing the goods made on its behalf (Bair, 2005b).

Since the publication of the independent seminal works of Porter on value chains (1985) and Gereffi on global commodity chains (1994), no new study has made revolutionary contributions to the chains literature. But the past few years have seen a growing interest in utilizing value chain analysis for studying global economic governance. Gibbon, Bair, and Ponte (2008)observe that value chain analysis has attracted sociologists, geographers, economists, anthropologists and historians in analyzing the international organization of industries. International agencies and development organizations have applied value chain analysis for firm-level competitiveness, industrial upgrading, and poverty alleviation. Recent studies

involving value chains collectively coalesce to such defining features in the framework as discrete physical flows, networks, linkages, values (economic rents), value added, governance, and upgrading. They examine the organization of different commodities in varying scales of analysis (from local to global) emphasizing certain chain aspects. They prove important as they enable value chain analysis to be more refined as an analytical framework, more sophisticated and thus more responsive to newer questions, and to possess more explanatory powers to better understand present realities. They largely serve to empirically ground value chain analysis so as to articulate its theoretical underpinnings and likewise to further delineate its various elements so as to make it more applicable to wider political, social and economic issues.

Governance of Value Chains

Gereffi (1994) captured important changes in the organization of value chains when he first introduced the concept of governance to chains research. He defined governance as "authority and power relationships that determine how financial, material, and human resources are allocated and flow within a chain (Gereffi, 1994, p. 97). The inclusion of power in economic relations and transactions represents a major contribution to the value chain literature, a concept normally excluded in the analysis of international business organizations. But it does not necessarily mean the subjugation of one party over another. Rather, it is expressed in terms of better coordination of the activities along the chain (e.g., down-sizing, out-sourcing, just-in-time, comprehensive contractual structures, etc.). Governance accentuates the emergence of key actors in a globalizing economy who take responsibility for the inter-firm division of labor and for the capacities of particular participants to upgrade their activities. Activities in the chain are dispersed internationally, necessitating sophisticated coordination in logistics, production, and quality monitoring. Governance refers to this inter-

firm relationships and institutional mechanisms through which non-market coordination of activities in the chain takes place (Humphrey & Schmitz, 2001). It is achieved through setting and enforcement of product (what is to be produced) and process (how it is to be produced) parameters to be met by actors in the chain. The firm which holds governing power usually captures the greater value added along the chain.

Governance specifically in the food value chains derives its impetus from two sources of power: consumer power and retailer power. The power of the consumers heightens with increasing globalization as well as global economic development. Consumer power comes from the better-off consumers from the developed countries who possess the purchasing power to buy fresh produce any day of the year and of different varieties from producers in the developing countries, a growing trend in the fresh produce commodity networks (Friedberg, 2006). Within the emerging economies characterized by rapid urbanization and increasing incomes, the elites and the widening middle class assert their power over the domestic markets through their choice for fresh, high quality, and better-packed produce. Power is also expressed through the consumers' desire for food safety and traceability. In the modern economy, the consumer is seen not as a passive agent—someone whose identity is constructed by the ideologies of western consumerism—but as active, as a "producer" of usages and meanings that the marketplace may not have a "given" particular ideologies (Humphrey, 1995: 8-9). Thus, consumer power becomes a major force driving changes in the agri-food sector.

While globalization has strengthened consumer power in the modern market economy, it also provides substantial power to the retailers who exercise their clout in the chains in terms of controlling much of the production processes while trying to bridge the gap between the consumers and producers (Dixon, 2002). The power of the retailers resides in their attempts to market and offer products that accommodate the tastes and preferences of the consumers.

Consumers do not command authority directly to the producers, but the authority is mediated through the retailers who are responsible for defining and filtering out information in behalf of the consumers to inform the upstream production networks about the specifics of marketable commodities. Retailers now command greater control over consumer information. When they are able to successfully translate this information into actual products and services, they virtually set the conditions for capturing rents available from the chains. Hence, the greater the value captured from satisfying consumer needs and desires, the greater the extent of control the retailer has over the activities and actors in the chain.

Moreover, retailers do not only obtain power from offering products and services in response to consumer trends, but that the retailers themselves (e.g., fastfood corporations, hotels, restaurants, and supermarkets) create new food products and innovate production systems (Dolan & Humphrey, 2000; T. Reardon & Berdegué, 2002; T. Reardon, et al., 2003). New products or product mixes increases overall demand and provide a greater assortment of goods for more consumer choices. Retailers likewise continuously improve their operational efficiency by establishing better supply chain management systems to reduce costs and increase profit margins. Lead firms express power by out-sourcing lower value-added activities (such as the actual production itself) and retaining or incorporating those with higher value-added (such as brand names, quality, etc.). Power is exercised through the enforcement of higher standards of quality and reliability in produce flows, resulting in reduced risk and investment costs for the key agents. Improved efficiency can translate into better positioning in the competitive market or into grabbing a larger slice of the market share. Thus, power in the value chains is seen not simply as the effect of increasing barriers to entry, but also of organizational changes by the lead firms and enhanced competitive advantage (Raikes, et al., 2000). Because of this need to effectively coordinate various segments in the chain, retail capital tends to be concentrated in a

few large firms which have the resources and organizational capabilities to dictate and respond to the terrains of production, work, and consumption (Dixon, 1999). Interestingly, the dynamics of power and control is not necessarily correlated with traditional patterns of ownership. Rather, retailers can wrest control over the chains despite having no direct investments in the production and labor processes in the firms which actually make the commodities on their behalf (Bair, 2005b; Ponte & Gibbon, 2005). Supermarkets, for example, require specific standards to certain fresh produce, such as regularity of deliveries, volumes, size of product, color, absence of blemish, etc., yet they never spend any investment in the actual production processes to fulfill all those requirements.

Gereffi et al. (2005, p. 87) suggest a continuum (Table 2.1) to identify the five basic types of global value chain governance. The five types are based on three variables: *(1) complexity of inter-firm transactions, (2) degree to which this complexity can be mitigated, and (3) the extent to which suppliers have the necessary capabilities to meet the buyers' requirements*.

The Typology considers the commonly accepted categorization of market-based relationships (markets) and vertical integration (hierarchy) as constituting the two ends of the spectrum. Gereffi et al. simply supply the categories in between. Extending the types of governance is significant in that it also identifies the varying degrees of dis-embeddedness occurring in the value chains. For instance, the spot market exchange (under the Markets type of governance) represents a high degree of dis-embeddedness as buyers and sellers do not have long-term relationships aside from the actual transactions at hand. In the vegetable value chains, in particular, machinations by intermediaries in the wholesale markets are commonplace, denying the producers a fair remuneration of their products (Milagrosa, 2007). Constant fluctuations of prices present great risks and uncertainties to farmers, coupled by the

often non-transparent computation of proceeds and delayed payments by the middlemen. Equally dis-embedded are cases of vertically integrated plantation production systems where

Table 2.1. Five Types of Value Chain Governance

Type of Governance	Characteristics
Markets	• Spot market exchanges • Transitory relationships, but possible recurrent transactions • Low switching costs • Buyers respond to specifications and prices set by sellers • Transactions have little explicit coordination
Modular value chains	• Products supplied tailored according to customer specifications • Involve production of complex commodities, necessitating "turn-key" suppliers who can provide labor and capital investments in behalf of the customers • Use of generic machineries for standardization of processes and designs • Low switching costs • Transactions have little explicit coordination
Relational value chains	• Mutual relationships built over time and sustained by trust, reputation, social and spatial proximity, family and ethnic ties • Involve complex transactions; may involve penalties for non-compliance • High supplier capabilities • High levels of asset specificity, so high switching costs • Moderate degree of explicit coordination • Moderate degree of power asymmetry
Captive value chains	• High product specifications and low supplier capabilities, resulting to small suppliers dependent on much larger buyers • Suppliers face high switching costs; hence, captive • High degree of monitoring and control by lead firms; hence high degree of power asymmetry and explicit coordination
Hierarchy	• Vertically integrated • Lack of highly competent suppliers • Complex product specifications • Exercise of managerial control over complex web of inputs and outputs • High degree of explicit coordination and power asymmetry

Source: Gereffi et al. (2005, p. 87)

lands are rented from smallholders (Getz, 2003). Land rentals are locked in for 20 to 25 years for absolute plantation use and rental amounts are already pre-determined by the plantation owners. Although smallholders retain ownership to the lands, they waive control of the property to the heavy chemical inputs plantation production systems which usually perform a

total makeover of the existing landscape. Other variations of land rentals likewise exemplify power differentials in favor of the renters.

The modular, relational, and captive value chains may exhibit lesser degrees of dis-embeddedness through forging of informal or formal contractual relationships. Contracts serve as explicit mechanisms in enforcing coordination within the chains. Informal contracts exist even in the spot market exchange by way of verbalized or personalized relationships developed through recurrent trading transactions between the producer and the buyer or middlemen (Milagrosa, 2007). In so doing, a reciprocal, though unequal, relationship emerge that could further secure future transactions. Traders usually provide production loan assistance to farmers to cover labor, inputs, transportation, and packaging materials. In return, farmers market their produce only to the trader and part of the proceeds goes to repaying the loan assistance. The trader, however, solely determines the actual prices according to the prevailing spot prices and other variables; thus, cornering much of the control and authority over the transactions.

On the other hand, according to Singh (2002), there are three major types of formal contracts: marketing contracts, partial production contracts, and total production contracts. The marketing or procurement contract specifies only sale and purchase conditions between the producer and the buyer (Hendrickson, Heffernan, Lind, & Barham, 2004). Hendrickson et al. (2004) believe that it is favorable to smallholders in so far as competition still exists in the market for the farmers to make sovereign decision about whom to contract with, assuming the presence of multiple buyers. The farmer makes most of the decisions in the production process and retains ownership of the product, but seeks to sell the produce to cover cost and investment. Partial production contract involves only some of the inputs to be supplied by the contracting firm to the farmer and the produce is bought at a pre-agreed price. Total production

contract, or simply production contract, is the form where all inputs are supplied and managed by the contractor and the farmer becomes a supplier of land and labor. This is the form that dominates the poultry and hog industries in the U.S. today and is likely to be so in the future (Hendrickson et al., 2004).

Contract farming has its advantages in terms of increasing incomes, offering employment opportunities, provision of inputs to resource-poor farmers, reduction of risks, skills improvement, etc. (Glover, 1987; Goldsmith, 1985; Hendrickson, et al., 2004; Key & Runsten, 1999; Singh, 2002). At the same time, it presents some perils to the producers as well. Increases in incomes may occur only initially, as cost-efficient initiatives of the buyers can supplant previously held arrangements by lowering prices or lessening technical assistance (Glover, 1987; Singh, 2002). Increased concentration of agribusiness firms reduce bargaining power of producers and threatens the existence family farm production (Heffernan, 1984). Watts (1994, p. 27) regards the basis of peasant contracting as *"essentially self-exploitation, since farmers are forced to labor more intensively (longer hours) and more extensively through the use of child labor."* Clapp (1994, p. 81) refers to contract farming as a *"form of disguised proletarianization: it secures the farmer's land and labor, while leaving him with formal title to both…the farmer's control is legal but illusory."*

In the agri-food systems, especially with the emergence of institutional markets, governance structures have changed, beginning in the 1990s, which indicate marginalization or exclusion of small farmers in the emerging modern markets. Exclusion is the concrete form of dis-embeddedness. The implications of the rise of the institutional markets, e.g. supermarkets, restaurants, hotels, and fast-food chains, to the small farmers are not due to the type of business per se, but because of the procurement methods used and the quality standards

applied by these firms (Berdegué, Balsevich, Flores, & Reardon, 2005; Dolan & Humphrey, 2000; T. Reardon & Berdegué, 2002; Shepherd, 2005).

In the fresh fruits and vegetables value chains, the changes in the procurement and in the standards of quality have resulted to a fairly rapid decline in the numbers involved. Shepherd (2005) reported that the Giant supermarket chain in Malaysia had 200 vegetable suppliers in 2001 but by 2003 this was down to just 30. A similar decline of the number of small horticultural producers also happened in Thailand with the introduction of the TOPS distribution center, from 250 suppliers delivering perishables at least three times a week to around 60 preferred suppliers (Boselie, Henson, & Weatherspoon, 2003). In Kenya, small farmers produced almost 75% of the country's fruits and vegetables in 1992, but this number decreased substantially to 18% by 1998 (Dolan & Humphrey, 2000). In their interviews with leading exporters from Zimbabwe, Dolan and Humphrey (2000) also found out that 5 out of the 45 largest exporters sourced less than 6% of their produce from small farmers. In Argentina, the same trend of diminishing numbers of small farmers was observed with the rise of supermarkets and fast-food chains, such as McDonalds. In order to survive, small farmers were looking for alternative markets, by diversifying their marketing channels away from the wholesale markets and from supermarkets and selling their produce direct to customers' homes and fresh fruits and vegetables shops (with value added through delivery) (Ghezán, et al., 2002). But many were not succeeding and were abandoning farming altogether.

Small farmers are excluded from the modern market chains because they cannot come up with the expectations of the supermarkets' requirements. Dolan and Humphrey (2000) list some of the requirements of the supermarkets as follows:

- Quality – appealing appearance; absence of blemish; colors; shape
- Consistency – same size, appearance and taste over time and across seasons
- Variety – different types of variety of the same commodity; assorted array of fruits and vegetables

- Processing – pre-washed, pre-cut products; ready to eat; microwaveable
- Product Combinations – peeled and chopped combination of fruits, e.g. papaya packed with wedges of lime; packet of vegetables, pre-washed, peeled, cut, and ready-to-cook
- Packaging – products packaged in plastic wrappers or enclosed in styro-trays
- Reliability of supply – continuity of supply to avoid getting out-of-stock
- Price – reduced cost to stay above competition
- Food safety – due diligence in the manufacture, transportation, storage, and preparation of food; traceability
- Labor conditions – e.g., non-use of child labor
- Environmental management – ecologically friendly production systems

Against all these requirements, small farmers posses weak capacities to meet some or all of the requirements stated above. As a result, the requirements favor the concentration of a few, large firms which can finance big volume procurement and consolidate assorted products from various sources or the concentration of few, large farms which can meet quality, volume, and consistency of deliveries. In Kenya and Zimbabwe, a few large exporters dominate the horticultural supplies bound for the United Kingdom (Dolan & Humphrey, 2004). In Thailand, the supermarket chain TOPS eliminated numerous wholesalers who do not perform value-adding activities and shifted to "preferred suppliers" who can deliver up-to-grade products and volume direct to its centralized distribution centers (Boselie, et al., 2003; Gaiha & Thapa, 2007). In Chile, even a grouping of 50 or 75 associated farmers, each with 1 or 2 has. producing fruits and vegetables, does not suffice to offset the prohibitive costs imposed by the supermarkets (T. Reardon & Berdegué, 2002). Between 1992-1996, a group of 19 farmers experienced relative success when they banded together to supply a supermarket chain Buenos Aires, using greenhouses and specializing in 3 crops (Ghezán, et al., 2002). But the heavy demands of supermarkets took a toll over their operations, and the group went under. A few producers survived and shifted to supplying the local markets.

Small farmers face a litany of key problems which include:

1. *Insufficient economies of scale for them to be competitive in cost terms;*

2. *Lack of access to financial capital to make investments in greenhouses, pack houses, cold chains, safe water supply, hand-washing facilities, bar-coding technology, reefer trucks for delivery;*
3. *Difficulties in meeting the supermarkets' requirements in terms of volume, quality, and delivering consistently over time;*
4. *Lack of liquidity to withstand the long payment delays of supermarkets;*
5. *Problems in associating with other farmers;*
6. *Lack of access to market information;*
7. *Rejection of produce due to unacceptable quality;*
8. *Illiteracy and lack of business skills in negotiating with supermarket suppliers (Gaiha & Thapa, 2007; Ghezán, et al., 2002; T. Reardon & Berdegué, 2008; Shepherd, 2005).*

However, Reardon and Berdegue (2002) assert that exclusion of small farmers from participating in the modern value chains does not come automatically, citing the case of Purranque, Chile cooperative and the Hortifruti in Nicaragua. The smaller provincial supermarket chains in Purranque, Chile sourced their produce from the small farmers who were members of a cooperative (Berdegué, 2001). Hortifruti in Nicaragua got its supply of produce from dedicated wholesalers who contracted with around 200 producers, 80% of whom were small farmers. Considering the difficulty of competing with large farmers to supply supermarkets, an option would be to engage in group activities to link either directly with supermarkets or through intermediary wholesalers—to cooperate to compete (Shepherd, 2005). Page and Slater (2003) also argue in favor of cooperativism as a way towards achieving access to high-value markets.

A recurring theme, yet still in its infancy, is the cooperation not only among producers, but also by both private and public organizations in assisting small farmers (Shepherd, 2005; Vorley & Proctor, 2008). Benziger (1996) claimed that two cases, one in Thailand and another in Taiwan, were able to transition to high-value added crops through the flexible and creative interplay of the private and public sectors. Boselie, et al. (2003) documented five cases in which the presence of public-private partnerships could help make strides towards enabling the small farmers access the supermarket chains. The cases include Alice (Africa), TOPS (Thailand), Thai

Fresh United (Thailand), Hortico (Zimbabwe), and Homegrown (Kenya). From its cross-cutting analysis of various field cases from different countries, the Regoverning Markets consortium (cf. www.regoverningmarkets.org), a broad conglomeration of researchers worldwide, made a synthesis in its 2008 conference that the key factors to successful linkages between small-scale farmers and emerging modern markets involve:

1. *Farmers who are trained, organized, empowered to deliver quantity and quality in a consistent and cost efficient way;*
2. *Public sector with a conducive business environment including infrastructure, contract enforcement mechanisms, financial intermediation;*
3. *Receptive business sector.* (Vorley & Proctor, 2008, p. 12)

A crucial element in this tripartite partnership is the role of facilitation assumed by another party capable of bridging the worlds of farmers and of business. The facilitator may or may not be a third party, but this person or party should possess intimate knowledge about the dynamics of value chains in order to link small producers with big business and supportive government agencies. Yet there is still a dearth of proven models along this vein which can be scaled up or replicated, since such linkages are still in their nascent stage (Shepherd, 2005; Vorley & Proctor, 2008). On-going innovations are welcome in search of ways to minimize the exclusion and optimize the inclusion of small farmers in high-value markets.

In the end, while effective governance becomes a significant source of rent opportunities in the value chains, it also creates differing levels of dis-embedded markets. By exercising authority to coordinate activities and actors in innovative ways, lead firms increase barriers to entry or attempt to be more competitive in the industry. Effective governance structures can establish a wider systemic efficiency in the entire length of the chain to prevent bottlenecks and reduce costs, creating more value in the process. In the light of the significance of governance structures in the chains, this study explores alternative configurations in order to discover the possible inclusion of small farmers in the modern value chains.

Upgrading of Value Chains

Concomitant with the issue of governance is the need for constant upgrading for firms to sustain their control and authority over the chains. Upgrading generally relates to the attempts at improving the firm's position within the chain (Bair, 2005a). It refers to the pace with which firms innovate to become competitive and to extract surplus arising from the value added to the production processes. The concept of upgrading can be attributed to Michael Porter (1987) who advocated its major role in developing the competitiveness of firms in the value chains. He insists on firms being constantly engaged in industrial upgrading, but rejects the notion of upgrading in terms of cost reduction through exploitation of cheap labor ('lower order' advantage) as this tends to impel firms to "race to the bottom," detrimental to ordinary workers as well as to the firm in the long run. Higher order advantages are more sustainable for competitiveness in the long run, e.g., proprietary technology, product differentiation, brand reputation, and customer relationships.

Gibbon (2001) proposes the possibilities for upgrading through capturing higher margins for unprocessed commodities specifically by moving up in the quality grade ladder, increasing volumes, making supply deliveries more reliable, establishing remunerative contracts through forward sales, or engaging actively in hedging risk via utilizing futures and options instruments.

Murphy (2007) notes that upgrading derives from the mobilization of various resources or capabilities towards initiating and managing innovations. Upgrading can be in terms of cost-effective access to markets or favorable local levels of productivity in relation to competing countries, cities, or regions. It requires the establishment of reliable business networks and the building of trusting relationships with regional markets, lead firms, and the global economy. It can be facilitated through the effective and transparent functioning of financial and political institutions as well as through reduced transaction costs. Physical accessibility and connectivity

to markets enhances upgrading, including the evolving technological capabilities and specializations within particular places and regions.

In a more detailed fashion, Kaplinsky and Moore (2001) offer four types of upgrading processes: process, product, functional, and intra-chain, a sampling of which is contained in Table 2.2.

Table 2.2. Examples of Upgrading Processes in Value Chains

PRODUCT UPGRADING	PROCESS UPGRADING	FUNCTIONAL UPGRADING	INTRA-CHAIN UPGRADING
• Price/Cost reduction • Fresh cuts • Packed foods • Canned foods • Frozen foods • Mixed foods • Pre-washed foods • Ready-to-eat • Microwaveable • Packaging/aesthetics	• Cold chains • Logistical platforms • Supply chain management • Containerization • Quality consistency • Supply reliability • Variety • Processed foods • Product combinations	• Subcontracting • Outsourcing • Externalization • Flexible production • Branding • Vertical integration • Horizontal integration	• Shift to specialty crops • Shift to non-traditional products

Much of the literature discussed thus far focuses on the global inter-firm coordination efforts and upgrading processes. While they are useful in outlining methodological approaches for the upgrading of firms, they can become more practical once the concepts are grounded in and extended to analyzing the potential participation of small farmers in the value chains. Not all value chains have direct connections with global businesses. Value chains at the national scale are just as important for analysis, since the local dynamics of production processes offer a more immediate source as to how coordination and upgrading activities can actually be institutionalized. Besides, global value chains always begin from local value chains. In a way, upgrading domestic value chains may augur well to prepare local producers for eventual sourcing to international clients later.

Value chain analysis presumes that firms or actors, in general, behave in order to maximize economic values in every activity in the chain. It underscores the primacy of purely

market motives in coordinating and upgrading production processes. Little attention has been given towards the establishment of non-market relationships among different actors. This study fills this gap by incorporating equity dimensions in the governance structures through the integration of small farmers as active participants in the fresh vegetable chains. It shows the possibility of re-embedding markets through coordination of developmentally motivated efforts among various organizations towards the upgrading of small farm production systems. These organizations are not simply business firms and small farms, but also include nongovernment organizations, local government units, micro-finance institutions, private foundations, etc. While processes in the value chains remain primarily market-oriented, coordination and upgrading efforts are inspired by greater non-market values such as the social development of resource-poor farmers.

When applied to small farms as this present study seeks to do, governance and upgrading become more complicated and challenging as the whole gamut of culture, institutions, educational backgrounds, agricultural practices, traditions, and geographic dispersion needs to be considered. In contrast to organized firms, governing small farms requires the organization of disparate farmers who individually possess meager human, financial, and physical resources to participate alone in the value chains. Coordinating these small farmers demands catalyzing their participation through collective action; thus, the necessity of cluster cooperation.

Clusters in Value Chains

On their own, individual farmers can rarely attain the competitive edge necessary to participate effectively in modern value chains. They face colossal constraints pertaining to finances, technology, organization, and infrastructure. But a possibility for resource-poor

farmers to improve their chances at participating effectively in the modern value chains is the formation of clusters. Clustering transforms disparate small farmers into collective units in order to jointly overcome the various challenges facing them and to create innovative efforts to make themselves more competitive (Pietrobelli & Rabellotti, 2006b). The idea of clusters is not a new concept but it has received new impetus since the 1990s as a new approach towards developing small-scale industries in developing countries (Schmitz, 1995). Clusters are geographic and sectoral concentrations of firms and institutions. According to Porter (1998), they include an array of interlinked component firms required for competition—input suppliers, machinery, services, and infrastructure suppliers. They extend from the upstream producers of complementary products in terms of skills, technologies, and inputs to the downstream market retailers and customers. Within their ambit are the public and private institutions that provide specialized training, education, information, research, and technical support.

Clustering opens up new opportunities for efficiency gains or powerful externalities which may be appropriated by the producers in the cluster and could facilitate the development of joint actions among local actors (Pietrobelli & Rabellotti, 2006a). Introduced by Alfred Marshall in the 1920s, external economies are the side effects often secured by the concentration of complementary businesses in a particular field. They are the incidental or unpaid gains (or costs) that result from the activity of one economic agent on other agents within the geographical concentration, e.g., division of labor and specialization among small producers, provision of specialized products, emergence of suppliers of raw materials or components, machinery, and spare parts, the emergence of sales agents for distant markets, the emergence of specialized services in technical, financial and accounting matters, and formation of associations (Schmitz, 1995). While incidental external economies are important for the development of clusters, it is however insufficient to explain their strength. Consciously

pursued joint actions in tandem with external economies complete the explanation of the strength of clustered firms. According to Nadvi (1999), clusters generally form in three types. First, joint action within vertical linkages includes backward ties with suppliers and subcontractors and forward ties with traders and buyers. Second, joint action within bilateral horizontal linkages between two or more local producers can include joint marketing of products, joint purchase of inputs, order sharing, common use of specialized equipment, joint product development, and exchange of expertise and market information. Third, joint action within multilateral horizontal linkages among a large number of local producers, particularly through cluster-wide institutions, includes cooperation in business associations and business development service centers.

The competitive advantage derived from local external economies and joint actions is called collective efficiency (Schmitz, 1995). The combination of incidental external economies and the effects of active cooperation determines the degree of collective efficiency of a cluster and, dynamically, its potential for fostering upgrading in the value chains. Collective efficiency increases the competitiveness, flexibility, and responsiveness of a sector as it provides opportunities for small producers to increase their production, take on manageable levels of risk, expand market reach, and improve technological capabilities (Murphy, 2007). Both are integral elements: incidental, passive external economies do not suffice without joint actions, and joint actions cannot develop independent of external economies (Pietrobelli & Rabellotti, 2006a). Therefore, the focus is on the role of active inter-firm or inter-organizational interactions in the clusters (both vertical and horizontal) that could generate collective efficiency or increase returns from incidental external economies.

The intersection between value chain analysis and clustering contributes to the operationalization of re-embedding processes as it highlights the establishment of vertical

market and non-market ties between producers and buyers as well as the strengthening of horizontal inter-organizational cooperation to enhance the small farmers' market power and competitiveness. This study particularly seeks to unravel the dynamics of the relationships beyond purely market motives among a network of development agencies, a private business company as the buyer, public institutions, and the small producers in pursuit of a better coordinated/governed value chain and well-organized clustered production units at the grassroots. I affirm the observation of Kaplinsky and Moore (2004) that the mere participation of the small producers in the value chain is not the most important element in attempts at better governance and enhanced upgrading, but it is rather the quality of their participation. While it is noteworthy indeed to analyze the quality of insertion of small farmers in the value chain, it also sensible to assess how their participation contributes to the sustainability of their livelihoods. The wealth created in the value chains should be able to trickle down to the producers themselves who constitute the "critical factor in agricultural production in that they are responsible for assembling the factors of production, making decisions, and utilizing their own labor during the production cycle" (Friedland, 1984, p. 223?). How this livelihood sustainability is conceptualized in this study is the subject of the next discussion.

Sustainable Livelihoods

Sustainability is intimately related to the concept of livelihood which in turn is associated with capitals and capabilities. A livelihood consists of capitals and capabilities to make a living. According to Chambers and Conway (1992), capitals can be tangible or intangible assets. Tangible assets include stores (e.g., food stocks, stores of value such as gold, jewelry and woven textiles, and cash savings in banks of thrift and credit schemes) as well as resources (e.g., land, water, trees, and livestock, farm equipment, tools and domestic utensils). Intangible

assets can be either claims or access. Claims are demands and appeals which can be made for material, moral or other practical support or access, often experienced at time of distress or shock. Access refers to the opportunity in practice to use a resource, store or service or to obtain information, material, technology, employment, food or income. Scoones (1998) categorizes capitals into four types: human, physical, natural, and financial. Bebbington (1999) adds a fifth category of social capital and considers a sixth which is cultural capital.

The concept of capitals is closely allied to the agency of human beings through skill and knowledge as well as effort in augmenting production possibilities (Sen, 1997), such as agricultural intensification/extensification, diversification, and migration (Scoones, 1998). Capitals are means to an end. They are assets to make a living, resources that people use in building livelihoods, and things that allow survival, adaptation and poverty alleviation (Bebbington, 1999). Sustainability therefore can be understood in terms of the changes in the overall composition and stock of these five capitals. It relates to the maintenance or enhancement of resource productivity on a long-term basis. It is associated with security of livelihoods in the sense of being able to secure consistent and predictable ownership of, or access to, resources and income-earning activities—in essence, to capitals. Sustainability means maintaining or increasing consumption levels within the household to reduce poverty. It is food security and freedom from recurring hunger by mobilizing the different capitals into income flows. It is to have the materials to continue on living.

But sustainability is more than the possession of economic resources. It is more than just increasing incomes and becoming wealthy. It is more than just being in the fleeting happiness of material gain. Sustainability also refers to enhancement of capabilities. Capitals are not simply mobilized for economic advancement, but are the sources of people's capacity to be and to act (Bebbington, 1999). Capabilities refer to being able to perform basic functioning,

to what a person is capable of doing and being (Sen, 1997). In other words, Sen believes that capabilities are what people can do or be with their entitlements, a concept which encompasses far more than material concerns of food intake and income. Capabilities include the notion of "being adequately nourished, to be comfortably clothed, to avoid escapable morbidity and preventable mortality, to lead a life without shame, to be able to visit and entertain one's friend, to keep track of what is going on and what others are talking about (Chambers & Conway, 1992, p. 4). Capabilities also pertain to people's capacity to cope with stress and shocks. They are people's ability to search for and make use of livelihood opportunities. While capitals are the basis of an agent's power to act and to reproduce, capabilities, arising from capitals, "challenge or change the rules that govern the control, use and transformation of resources" (Bebbington, 1999, p. 2022). Capabilities serve as the means not only to economic production, but also to social development as they are considered both means and end. Capabilities allow one to perceive quality of life in terms of valued activities and the ability to choose and perform those activities. Capabilities are the abilities of human beings to lead lives they have reason to value and to enhance the substantive choices they possess (Sen, 1997).

Livelihood sustainability therefore "best expresses the idea of individuals or groups striving to make a living, attempting to meet their various consumption and economic necessities, coping with uncertainties, responding to new opportunities, and choosing between different value positions" (Long, 1997 cited in de Haan & Zoomers, 2005, p. 32). Sustainability goes beyond just attaining the economic or material objectives life. Sustainability includes the non-material aspects of well-being—self-esteem, security, happiness, stress, vulnerability, power, exclusion, as well as more conveniently measured material concerns (Chambers, 1989 cited in Scoones, 1998) . Sustainability is the attainment of living conditions that imply an improved quality of life according to people's own criteria of well-being (Bebbington, 1999).

Considering the complexity of the concept of sustainability from the above discussion, this study narrows down the definition of sustainable livelihood to increases in income, regularity of income flows, and diversified sources of income. The three variables are more observable and measurable. They also represent the more fundamental economic elements constituting the idea of sustainable livelihoods. They may not totally grasp the whole picture of sustainability, but they can strongly indicate the possibility of achieving sustainable livelihoods. Sustainability, in the end, is neither static nor absolute but a continuous process of becoming for every household. Changing market trends, shifting economic conditions, price volatility, natural stresses and shocks, and household dynamics are among the myriad of factors which constantly confront small farmers. In fact, they could sometimes in the future radically modify their existing livelihoods and inevitably threaten sustainability. Any assessment done about a household's livelihood sustainability is at best a judgment of the "here-and-now" situation in reference to the past experience as well as a reassurance of its holding true in the immediate future. The judgment cannot be a fixed and absolute truth in the longer term.

Inasmuch as sustainability involves the maintenance and enhancement of resource productivity on a long term basis, it cannot be sufficiently assessed within the time frame in this study. Two years of empirical observations and data gathering may not be enough to provide definitive conclusions about the prospects of sustainability of the small farmers under study. The most accessible variables, however, are the income-based indicators as these are affected by ongoing livelihood activities by the households and can be monitored even within a short span of time. In fact, changes in other capitals, e.g., human, physical, natural, and social capital, are less discernible within just a couple of years, unless there is a sudden giant increase or decrease in the financial assets. More so, capabilities require a longer time frame to observe the changes among the household members. For example, training, seminars, and other

educational sessions to enhance capabilities take time to develop within the individuals. Such capability-enhancing activities may take place, yet the learning process takes awhile to unfold as experience grows in the individual. Inescapably then, we can only readily rely on the income-based variables as they are the immediately available resources from which to determine in more ways than one the acquisition of, or access to, other capitals and capabilities to indicate a direction towards sustainability.

The Conceptual Framework: An Attempt at Re-Engineering Markets

This study entails a description and analysis of the structures and processes involved in the coordination of various activities in producing a vegetable product by small farmers and delivering this product to a fast-food company. Central to this study is the investigation of the dynamics of bridging resource-poor farmers to a high end market buyer in view of upgrading farmers' capabilities and allowing them to become regular players in the supply chain of a particular private company. Value chain analysis is most apropos in that it provides a framework to map out the sequence of activities involved in the production of the product up to its point of delivery for sale. We are not interested only in the actual series of activities, but more on the inter-organizational network of relationships through which these activities are coordinated or governed.

The coordination of the value chain, with small farmers as producers, is a complex undertaking as it involves unorganized, dispersed, and resource-poor households. Unlike in a formal business firm where commodities are produced by waged labor that follow a specific production process, coordinating a multiplicity of households requires a process of organizing, a pool of funds for production, a program of technology transfer, and a series of learning sessions to start the whole production process. Thus, included in the network of inter-organizational

linkages are various agencies with their own specific contributions to share to the farmers, e.g., local government units, national government agencies, foundations, funding agencies, non-government organizations, suppliers, etc. Also, besides the normal control of the production processes to make quality produce (business orientation), at stake is the need to organize the small farmers and mobilize their various productive resources so as to open up opportunities for them to capture the greater value added in the vegetable chains (social development motivation). Clustering as an organizational strategy allows this possibility of managing the spatially dispersed farmers into a collectivity to make them capable of generating efficiency gains through various joint actions. Clustering serves as a practical upgrading option for the development of small farms to become competitive production units despite their meager individual size and eventually for leveraging small producers with downstream buyers.

As already implied, the analytic point of entry in this study is the small farmer. Ellis (1988) describes peasant farmers as:

> *… households which derive their livelihoods mainly from agriculture, utilize mainly family labour in farm production, and are characterized by partial engagement in input and output markets which are often imperfect or incomplete.* (p. 13)

The conceptual definition of small farmer used in this study borrows from the suggestion of Ellis above. An additional characteristic though is the ownership or at least an access to an average of 2 hectares of land; thus, the term small farmer. The assignment of 2 hectares (4.9 acres) of land to define small farmers is based on the current national average of landholding of farmers in the Philippines (cf. NCSO, 2010). The importance of small farmers in the vegetable value chains cannot be overemphasized as they represent the producers who mobilize and assemble resources for the actual production of fresh vegetables(Friedland, 1984). Small farmers likewise constitute a huge 80% majority of farmers in the Philippines (Blatt, et al., 2007) and thus any attempt at upgrading of the vegetable value chains should include as well the sustainability of

small farmers' livelihoods and ultimately the upliftment of their living standards. In this light, the final object of this study is the assessment of how both the participation of small farmers in the value chains and the grassroots cooperation engendered by clustering strategies improve their prospects of attaining sustainable livelihoods, defined as increases in income, regularity of income streams, and diversity of sources of income.

Setting up the small farmer as the *unit of analysis* while combining value chain analysis with clustering as the *framework for analysis* constitutes my modest attempt towards conceptualizing the re-embedding of markets. Re-embedding is actualized through the vertical integration of the small farmers in the value chains as the upstream producers of commodities, organized around the motive of promoting their social development. Clustering reinforces their integration by building horizontal cooperation among atomistic small farmers with the goal of making them more capable in engaging with markets and eventually forming them as long-term business partners with downstream buyers. Finally, the *object of analysis* is the extent of efficacy of value chain integration and cluster cooperation in enhancing the capability of farmer-households to create wealth and alleviate their poverty. The diagram shown in Figure 2.2 visualizes how this re-embedding of markets may be fulfilled.

Polanyi (1944) argues that economic systems up to the end of feudalism in Western Europe (i.e., before the rise of free market economy) were organized according to the principles of reciprocity, redistribution, and householding. Reciprocity involves symmetrical exchanges between social entities, e.g. gift exchange. It does not necessarily imply just an act of bartering, i.e., a two-movement of goods, but a more encompassing give-and-take relation between two entities, although barter may be part of it. Redistribution focuses on the centricity of an entity (tribal leader or feudal lord) to whom all collected or produced goods of the community converge and from whom such goods are appropriated by other members of the society. It is

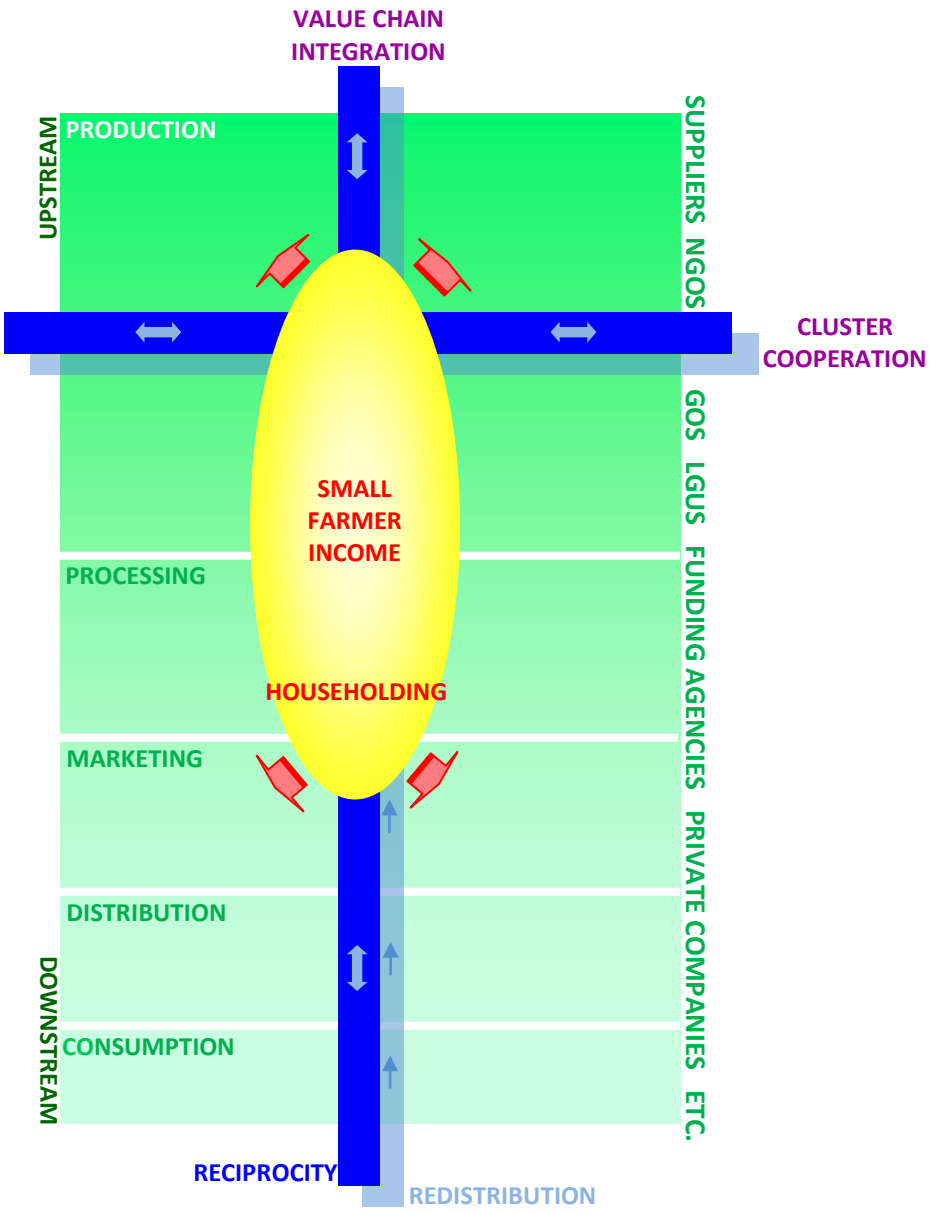


Figure 2.1. Conceptual Framework of the Study

the apportioning or allocation of resources by a central entity to the members of the community, resources which have been gathered together intended for the use of the community. Householding pertains to the self-sufficiency of family units in terms of production and consumption. Production revolves around the individual household production for own consumption. It creates a sense of autarchy within the family unit which encourages its viability as an on-going small economy. These three principles of reciprocity, redistribution, and

householding operate, and are intimately tied within, social organizations and are thus never mutually exclusive as they represent aspects of social relationships. They are the same principles that further cement the cohesion of and strengthen the bonds within the communities. Markets existed only as ancillary avenues for the exchange of goods not otherwise obtainable by individual households.

However, in applying Polanyi's principles in this study, a wholesale adoption of his principles today is an exercise in futility. We can never totally recover the romantic notions of reciprocity, redistribution, and householding exactly as in the earlier historical junctures, much less reconstruct the old societies. But we can adapt and approximate these same principles in the present order of reality and retrieve certain expressions of these social aspects that characterized traditional societies before. Essentially, re-embedding markets entails the attempts at re-establishing some elements of reciprocity, redistribution, and householding even in the present configuration of social organization marked by institutionalization of markets as the primary logic of production and distribution of goods through price mechanisms. It implies reclaiming the paramount role of social and cultural relations in society and to place human development back at the forefront of any material progress.

Based on this research, the principles of reciprocity and redistribution can be gleaned from the processual dynamics of value chain integration and cluster cooperation. They emerge from deliberate attempts at configuring a governance structure involving inter-organizational relationships that converge to upgrade small farm production and make it competitive in the high value market. How these two principles are concretely expressed in the myriad of relationships form part of the objectives and contributions of this study. Furthermore, sustainable livelihoods approximate the principle of householding in that it seeks to strengthen the economic viability of the family unit through increases in income, regular streams of income,

and diversified sources of income. The household self-sufficiency envisioned by Polanyi may be expressed through the capability of the individual farmers to sustainably produce in order to create wealth for the family and smoothen their daily consumption needs using the incomes thus generated.

In the end, the conceptual framework implicitly recognizes the primacy of the workings of the market economy over the socio-cultural relations of peoples yet at the same time explicitly asserts the possibility of operational openings for the perennially marginalized sectors of society to insert themselves in the prevailing economic structures, such as the vegetable value chains. Marshalling the literatures on value chain analysis, clustering, and sustainable livelihoods, the study attempts to generate empirical insights about the forging of durable relationships among well-meaning individuals and agencies in socially developing the capabilities of small farmers in the modern markets, thereby re-establishing the value of *markets working for the people* and transcending the common practice of using *people at the mercy of markets*. The framework suggests that the emergence of modern markets involves discrimination against small farmers from their ambit of production processes. How market relationships can be institutionally reconfigured crucially determines the quality and effectiveness of their participation in the value chains, even amidst the colossal challenge and problematic such re-engineering entails.

Research Design and Methods

This study analyzes the activities and interrelationships of various agencies in support of upgrading farm production processes of small farmers and examined the latter's prospects of sustainability gained through their participation in the fresh vegetable chain. Previous studies in value chains deal mostly with inter-firm (meso-level) and industry-wide (macro-level) analysis.

Their structural deterministic tendencies usually paint the small farmers with pessimism as the ready victims of globalization, as the marginalized and excluded sector in international business relations, or as the most disadvantaged actors in the modernizing value chains. These studies were useful in that they unravel the uneven distribution of incomes among actors in the value chains, though they only suggested certain general propositions to encourage the small farmers to become capable of receiving the gains of the emerging modern markets without a clearer blueprint on how to go about them in the ground. Some studies, in fact, are less optimistic about the prospects of small producers in the modern value chains (cf. Gibbon, 2001; Ghezan, et al, 2002; Reardon, et al, 2003; Kaplinsky, 2003; Berdegue, et al, 2005). But the search for the functional market arrangement for the small farmers continues unabated. Hence, there still remains a lacuna of empirical analysis of actual farmer groups struggling to assert their agency to join and/or survive in the ever-changing agro-food markets. This study seeks to contribute to this search by engaging in a micro-level analysis of value chains focusing on small farmers themselves and by complementing the theoretical propositions in the literature with empirical observations from the field.

In this light, this research employed the case study method of qualitative research in order to:

1. describe the various activities engaged in by the small farmers in upgrading their production processes vis-à-vis the other agencies which supported their participation in the value chains;
2. identify the structures and processes entailed in the inter-organizational linkages involving various agencies in coordinating the value chain integration of the small farmers (vertical cooperation) and in establishing clusters (horizontal cooperation) as

the major strategy in organizing and mobilizing their participation in the vegetable value chain;

3. analyze and discover the emerging patterns of relationships from the myriad interactions among the various agencies involved in the value chain as well as from among the farmer-households within the clusters; and
4. investigate and describe the quality, direction, and extent of the livelihood outcomes generated by the small farmers' participation in the fresh vegetable value chains.

Three sets of data basically comprise my research: integration of small farmers in the value chain, cooperation among small farmers within and between clusters, and sustainable livelihood outcomes. For value chain integration, the data include the history of the bridging project, description of the various organizations involved in the project, structures that govern the project, processes of upgrading, and the different chain activities engaged in by the farmers. In the beginning, I collected as much as data as I could related to the various activities performed by the farmers in conjunction with the assisting organizations from interviews, meetings, conversations, participant observations, and organizational archives, without any guiding categorization to start with. Along the process, I tried to inductively arrange the data into a series of activities following the business functions engaged in by a firm. The sample of these business functions are given by Michael Porter (1985) in his seminal book on value chains, *"Competitive Advantage: Creating and Sustaining Superior Performance."* I adapted Porter's categorization into a set of business functions that are actually performed by the farmers. In doing so, I was able to focus my data gathering to such activities as capital resource generation, infrastructure establishment, purchase and delivery of agricultural inputs, seedling preparation, crop care and maintenance, post-harvest processing, contract negotiation, delivery

and sale of vegetables, price establishment, and, finally, accounting and distribution of sale proceeds. These are the activities I use later on to formulate a matrix of inter-organizational interactions with the assisting agencies.

For cluster cooperation, the data include the stages through which clusters were established and the set of activities where cooperation takes place. This set of cluster cooperation activities is inspired by the categories of variables used by Milton J. Esman and Norman T. Uphoff (1984)in their book, *"Local Organizations: Intermediaries in Rural Development."* Inasmuch as the clusters constitute informal local grassroots organizations, the variables used by Esman and Uphoff in assessing the effectiveness of local organizations in promoting rural development are the stepping stones in formulating the set of activities subsumed under cluster cooperation. These activities are feasibility study preparation, formulation of plans and programs, recruitment of project beneficiaries, accounting and bookkeeping, production protocol formulation and implementation, loans administration, conduct of training and seminars, conduct of meetings, appointment of leaders, rewards and sanctions, and, finally, network and linkage development. These are the activities I use later on to formulate a matrix of inter-organizational interactions with the assisting agencies.

For livelihood sustainability, the data include the household information on the five capitals: human, financial, natural, physical, and social capital. These data were gathered through a household survey. Important data for sustainability are the outcomes of the value chain integration activities which consist of production yields, volumes, costs, gross sales, sales from Jollibee Foods Corporations, sales from the local markets, and net proceeds. The assisting NGO (Kaanib Foundation) provided the data, but I have to reconstruct them often in order to reconcile some of the figures contained in their records, especially with regard to names and some numbers that keep on changing. Thus, there may be some discrepancies between the

figures presented in this study and the official records held by Kaanib. I tried to settle on the available data given to me, since reconstructing those data takes so much time to accomplish.

I gathered data from various sources, such as household survey of family farms, key informant interviews, in-depth interviews, focused-group discussions, participant observation, and organizational documents. Field data collection commenced in November 2008 and ended in June 2010, but a break occurred from July until October 2009, when I went back to the United States. I resided in Malaybalay City, Bukidnon and had to travel for an hour by motorcycle or pick-up truck to reach the research site, the Municipality of Impasugong, Bukidnon, Philippines. I did attempt to stay for a week in one of the villages, but the spartan living in one of the households was quite difficult to endure. The severe lack of amenities such as water, light, beds, beddings, and good restrooms proved not too conducive for intellectual work. So I gave up on it and just settled in going and back forth from my residence to the area. There were times though when I stayed in the convent of the Catholic Sisters located in the Poblacion (town center) for two to three days at a time and from there I visited the farmers in different villages.

The data gathered through the household survey were coded and analyzed using the Statistical package for Social Sciences (SPSS). I used descriptive analysis to generate information regarding frequencies, averages, summations, and minimum and maximum figures on pertinent variables. Using all these information, I then described the household profile of the small farmers to serve as the benchmark data for my study. The household profile was also useful to countercheck the operational definition of “small farmer” I employed in this research.

I interviewed five staff from the non-government organization (Kaanib Foundation, Inc.) who were directly assisting the farmers as well as four staff from the funding agency (Catholic Relief Services) which facilitated the farmers’ participation in the value chains. At least ten (10) of the original participating farmers served as key informants regarding the actual events

occurring when the project started and their participation in the production processes, beginning from the trial production up to the first delivery of produce. I also interviewed the Purchasing Manager in charge of fresh produce procurement of Jollibee Foods Corporation in order to gather their views and perceptions regarding the company's move to purchase directly from the small farmers. But the bulk of the data with regard to the small farmers' integration in the value chain came from participant observations. I attended the regular meetings among the farmers themselves, meetings of lead farmers with representatives from various government and non-government agencies, gatherings of farmers to entertain visitors, and various occasions involving common group discussions. During these meetings, I had the chance to talk to different people who attended the meetings or, in one way or another, involved in the project. We conversed about plans, courses of actions, suggestions, recommendations, and what not. I also had lengthy casual conversations with both the farmers and the members of the non-government organizations. Unfortunately, those valuable data from casual conversations were not recorded, though some notes were jotted down.

My extended stay in the area allowed me to gather valuable information not otherwise readily collected through formal interviews. In fact, many times I tried working in the office of Kaanib Foundation to deepen and strengthen my relationship with the staff as well as to fish more stories and insights at what was going on in the project. True enough, I had many occasions when I got to observe the informal discussions regarding the project itself and the formulation of concrete plans for the future. Those conversations became important as they practically served as tactical evaluation sessions, though made casually. Many vital decisions arose from such conversations and I captured those moments so much so that I could closely observe the dynamics and directions of the whole project.

I conducted six focused-group discussions among the farmer clusters in order to assess the on-going production operations, to determine what aspects helped and what did not help them, to listen to their joys and disappointments, and to solicit their own suggestions on how to improve certain agricultural practices and marketing procedures. I organized the focused-group discussions from February 2010 until May 2010 in the villages of Quisumbing (2 times but different participants), Intavas, Poblacion, Kapitan Bayong, and San Vicente. In all, there were 48 participants who joined in six different discussion groups. The participants were mostly farmers who experienced the first two production cycles and around 8 of them were new to the project at that time. I welcomed them as well, since they really wanted to know more about the project.

Also beginning February 2010, I started doing the household survey of family farms so I could gather household baseline data and farm production. There were a total of 41 households who participated in the first two production cycles (January 2009-April 2010), based on the roster of project participants provided to me by Kaanib. Six (6) of the 41 farmers decided to discontinue their participation in the project for various reasons. Their reasons will be discussed later. Five of the 6 farmers withdrew after the first production cycle which ended in June 2009. The other one withdrew after the second production cycle which ended in April 2010. The withdrawals reduced the number of active participants to 35 farmers. I wanted to interview all 35 households using a structured survey instrument, but I was only able to interview 33 of them, representing a refusal rate of about 6%. Those interviewed only covered the participants of first two production cycles. I did not include the additional new participants for the third production, since they were not sure then whether to join the project or not. In fact, the list of new project participants was not yet definitive by the end of May 2010. But there were at least 23 of the potential new participants. Kaanib furnished me with an updated list of participants in

December 2010 and it contained a total of 74 active small growers. Additional farmers joined the project after May 2010.

Besides household data, I wanted to interview the farmers in order to assess the outcomes of their participation in the bridging project with Jollibee Foods Corporation. Thus, I decided to postpone the survey until February 2010 in favor of allowing more time for the households to experience the production processes for at least two years as well as letting the whole bridging project to settle towards maturity. Catholic Relief Services wanted to do a survey of the project participants by May 2010 and I actually waited for that to happen, so I would not have to do the interviewing myself. They began the planning and even the budgeting of this survey activity in November 2009, but it did not materialize. By February 2010, when there no concrete plans of action to do the survey by CRS, I decided to begin the interviewing myself.

I utilized available documents from the archives of the assisting NGO, particularly the minutes of meetings, attendance sheets, actual onion production records, net income proceeds, and the like. The analysis of these archival records corroborated the data gathered from interviews, focus-group discussions, and participant observations. Likewise, these documents not only validated the interview data but also supplemented the data which individual interviews failed to provide.

At the outset of my data collection involving the farmers, I realized that I had insufficient knowledge to understand the "language of farming." In several occasions when I piloted the survey instrument to 5 farmers in November-December 2008, I had to request that farmers to explain the processes and the terms they used in farming more fully so that I could understand them. This proved to be a setback since I could not easily or fluidly converse with the farmers. I could not immediately connect with the farmers. To remedy the situation, I developed an acre

of land at the back of our residence in Malaybalay, Bukidnon and established a farm where I could actually work on the land myself and produce something in the same way as the farmers did. In trying to develop the farm, I solicited ideas and insights from the farmers who readily and generously provided me with the information I needed. Such a move proved propitious as I easily established a more open relationship with the farmers since I was then beginning to speak the language of farming. In a way, my constant request for advice on farming propped up their sense of self-esteem as they taught me many things regarding farming. I could feel their enthusiasm in providing me the many details on how to go about planting, applying fertilizers, using what kind of chemicals to use against different pests and diseases, harvesting, etc. As a result, I developed a closer and friendlier rapport with the farmers, more than just a researcher-subject type of a relationship. Being a "farmer" myself, I also experienced the risks and uncertainties which the small farmers constantly face along the production process, a valuable resource which allows me to sympathize how they would actually feel and react against unfavorable farming situations.

My identity during the data collection phase of the research was indeed manifold and multifarious. Besides being a sociologist and farmer, I went around the villages as a priest and, later, worked with the NGO as an activist. As a Catholic priest, I celebrated masses in two to three villages each weekend and I met some of the small farmers who produced onions during these masses. The biggest advantage to being a priest and a researcher was the generous welcome the farmers accorded me when I visited them in their villages. People would give high regard to priests, at least in the Philippines. However, my being a priest initially created some distance with the farmers I interviewed, simply because they thought they were entertaining an important personality and felt rather shy in answering my questions. But my recurring visits to the villages and even joining them for lunch in their houses and for small talks while in their

farms narrowed down the distance and increased their trust in me as both a priest and a researcher.

Perhaps it was also because of my identity as a priest that I felt most welcome by the members of the staffs of Kaanib Foundation and Catholic Relief Services. It facilitated my data collection since they kindly responded to my requests for interviews and for furnishing me with some documents. More importantly, they allowed me to join them in most of their meetings and other activities, the better to observe more closely the operations of the project. My association with the staff of both Kaanib Foundation and Catholic Relief Services after several months of data collection became so close that they started to appreciate as well as anticipate the analysis I provided them about what seemed to be going on the project. Beginning in February 2010, they welcomed my suggestions and recommendations as to how to proceed with some particular production activities. I shared my knowledge about business management and gave concrete steps towards coordinating the many different households and activities in the production process. I prepared a module for leadership training to enhance the capabilities of the small farmers and ended up giving the training myself. The staff of the NGO thought I was in the best position to facilitate the training since I developed the module myself. In the end, I became a development activist just like the members of the NGO. But this put the research on another plane since it already involved a participatory research methodology. I wasn't only observing. I took an active role in the very thing I was supposed to study only. Perhaps it was a good chance to give back to the farmers…an opportunity for reciprocity.

The need to assist the NGO as well as the farmers in improving the efficiency of the production operations through better management systems and collective actions became imperative. Given my academic training in sociological analysis and experience in organizational leadership, I deemed it worthy to share my stock knowledge for the sake of helping attain the

ultimate objective of bringing more incomes to the small farmers. There was an opportunity to help out based on how the project was moving and I thought I had the resources to provide help; hence, I offered my ideas. Also, my participatory role highlighted the lack of practical and necessary skills the NGO staff and the farmers must have in order to engage more competitively in the open markets. In the final analysis, research wasn't meant only to explore and understand what are happening out there. Research would become more meaningful if it could improve people's lives. That was exactly the motivation over what I did. Admittedly, my involvement influenced to a certain extent the succeeding project management actions and helped avoid further mistakes. But there was that constant academic demand to remain objective despite becoming intimately embroiled in the operations of the project. The outcomes of the research must not be unduly influenced simply because I participated in it.

In line with the objective character of the research, it begs mentioning also that there might a potentially latent or unconscious connivance between myself as a Catholic priest (researcher) and the Catholic Relief Services (the project's main facilitator). The collusion could be in terms of showing in a better light the work of the CRS in this particular project or of the Catholic Church and to project its image as utterly benevolent in many ways; thus, worthy of appreciation. A practical consequence is to assign undue optimism regarding the whole project and brush aside the weaknesses and limitations of the NGOs assisting the farmers or of the project in general. I am absolutely aware of this and I am obliged to bracket my priestly character in the course of data analysis in order to maintain the objectivity needed in making the study and to strengthen the validity required in doing the research. To say the least, the participants in the project are not all Catholics but inclusive of other religions. The on-going recruitment for additional new farmer-participants targets mainly those who are willing and have the basic resources to join in the project, regardless of religious denomination. I myself am

not part of CRS and am not being paid in any way by CRS, so I can maintain my distance as I am not at all indebted to them. My primary patronage in this case still belongs to the academic discipline, which frontiers I am trying to push forward through this research.

CHAPTER 3

SMALL FARMS, BIG FIRMS: RESTRUCTURING MARKET RELATIONS

Introduction

The restructuring of market relations proceeded in a two-pronged manner by way of inclusion of small farmers in the supply chain of a fast-food company (value chain integration) and cooperation of small farmers among themselves and with other external agencies (cluster cooperation). Inclusion in the supply chain of a fast-food company necessitated the establishment of governance structures such that mechanisms could be put to allow the small farmers to participate as suppliers in the company. The governance structures entailed the involvement of different organizations to provide resources in bankrolling the production processes of small farmers. Lack of access to resources characterized the small farmers and prevented them from pursuing improvements in their livelihoods. To address this lack, external assistance would help in terms of overcoming the inertia holding off resource-poor farmers from engaging in more productive activities. These structures also paved the way for upgrading farmers' production systems to make them more responsive to market demands, especially against the standards required by the fast-food company of the buyer of the farmers' products.

On the other hand, value chain integration could never take off without the concomitant cluster cooperation of the small farmers. These farmers were practically unorganized and, as such, they could not participate effectively in the modern markets. Again, various external agencies instigated and sustained cluster cooperation by setting up the informal groups of producers and by organizing the collective efforts in producing and marketing

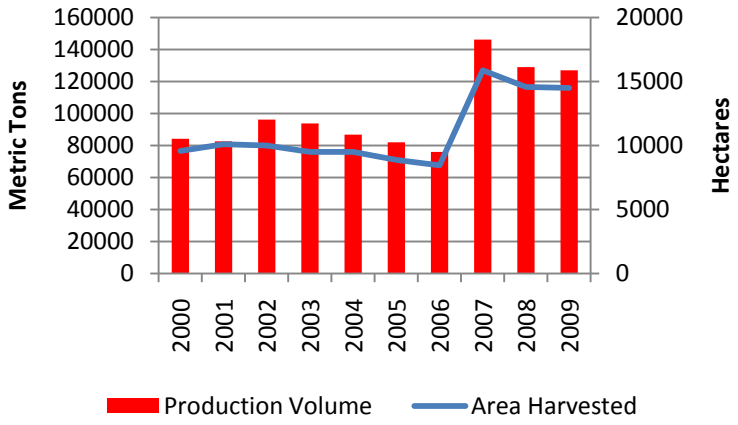
a particular product. Joint actions among clustered production units made possible the initial inclusion of the farmers in the modern value chains. Onion was the first product delivered by these clusters of producers to the fast-food company. A description of the domestic onion industry is therefore in order to provide the institutional context for the setting up of the succeeding value chain integration and cluster cooperation activities.

The Institutional Context: Onion Industry of the Philippines

Onion production is a potentially lucrative enterprise on a value-per-weight basis relative to grains production as farm gate prices of onions are much higher compared to corn and rice. In the Philippines, onions may a reach a high of Php 40 per kilo or even more in trading within a year while rice could be over Php 15 per kilo and corn at only around a high of Php 10 (see price situationer on www.bas.gov.ph). Thus, onions are considered as high value because the crop commands a higher price in the market. But onion producers face more risks and uncertainties as production correspondingly requires higher expenses and thus carries the possibility for higher losses in case of crop failure. Based on an interview last March 2010 among onion growers in Nueva Ecija, an onion producing province in the northern part of the country, prices actually dove to a low of Php 3 per kilo, way below their average production cost of Php 11 per kilo. Being a fresh produce, onions are perishable and need more care in handling, unlike rice and corn which are easier to store and have longer storage life. In addition, onions are more labor-intensive and entail regular management from the seedling stage to post-harvest activities. Nonetheless, the greater value added in onion production serves as a good incentive for farmers to earn better incomes despite the risks, when considering at least the price per unit.

Production. Onion production in the Philippines has been fluctuating since 2000 (Figure 3.1), but there has been an over-all rising trend over these years. Production hit 84 thousand metric tons in 2000 and ended at 127 thousand metric tons in 2009. The lowest figure in this ten-year period registered at 82 thousand metric tons in 2006 while the highest at over 146 thousand metric tons in 2007. In general, production improved on an average of 8% annually.

Figure 3.1. Philippine Onion Production
(Source: BAS, 2010)



Correspondingly, the area planted with onions also fluctuated upwardly, reaching a low of 8,442 has. in 2006 and a high of 15,879 has. in 2007. Annual average increase for onion hectarage was 7%. However, yields did not significantly increase over these ten year period and averaged only about 9 metric tons per hectare per year. Compared to other selected onion-producing Asian countries, the Philippines does not fare well in terms of yields. Although the average yield from 2000-2009 is 9 mt/ha for the Philippines, the latest figure in 2009 falls below the average at only 8.76 mt/ha, lower than most other countries as shown in Table 3.1. Taiwan was the most efficient in 2009, with 61.24 mt/ha with mainland China trailing far behind at 21.04 mt/ha per year. An obvious factor for the differences is the efficiency of production itself. But more importantly, a major reason to account for the big discrepancy in yields is the number of production cycles done annually. For instance, Philippines produce onions only once a year, beginning in November and ending the following April, while China and Taiwan produce all-year round. Philippine producers cannot afford to plant during the rainy season (May-October) since

onions require drier conditions. Instead, their practice involves producing rice during the rainy season in the first cropping cycle and onions during the dry season in the second cropping cycle.

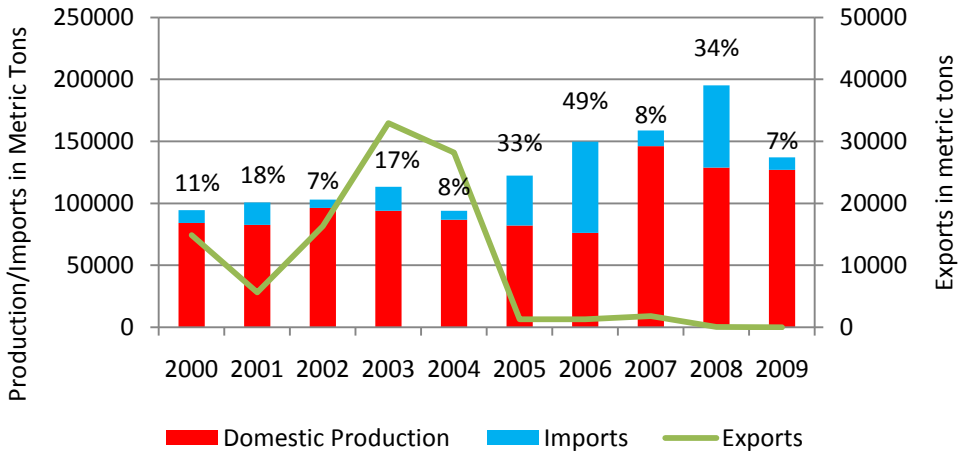
Table 3.1. Annual Comparative Onion Yields among Selected Asian Countries (mt/ha)

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Taiwan*	48.04	34.77	62.63	58.44	56.15	57.12	47.43	57.45	61.24	nd
China	21.19	20.85	21.47	21.90	21.21	21.15	20.61	20.54	20.79	21.04
India	10.49	10.59	9.91	11.32	12.64	13.41	14.12	16.93	16.26	16.26
Thailand	15.82	14.34	14.00	11.54	15.97	14.53	14.74	14.74	14.74	14.74
Indonesia	9.20	10.48	9.60	8.67	8.54	8.76	8.91	8.57	9.30	10.24
Philippines	8.80	8.18	9.62	9.88	9.12	9.23	9.00	9.20	8.84	8.76
Vietnam	3.00	2.97	2.97	2.96	2.96	2.96	2.96	2.96	2.96	2.96

*Source: Taiwan Agricultural Statistical Yearbook 2007, 2008; Source of rest: FAOSTAT, 2010

Technically, domestic production of onions is sufficient in volume for the domestic supply requirements. In 2009, the per capita production is 1.38 kg, while per capita consumption was at 1.27 kg, giving a net positive difference of .11 kg per capita. The biggest concern lies in the seasonality of onion production. The annual production cycle of onions in the Philippines can provide adequate domestic supply beginning in the month of February and lasting until September or October. Large commercial traders with access to cold storage facilities are able to stock up surplus after the end of harvests in April in order to provide the

Figure 3.2. Philippine onion domestic production and imports
(Source: BAS, 2010)



Note: Percentages represent share of imports to total supply.

supply requirements for the succeeding months. More often, available stock volumes still leave the 4th quarter of the year (sometimes, even the 3rd quarter) running short in supply; hence, the inevitability of importation. China, Taiwan, and India are the usual suppliers of onions for the other half of the year. Onion imports reached a high of almost half (49%) the available total supply in the country in 2006, during which time domestic production declined to its lowest level, at only 82 thousand metric tons (see Figure 3.2). If the seasonality of onion production continues, the country has no recourse but to import them from neighboring countries. On the other hand, Philippine onion exports decreased to a negligible level by the end of 2009, since local production cannot compete anymore in price with China and Taiwan. Hence, increased aggregate production volumes remain much to be desired in order to reduce import dependence and to recover export potentials in the long run. Both production efficiency and stability of production levels may augur well to improve the industry.

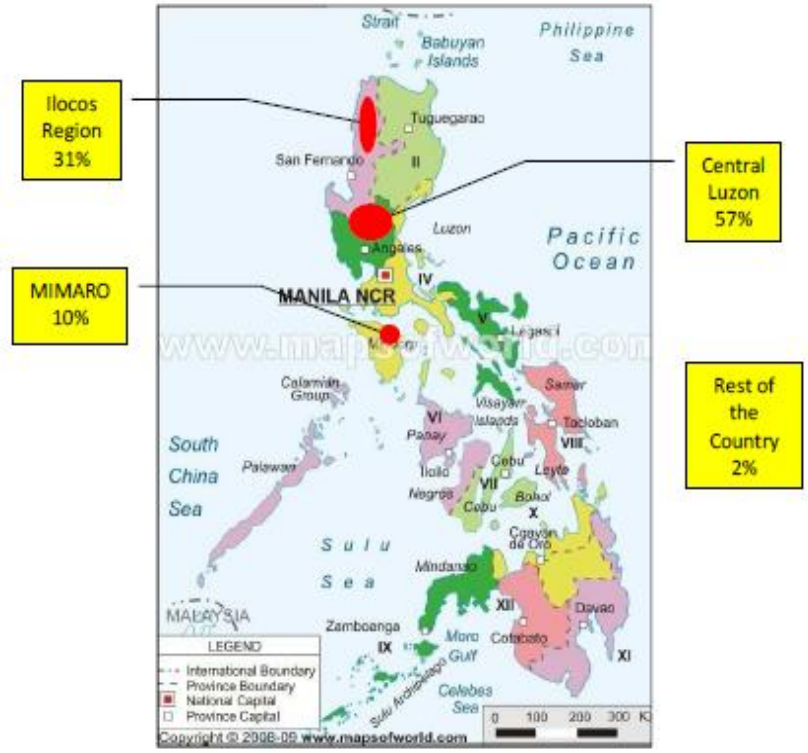


Figure 3.3. Major production sites of onions in the Philippines
(Source: www.mapsofworld.com)

Production Sites. Major production areas are clustered in three provinces, namely, Central Luzon, Ilocos Region, and MIMAROPA (Figure 3.3). The first cropping cycle is for paddy rice production which begins in May. This is the time when these parts of the country bear the brunt of typhoons visiting the archipelago, estimated at 20 typhoons annually. The annual onion production commences in the second cropping cycle starting in November, the time when local weather condition is moving towards the drier season and there is lesser probability of the occurrence of damaging typhoons. Onion harvests culminate in April the next year.

Marketing. According to a 2006 survey by the government's Bureau of Agricultural Statistics under the Department of Agriculture (BAS, 2007), the typical marketing channel of onions follows the one in Figure 3.4. Variations exist in terms of additional or reduced level of intermediaries. The longest chain involves farmer ➔ municipal assembler-large distributor ➔ provincial assembler-large distributor ➔ inter-regional assembler-large distributor ➔ retailers ➔ consumers. In certain instances, some layers between the farmer and the retailers are skipped, consequently reducing the chain. But since the onions geographically flow throughout the archipelago, the value chain normally involves several layers of intermediaries. Large distributors who have access to bodegas or cold storage facilities reserve their surplus in anticipation of higher prices during the lean months from July until January the next year. Despite additional expenses for cold storage, they are still able to realize good margins since onion prices during lean months usually are double relative to the wholesale price during the harvest season.

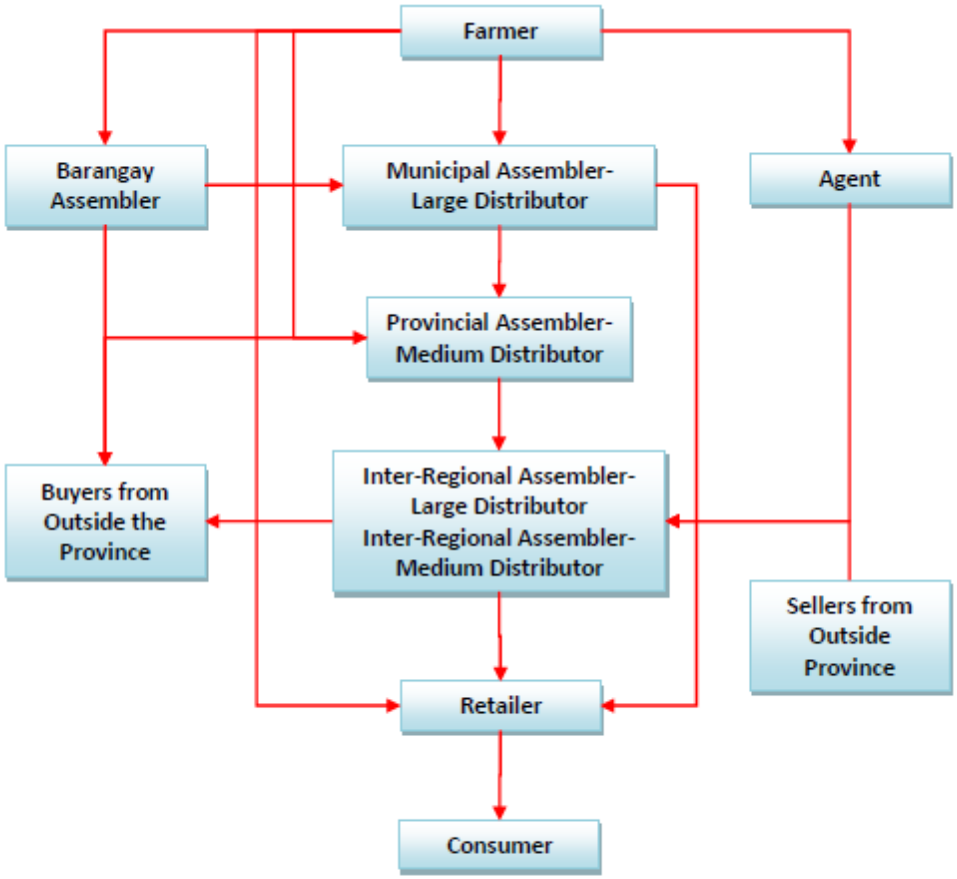


Figure 3.4. Typical Marketing Structure of Onions in the Philippines
(Source: BAS, 2010)

A common practice in onion marketing involves direct procurement by the traders[14] from the farmers especially during the harvest season (BAS, 2007). According to the same study, traders believe that they can be assured of the quality if they pick up the products by themselves. Some farmers opt though to deliver their produce directly to the stalls of the traders in order to establish a good and recurring market relationship with the latter. During off-season, buyers source their supply from traders who hold reserve stocks in bodegas or cold storage facilities. Another common practice is the cash payment to the onion producers. Upon pick-up of onion produce from the farm site, traders immediately pay the producers in cash.

[14] Trader is a generic term that refers to a buyer, agent, assembler, or distributor and related to the business of buy-and-sell.

The study noted that almost all (93%) of producers preferred this mode of payment. There are only few instances when producers opt to be paid the next day or be paid in credit terms.

Problems and Constraints. Although there was generally a positive growth in onion production over at least the last ten years, the surge of imports tempered the rate of production increases (see Figure 3a), the highest being in 2006 at almost half the total supply for the country. The FAO conducted a study in 2006 to identify import surges on certain commodities. Onions were among the several crops targeted. The study used a combination of three approaches: examination of trends in imported volumes, assessment of the ratio of imports to consumption and production, and comparison of the volume and value of imports with trigger volumes and prices. The FAO study concluded in its report that the Philippines experienced a sudden increase of imports from 1999 until at least 2004 (FAO, 2007). The low price of onion imports coming mainly from China was the culprit. China's onions were priced lower than the wholesale price prevailing in the Philippines during those years. The cheap imports from China exerted downward pressures on onion prices in the local markets even until hitherto, negatively affecting local farmers' incomes. This situation discouraged some farmers from planting onions during the next growing cycle, much less increasing their onion hectarage, consequently decreasing or at least preventing increases in production levels.

A look at China's onion industry reveals a huge gap with the Philippines (Table 3.2). China had a vast hectarage at 665.7 thousand hectares planted to onions in 2000,

Table 3.2. China Onion Production (2000-2009)

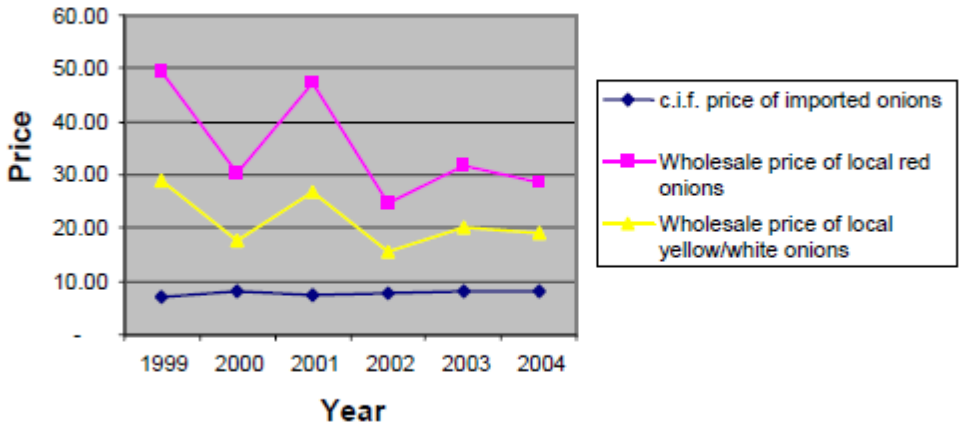
Year	Area (ha)	Yield (mt/ha)	Production (mt)
2000	665,722	21.18	14,104,696
2001	720,620	20.84	15,021,572
2002	770,713	21.46	16,544,660
2003	800,617	21.90	17,536,041
2004	850,834	21.21	18,046,822
2005	900,945	21.14	19,054,000
2006	951,013	20.60	19,598,050
2007	1,001,171	20.54	20,567,295
2008	1,001,171	20.79	20,817,295
2009	1,001,171	21.04	21,067,295
Average Annual Growth	5%	0%	5%

Source: FAOSTAT, 2010

compared with only 9.5 thousand hectares for the Philippines. In 2009, China planted onions on more than a million hectares, while the Philippines continued only with 14.5 thousand hectares. China's huge production volumes were nowhere less near in comparison at over 21 million metric tons and Philippines at only 127 thousand metric tons. Furthermore, onion yields in China averaged around 21 metric tons per hectare per year against an average of 9 tons per hectare per year for the Philippines. China's year-round production of onions resulted in yields which more than doubled the yields in the Philippines, providing its country with more than enough annual supply onions for food consumption. Its surplus of over 3 million metric tons yearly were surely destined for exports (FAOSTAT, 2010).

Interestingly, despite the long distance in transporting onions from China to the Philippines, China's onions still commanded a much lower price than the domestic produce (see Figure 3f). China's already cheap onions was surely helped by the Philippine's elimination of tariff quota for onions in 2001 in compliance with WTO rules, reinforcing the attractiveness of Chinese imports in the Philippines (FAO, 2007). The great price disparity between China and Philippine onions became an incentive for local Philippine traders to prefer imports at a lower

Figure 3.5. Prices of imported vs. local onions (in Php per kg)
(Source: FAO, 2007)



price from China than to patronize domestic production at higher farmgate prices. This resulted to a surge of imports during the past years (see Figure 3.5).

However, the legal importation is only part of the problem. The more pressing problem is the rampant smuggling in the country. While farmers' groups can persuade government authorities to go easy on issuing import licenses to commercial traders as they did in 2006, smuggling proves much more difficult to control. The illegal entry of cheap onions from China makes domestic production less attractive to both producers and traders. Producers fear they could not recoup their expenses since the farmgate price falls below the unit production cost. They consequently reduce their production levels as attested by declining national aggregate volumes from 2002 until 2006 (see Figures 3a and 3c). In 2006, persistent efforts by various farmers' groups compelled the government to resort to legal imports only when necessary and curtail the practice of smuggling. The farmers together with the government achieved partial victory against smuggling, resulting to a sudden spike in production volumes and hectarage beginning in 2007 (see Figure 3.5). However, traders preferred China onions not only for their low price, but also for their quality and longer shelf life (FAO, 2007). Local consumers benefitted the most from these cheaper onions. Thus, smuggling was not totally wiped out, since there were always ready buyers willing to purchase at lower prices with better quality.

The Philippine onion industry currently faces the great challenge of improving its competitiveness. Domestically, it cannot hide under the shield of protectionism to maintain the status quo, which seems to be untenable in the long-run. The country's compliance with WTO rules opens up the local economy to imported goods at reduced or zero tariff trade regimes. International price formation therefore will always keep putting pressures on domestic prices depending on the price disparities between trading partners. As already experienced, imported Chinese onions depress local wholesale prices to levels below production costs, and thus are

detrimental to thousands of farmers and devastating to the whole industry itself. The government, at the instance of the local producers, may be able to control the entry of imported cheap onions whether legal or smuggled, but only to a certain extent, since the incentives to procure at cheaper prices always remain. Besides imports, the other factors contributing to the displacement of domestic production by imports include rising costs of production inputs, lack of storage facilities, and inadequate handling and transport facilities (FAO, 2007). This is the usual refrain about problems in the vegetable industry in general. The local onion industry therefore needs to upgrade itself in order to compete effectively with international suppliers, more than just relying on policy safeguards or protectionist measures established by the government.

Internationally, the Philippine onion industry has lost its competitiveness in the export markets. Philippines used to export large volumes notably to Japan, but such exports have been negligible beginning in 2005 and continuing until the present (see Figure 3c). If it wants to recover its export markets, the local onion industry has to improve its cost efficiency and streamline marketing systems in order to compete with other countries. It also needs to diversify onion product varieties to better suit the preference of international consumers, among other things.

In sum, the potential for greater value added from onion production has been threatened primarily by downward movement in the international price formation, against which local production fares poorly in comparison. On balance, such pressures clearly highlight the necessity of enhancing the production and marketing systems of onions in the Philippines. To make local production viable, the onion industry needs to transform itself to become more competitive both in the domestic as well as in the export markets. It has to address the usual constraints perennially plaguing the vegetable industry. Possible alternatives include local

producers continuing their vigorous campaign against smuggling, diversifying production sites to escape recurring climatic disturbances, shortening the marketing channels, producing all year-round, and increasing yields per unit hectare. The succeeding sections document some of the steps undergone in a particular project seeking to upgrade the onion industry in the Philippines, albeit at the smaller scale at the outset.

Re-engineering Value Chain Governance Structures

The whole idea of linking the small farmers to the Jollibee supply chain started as a brainchild of the owners of Jollibee Foods Corporation (JFC), Mr. Tony and Mrs. Grace Tan Caktiong (CRS, 2010a). Realizing the myriad problems faced by small farmers, their lack of access to credit and new farm technologies, and their marginal participation in value chains, the owners wanted to actualize their corporate social responsibility by helping in the mobilization small farmers in the countryside in order to empower them to become more productive and market-oriented as producer cooperatives or farmer associations. Speaking before his fellow business leaders during the Corporate Social Responsibility Expo 2009 in Manila, Philippines, Mr. Tan Caktiong suggested that "the most sustainable corporate social responsibility that a company could have is one that is strategically linked to its business structure" (CRS, 2010).

Their company, Jollibee Foods Corporation, sourced at least 80% of raw materials from agricultural products which were mostly local in origin and produced by small farmers (CRS, 2010a). Besides relying on big traders and large commercial farmers for supply, they sought to integrate small farmers in their supply chain and to make such participation a part of the corporate structure of their business management. In so doing, the owners hoped to provide sustainable livelihoods to small farmers and consequently to improve their incomes.

Jollibee Foods Corporation is the leading fast food chain in the Philippines, with 1,882 restaurants nationwide and abroad and earning a net profit of close to Php 2.7B (US$ 62.8M) in 2009 (JFC, 2010). JFC's brands include Jollibee (flagship brand serving hamburgers and chickens), Chowking (Chinese cuisine), Greenwich (pizza), Red Ribbon (baked products), Delifrance (Western foods), Manong Pepe's (Filipino cuisine), Yonghe King (Chinese food based in Shanghai, China), and Hong Zhuang Yuan-Yin Jie (Chinese food based in Beijing, China). Recently, JFC divested itself of its 24 Delifrance stores to another company, but it has also acquired another fast-growing food chain, the Mang Inasal restaurants which serve Filipino style grilled chicken, adding 312 more stores in its roster (Burgos, 2010). In all, JFC has over 2,000 stores in its system at the end of 2010. With its huge number of food outlets to service, JFC needs hundreds of tons of assorted agricultural products every month, which are then processed into different food items for consumption. The owners wished that small farmers could directly provide even just 10% of their supply requirements for certain crops such as onions. From the outset, Mr. Tony Tan Caktiong recognized that actualizing his vision would be very difficult and challenging (CRS, 2010a). It would not be easy for both the company, with its exacting demands on logistics, and the small farmers, with nary an experience with big firms. Nevertheless the vision slowly translated into baby steps with the launching of the project in 2008 called "Bridging Farmers to the Jollibee Supply Chain." On that same gathering of business leaders in 2009, Mr. Tan Caktiong expressed confidence that "bridging farmers to the Jollibee supply chain is about turning challenges into opportunities" (CRS, 2010a).

Jollibee Foods Corporation committed its corporate social development arm, the Jollibee Foundation (JF), to the task. Mandated to share the values of its parent company by investing in people and developing communities as essential components of its corporate social responsibility, Jollibee Foundation was established in December 2004 to support people and

communities specifically through educational assistance programs, housing and community development projects, leadership development, environment-friendly initiatives, and disaster relief operations (see http://www.jollibeefoundation.org/). It was willing to commit at least Php 3M (US$70,000) for the initial two-year implementation of the bridging project. However, realizing the immensity of the work involved and the uniqueness of the project as a new private sector initiative, Jollibee Foundation (JF) started mobilizing its resources and establishing linkages with other development agencies to seek their support and assistance in gradually materializing the plan of linking small farmers to the company's supply chain. It solicited the cooperation of Catholic Relief Services (CRS) and National Livelihood Development Corporation (NLDC). As the project's prime mover, and as the parent company serving as the market buyer of the farmers' produce, JF virtually acted as the over-all coordinator in governing the whole enterprise.

Jollibee Foundation tapped the assistance of Catholic Relief Services particularly for the planning, implementation, monitoring, and evaluation of the project. In turn, CRS saw in Jollibee Foundation a good partner as it could further strengthen their programs of improving the livelihoods of vulnerable groups in the Philippines by directly linking them to markets. CRS has a track record in agricultural development programs and natural resource management initiatives in the country spanning the last two decades. One of its recent projects, in 2005-2008, involved the facilitation of farmers' participation in markets through market-driven strategies of clustering farmers into small production units in order to make producers more responsive to market demands. Funded by the United States Department of Agriculture (USDA), CRS carried out the project with the support of locally-based non-government organizations and the municipal government units where the farmers resided. This project, called "Small Farms and Marketing Project," assisted around 3,000 small producers in Mindanao, the southern island

in the Philippines. CRS' experience in social development, especially in market linkage activities, proved inviting to Jollibee Foundation, which needed another agency with experience in grassroots organizing and enterprise development to upgrade small farm production systems and to make small farmers direct suppliers to JFC's supply chain. CRS matched the financial investment of JF with another Php 3M (US$ 70,000) in order to quicken the project's implementation.

As access to credit has always been a perennial problem for small producers, CRS and JF decided to tap the assistance of the National Livelihood Development Corporation (NLDC) to facilitate the production financing of small farmers. NLDC is a parastatal company or government-controlled corporation and a full subsidiary of Land Bank of the Philippines, the official depository bank of the Philippine government. Mandated to serve as a fund delivery system and to provide socialized livelihood credits to agrarian reform communities, NLDC functions as provider of financial assistance especially to the beneficiaries of the government's land reform program in order to spawn livelihood activities and enterprises for the development of the beneficiaries' communities (see https://www.landbank.com/subLBP_livelihood.asp). It does not directly work with communities and individual farmers per se, but channels its funds through its accredited local micro-finance institutions (MFIs) which in turn serve the land reform beneficiaries. Although NLDC specifically prioritizes land reform beneficiaries through its various local micro-finance institutions, it also caters to the various financial needs of small farmers in general. Many local MFIs receive large chunks of funds from NLDC which they use to provide credit to small and medium sized producers. In effect, since NLDC controls a good portion of the MFIs' capital sources, it wields some authority over them. Catholic Relief Services and Jollibee Foundation banked on this strong influence of NLDC over local MFIs to facilitate access to credit financing of the small farmers participating in the bridging project. Thus, NLDC became the third

agency which had a major stake in the project. Its participation in the project could likewise further strengthen the government's role in establishing income-generating projects for the rural communities.

In essence, a tripartite partnership between Jollibee Foundation, Catholic Relief Services, and National Livelihood Development Corporation handles the governance of the linkage mechanisms involving small farmers as produce suppliers and Jollibee Foods Corporation as the market buyer. The three agencies instituted a Project Steering Committee (PSC) to manage the general directions of the project (Figure 3.6). Composed of the individual heads of the three agencies and their respective assistants, the Project Steering Committee formulates policies to guide project implementation, approves budgets, monitors project progress against predefined goals, and resolves problems and concerns. Convening quarterly since 2008 at the

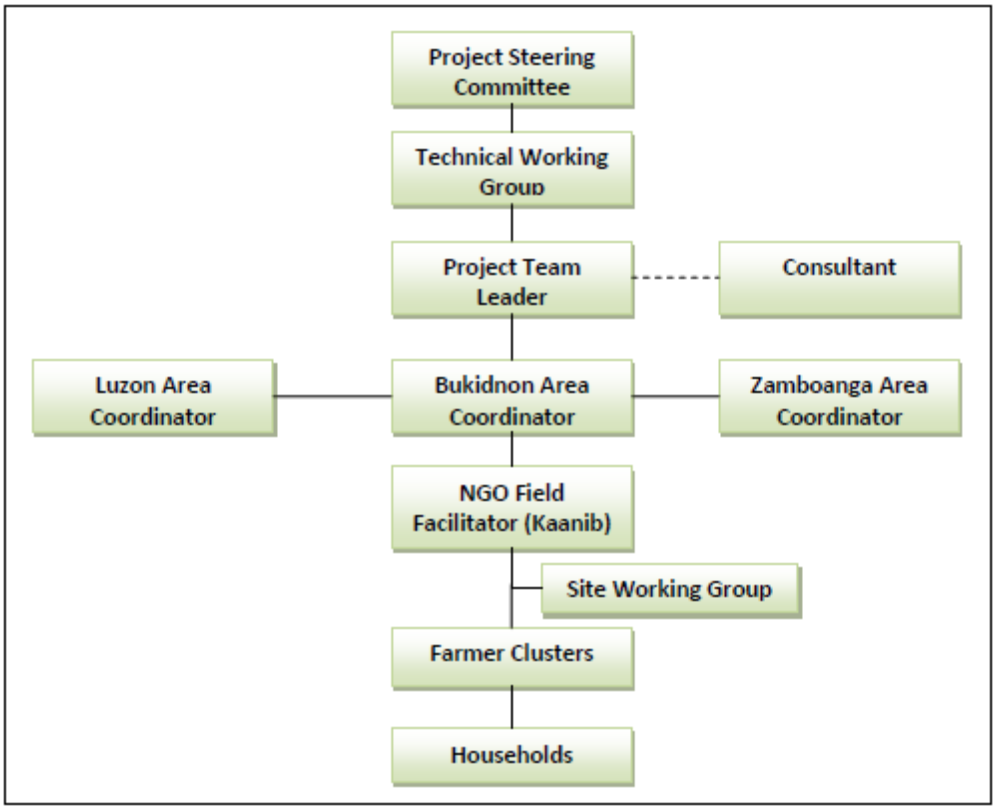


Figure 3.6. Governance Structure of the Linkage between Small Farmers and Jollibee Foods Corporation *(emphasis given to Bukidnon Area)*

Head Office of Jollibee Foods Corporation in Manila, there have already been eight meetings conducted by the Project Steering Committee. At some meetings, the committee invites representatives from the public sector, private sector, and non-government organizations to provide inputs for further policy directions or to take part in certain aspects of the project life.

The decisions and directions formulated by the Project Steering Committee are executed by the Technical Working Group (TWG). The members of this group include the point persons and staff from Jollibee Foundation, Catholic Relief Services, National Livelihood Development Corporation, and Jollibee Foods Corporation. Specifically, they prepare workable plans and goals, recommend general strategies for execution, review attained outputs and goals, assess problems and weak links, discover potentials and possibilities, address existing threats to project's continued progress, and propose innovations and adjustments when applicable. Gathering in the main office of Jollibee Foods Corporation in Manila, they also meet quarterly where they constantly discuss production capacities on one side and market requirements on the other so as to bridge more efficiently and harmonize more smoothly the flow of supply resources to the demand destinations.

Catholic Relief Services currently implements multiple projects in the Philippines, and "Bridging Small Farmers to Jollibee Supply Chain" is just one of them. For this particular project, CRS assigns a Project Team Leader who coordinates the production and marketing efforts down to the farmers' field level. Reporting directly to the Technical Working Group, the Project Team Leader, Mr. Dominador Mariano, is responsible for monitoring the progress in all five (5)15 sites participating in this project. The five sites are grouped into three areas. Luzon Area includes three sites—(1) Santa Fe in the province of Nueva Vizcaya, (2) San Isidro and (3) San Jose in the

[15] Since late 2009, CRS downgraded its development interventions in Nueva Vizcaya due to low quality crop production and Zamboanga Sibugay due to high transportation cost. Project implementation in Nueva Ecija and Bukidnon remains active. But for this study, the focus is given to the Bukidnon area, and thus Figure 3_ only shows the Bukidnon part.

province of Nueva Ecija. Bukidnon Area has a site in the Municipality of Impasugong. Zamboanga Area has the Siay site in the province of Zamboanga Sibugay. In each of these three areas, CRS assigns an Area Coordinator (Mr. Randy Paler) who works closely with the field facilitators, either a staff member of an NGO or a local government unit, in organizing the minute details of production and marketing activities. In the case of Bukidnon area, CRS tapped the services of Kaanib Foundation (henceforth called Kaanib), a non-government organization (NGO) as the field facilitator based on its long history of grassroots involvement in the area where the project is presently implemented.

To provide its history in capsule, Kaanib Foundation Inc. took root in 1980 from a project called Modified Cooperative Farm, supported by Xavier Science Foundation. The project aimed at improving the incomes of small subsistence farmers in Impasugong, Bukidnon, Philippines through the implementation of appropriate farm practices and extension of financial assistance for cash crop production. The original group of 5 farmer-cooperators later established the Kaanib Farmer Cooperative to organize small farmers in the municipality. The number of members grew to about 100 farmers in 1988. In that same year, the group formally registered the organization by securing legal status from the Securities and Exchange Commission to become the Kaanib Foundation, Inc., turning itself into a non-government development organization. Beginning in 1990, Kaanib Foundation started implementing projects with other social development partners. It participated in the TRIPARRD Program (Tripartite Partnership for Agrarian Reform and Rural Development) to assist 307 agrarian reform beneficiaries from fives estates in Impasugong and Sumilao Municipalities, an adjacent town. Another project began in 1991 through the assistance of World Accord, an international funding agency, to pursue a diversified upland farm project which benefitted 50 farmers. In 1993, Kaanib was chosen by the provincial government to make a two-year social preparation work for a much

larger project. It also engaged in the 1990s in the promotion of traditional rice varieties with assistance from MISEREOR, a funding agency based in Germany. Various other funding agencies provided much needed financial support for many projects implemented by Kaanib such as Philippine Development Assistance Program, Embassy of Japan, Georgetown University (USA), Philippine-German Development Foundation, Commission of European Communities, Heifer Philippines, United Nations Development Programme (UNDP), International Fund for Agricultural Development (IFAD), United States Agency for International Development (USAID), Lutheran World Relief, and Catholic Relief Services.

In the past 10 years, Kaanib maintained its focus of developing rural communities, small farms and small producers. It provided a number of beneficiaries at various times with technical assistance, production support, crop and livestock production, technology transfer, marketing assistance, community organizing, and training and seminars. Likewise, it implemented infrastructure projects such as a mini-hydroelectric power plant, solar dryers, water catchment, simple water impounding systems (sumps), simple upland irrigation systems, and community water systems (spring water development). Health care program (e.g., anti-TB campaign) and women's reproductive health were also part of its activities.

At present, Kaanib manages at least two major projects. One entails the organizing of small farmers for collective production and marketing of rice, abaca, coffee, and cacao, with the target to assist around 800 farmer-beneficiaries from 5 different municipalities in the province of Bukidnon. The other project is the case study at hand, bridging small farmers to the supply chain of Jollibee Foods Corporation; henceforth referred to as the "bridging project." The burden of implementing the linkage with Jollibee Foods Corporation actually falls with Kaanib Foundation which is tasked to mobilize farmers and various other resources to produce the onions. Kaanib handles the organizing of the farmers, recruitment of new beneficiaries, training,

technical support, production monitoring, collective marketing, and input provisioning, among others. It does all these activities with support funds provided by Catholic Relief Services and in conjunction with some staff of CRS who work hand-in-hand with the Kaanib field staff. Since most farmers do not belong to any formal producer organizations, Kaanib and CRS organize them into clusters of around 10-15 household members who are geographically concentrated in an area. Nine clusters have been established so far in different villages. Each cluster has a leader and an assistant to guide the small group, monitor production progress, and report to Kaanib. By the end of December 2010, there were at least 84 farmer-households participating in the project in the Bukidnon area alone.

To solicit wider support from other local agencies, Kaanib organized the Site Working Group (SWG), composed of the representatives from the Local Government Unit (LGU) of Impasugong Municipality, Department of Agriculture, Department of Agrarian Reform, Kauyagan Savers Cooperative, and Bukidnon Cooperative Bank. The Site Working Group (SWG) became the forum in which assistance and cooperation from other local agencies were solicited, planned, discussed, and coordinated. For instance, the LGU of Impasugong Municipality through the Municipal Mayor supported the project by providing Php 200K (US$4,651) for the construction of the needed infrastructures to commence onion production. The Mayor also directed several local government offices to render appropriate services to jumpstart the establishment of the onion industry in the municipality. The Department of Agriculture (DA) provided additional money to the tune of Php 800K (US$ 23,256) to build production greenhouses, to extend production assistance, and provide training funds to small farmers. The funds were transferred to the LGU of Impasugong for releasing to the beneficiaries.

Kauyagan Savers Cooperative dispenses DA funds as production loans to the farmers, mostly benefitting the new members of the project who are still starting out to produce onions.

It is a local micro-finance institution (MFI) based in the Municipality of Impasugong and services the financial needs of the small producers in the town and in nearby areas. In so doing, the government-sourced funds became privately managed as capital funds for loan exposure by the micro-finance institution, while sparing Kaanib of the need to employ additional staff to handle the meticulous task related to financial assistance program. More importantly, this experimental innovation of managing public funds prevents people from considering the money as simply state dole-outs, as was the common perception of people with many other state-sponsored projects. On the other hand, Bukidnon Cooperative Bank is an accredited micro-finance institution (MFI) of the National Livelihood Development Corporation which directly serves the pioneering small farmers covered in the project. Bukidnon Cooperative Bank is based in Malaybalay City, the capital of the province of Bukidnon, a distance of around 40 kilometers from Impasugong. It processes the loan applications of the farmers and releases the funds through Kaanib Foundation. Kaanib Foundation works very closely with these agencies to facilitate the collective production and marketing of onions for delivery to Jollibee Foods Corporation.

A very important aspect of the governance structure of the project is the role held by the marketing consultant, Ms. Joan Uy. A member of the staff of CRS, she reports to the Project Steering Committee and informs the committee about the actual situation in the ground. Her role is crucial in that she acts as the strong link among the various stakeholders of the project from the decision-makers in the Project Steering Committee to the ordinary farmer-beneficiaries. She does multiple tasks such as helping in the mobilization of small farmers, preparing full cost accounting to determine unit production cost, monitoring of production progress, making innovations and adjustments in crop cultural practices, networking with various support agencies, contacting suppliers, engaging in farmers' field school, planning of

production and marketing activities, and many others. She closely coordinates with Kaanib and the Bukidnon Area Coordinator in organizing the farmers and marshalling input resources while taking the leadership in collectivizing production and marketing activities.

Ms. Joan Uy is a long-time social development advocate, business woman, and farmer, rolled into one. She comes from a family deeply involved in the development of cooperatives in Mindanao Island. In fact, her father is widely known in the local development circles as the "Father of Cooperativism in Mindanao." The commitment to social development within the family clearly influences Joan, who became interested in social issues starting in her college days, most especially in relation to agriculture. After finishing her bachelor's degree at Xavier University in Cagayan de Oro City, Philippines, she became one of the more instrumental personalities in the establishment of Kaanib Foundation in 1988. Together with other development activists, she transformed Kaanib Foundation into a non-government organization and implemented various projects with farmers. Later, she expanded Kaanib's area coverage to other provinces and reach out to even more farmers. In the late 1990s, she partially withdrew from her involvement with Kaanib to focus on her family and on developing their family farm, consisting of more than 30 hectares in Bukidnon. But she still sits as one of members of the Board of Directors of Kaanib Foundation.

Her newfound preoccupation as a farmer started to bear fruit as she began producing different crops from her own land, including lettuce, broccoli, cauliflower, and strawberries. Being a farmer, she gained intimate knowledge about the different processes and challenges of crop production. She produced good volumes of assorted crops and sold them to the local markets. However, discontented with the proceeds she got from local traders, she ventured outside and began supplying some quantities to corporate buyers, such as the consolidator for the fast food giant MacDonald's Corporation based in Manila. Since the corporate buyers

required regular volumes of crop supplies, she started organizing a group of large commercial family farms in 2000 in order to fulfill market demands. The group later became the Northern Mindanao Vegetable Producers Association or Normin Veggies. Composed of at least ten large farmers, Normin Veggies engages in a collective marketing effort by pooling their fresh produce together and delivering them to different urban markets and food companies. Supported by funds from the government and the USAID, Normin Veggies not only supports the big farmers by consolidating their marketing activities, but also services the marketing needs of walk-in small farmers who come from different places. It practically functions as a consolidator of assorted products from farmers and a distribution channel to other urban markets. Normin Veggies continues to upgrade itself to respond more effectively to market requirements, especially the high value institutional buyers such as supermarkets, restaurants, hotels, and fast food companies.

Joan Uy's extensive accumulated knowledge and experience on farming, marketing, and development work was put to good use when Catholic Relief Services hired her services in 2003 as marketing consultant for their various agro-enterprise projects in several parts of the Philippines. Just like in Normin Veggies, she introduced small clustered production units as the method to organize atomistic farmers and to make them more responsive to market demands by engaging in common production schedules and collective marketing efforts. Her title as a marketing consultant does not do justice to her as she performs an extensive array of tasks, far more than the title suggests.

Joan Uy is the strong and crucial link between the small producers and big buyers. Her commitment to social development appears in her well-informed and active involvement towards empowering small producers to become active players in modern markets. Her business acumen finds expression in her dealings with corporate executives, big company

owners, and high government officials with the intent of inviting them to share their resources with small farmers. Her intimate familiarity with land as a farmer provides her with the credibility and facility to engage in a meaningful dialogue with farmers so as to influence them into becoming more efficient producers and better organized as a market-oriented collectivity. Thus, Joan's role in the project proves indispensable as she provides much of the energy that propels the whole agro-enterprise into fruition.

Household Profile of Small Farmers

Mobilizing farmers to actively engage in modern markets through upgraded production systems necessarily entails realistic assessment of household capacities to assess their chances of joining the high value chains. The succeeding section presents the profile of the small farmers included in this study (Table 3.3). The household profile is divided into five capitals as conceptualized in the sustainable livelihoods literature. By arranging the different household variables into smaller categories, the asset base of the small farmers can better be understood, especially in the context of their participation in value chains. The individual variables however are in no way mutually exclusive under a particular set of capital, since each one may be understood in a different semantic slant and can thus be possibly subsumed under another category. At best, the categorization serves to highlight in a more meaningful fashion the various assets owned, possessed, or accessed by all thirty-three (33) respondents to the household survey from which to establish an organized set of data to benchmark their integration in the supply chain of Jollibee Foods Corporation. The data contained in the survey are household information for the year 2009.

Table 3.3. Household Profile of Small Farmers

Capitals	Average	Count	Percentage	Min	Max
Human Capital					
Age of household head	44 years old			23	64
Years resided in the village	31 years			10	62
Household size	5.39 members			2	10
Household members working on own farm	2.33 members			1	8
Training and seminars attended	8.5 times			0	20
Exposure trips attended	8.5 times			0	20
Gender:					
Male		26	79 %		
Female		7	21 %		
Ethnicity:					
Bisayan		18	55 %		
Higaonon		13	39 %		
Others		2	6 %		
Educational Attainment:					
Incomplete Elementary		2	6 %		
Complete Elementary		9	27 %		
Incomplete High School		8	24 %		
Complete High School		9	27 %		
College Graduate		5	15 %		
Occupation:					
Working mainly on own farm		30	91 %		
Working on non-farm jobs		3	9 %		
Natural Capital					
Land Size	2.30 hectares			0	17
Households with formal land title	1.50 hectares	20	61 %	0	4
Households using family commons	1.45 hectares	10	30 %	0	4
Households leasing other lands	5.50 hectares	3	9 %	0	14
Households enjoying rent-free lands	0.87 hectares	3	9 %	0	2
Households with lands under CLOA	1.33 hectares	9	27 %	0	3
Standing forest trees per household	11 trees			0	60
Standing fruit Trees per household	7 trees			0	30
Distance from farm to access road	330 meters			0	4
Distance from farm to nearest market	9.60 km			2	20
Distance from residence to village center	1 km			0	3
Distance from residence to access road	230 meters			0	1
Economic Capital					
Households raising chickens*	8 heads	20	63 %	0	200
Households raising hogs	7 heads	13	39 %	0	50
Households raising cows	3 heads	20	63 %	0	7
Households owning carabaos	1 head	7	21 %	0	2
Households owning horses	2 heads	2	6 %	0	2
Households raising goats	4 heads	10	30 %	0	8
Households raising ducks	3.5 heads	2	6 %	0	4
Households producing vegetables		31	94 %		
Households producing corn		26	79 %		
Households producing cassava		6	18 %		
Households producing bananas		4	12 %		
Households with incomes from crops	Php 40,136	32	97 %	1,360	105,000
Households with incomes from livestock	Php 21,750	8	24 %	0	32,000
Households with off-farm incomes	Php 8,875	16	49 %	300	30,000

Capitals	Average	Count	Percentage		
Households with non-farm incomes	Php 28,933	9	27 %	4,800	60,000
Households receiving land rents	Php 6,000	3	9 %	4,000	8,000
Total income per household*	Php 58,086	32	97 %	7,360	150,000
Households maintaining a bank account	1 account	13	39 %		
Households with appliances	3 various units	28	85 %		
Households with Cell phones	1 unit	23	70 %		
Physical Capitals					
Source of Potable Water:					
Municipal Water		20	61 %		
Springs		13	39 %		
Type of Sanitation:					
Water sealed toilets		27	82 %		
Antipolo		6	18 %		
Electricity:					
Connected		29	88 %		
Not connected		4	12 %		
Type of Housing					
Permanent		15	46 %		
Semi-permanent		12	36 %		
Temporary		6	18 %		
House Condition					
Excellent		7	21 %		
Good		22	67 %		
Fair		3	9 %		
Poor		1	3 %		
Cooking Fuel					
Firewood		29	88 %		
LPG		3	9 %		
Electricity		1	3 %		
Social Capital					
Years stayed in the village	31 years			10	62
Relatives within the village	7 households			0	15
Relatives outside the village	6 households			0	30
Organizations affiliated	2 orgs			1	5
Beneficiary from development projects	3 times			1	10
Households under a landlord		2	6 %		
Households under patronage of a financier		4	12 %		
Households under patronage of a trader		29	88 %		
Religious Affiliation:					
Catholic		25	76 %		
Pentecostal		6	18 %		
Iglesia ni Kristo		2	6 %		

*One household is omitted as an outlier, since the household raises chickens not directly for consumption but for cockfighting purposes. The same case is also an outlier in terms of total income because of his better access to larger landholdings. Its income doesn't even include his profits from his cockfighting business.

Human Capital. The respondents in the survey appear to be in their middle age at 44 years old. Males (79%) comprise a greater part among them and females count only 7 or 21%. All respondents speak a common language, Bisayan, but they come predominantly from two

different ethnic origins, Bisayan (55%) and Higaonon (39%), while the other two individuals descend from two ethnic groupings from other parts of the country. Bisayan is the dominant ethnic group in central Philippines, but its language is widely spoken by people in both the central and southern part of the country. The Higaonon tribe is just one of the seven major tribes in Bukidnon and it is settled in the northern part of Bukidnon which includes Impasugong. The members of the Higaonon tribe speak their own language, the Banked, but all of them can fluently speak the Bisayan language; hence, language barriers are not much of a concern among the respondents. Respondents have low educational attainment with a third of the respondents (33%) having completed no more than an elementary education and only almost a quarter (24%) has some high school education. There are 9 (27%) who graduated from high school and only 5 (15%) completed college degree. This low educational attainment may have contributed to their choice of occupation of working mainly on their own farms (91%) and only 3 (9%) work outside of agriculture. Incidentally, all three are college graduates and are working as government employees in the municipality. Despite the lack of higher education, the respondents have received an average of 9 training, seminars, and exposure trips in the past through the auspices of both the government and non-government organizations. They are used to be involved with some kind of programs from external organizations. Finally, the average size of the households among the respondents is 5.39 members, or an equivalent of two parents and maybe three or four children. Two of these children are under the age of 15. This small household size can contribute an average of 2.33 members to work on own farm.

Natural Capital. The small farmers are literally called small due in part to their meager landholdings. The average size of landholding for each farmer-household is 2.3 hectares, representing not only household ownership but including actual access as well. Only 20 farmers (61%) hold formal title and, among them, the average land size dwindles down to only 1.5

hectares per household. Ten farmers (30%) have access to family commons and they use the property for their household production. Three farmers (9%) are leasing lands from others to augment their production capacity and another 3 farmers (9%) are privileged with rent-free use of lands being stewards of their former landlord's landholdings. Nine farmers (27%) are beneficiaries of the land reform program of the government and have been awarded lands under CLOA at an average of 1.33 hectares. CLOA or Certificate of Land Ownership Award is the non-formal title declared in favor of the farmer-beneficiaries of land reform program that affords them the usufruct from the land. The formal title and ownership will be transferred to the farmers once they have completed all amortization payments to the government, usually after 30 years.

Added resources for the small farmers are the presence of forest trees and fruit trees that grow naturally in their properties, although there are some who personally planted those years ago. At present, each household has an average of 11 forest trees and 7 fruit trees in their property. Forest trees can become the household's source of lumber for their own future house renovation, saving them from big expenses in the process. Alternatively, they can sell mature trees for lumber to nearby mills for extra income. The fruit trees are usually for household or community consumption and not for commercial purposes. No respondent reported having received income from their fruit trees.

The location of the farms matters most in terms of controlling transportation costs. The respondents' farm lands are mostly near an access road, being only 330 meters away on the average; hence, they are not concerned about any additional costs of bringing the produce from the farm site to the access road for onward delivery to market. Their nearest local market is the town center of Impasugong, but the farmers prefer the adjacent larger commercial centers in Sumilao Municipality and Malaybalay City, two commercial centers marked by more vibrant

business activities. Sumilao commercial hub is only around 5 kilometers from the town center of Impasugong. Malaybalay City is farther away by around 20 kilometers but offers a bigger market, being the capital of the province of Bukidnon. Moreover, fifteen farmers (45%) deliver their produce to the city of Cagayan de Oro, around 80 kilometers from their farms, as they have bigger volumes and regular trader-buyers. The respondents' location therefore put them in a better position relative to other vegetable farmers in the province since they have lower transportation costs being nearer to the traditional wholesale markets.

Economic Capital. The small farmers grow mainly vegetables, corn, cassava, and banana. Almost all respondents (94%) are growing assorted vegetables mainly for the market. A good number (79%) produce corn either to be sold to the market for cash income or for household staple. Six farmers (18%) engage in cassava production and only 4 farmers (12%) maintain banana farm parcels. No respondent produces rice or sugar. Average income from crop production among the respondents is Php 40,136 per year (around $ 933). However, it is to be noted that the income figures are rough estimates made by the farmers as they are not quite sure about their individual incomes. Income figures are at best heuristic devices to point out their income levels rather than exact measurement of actual cash receipts.

The respondents also raise various kinds of livestock either for household consumption or to be sold to the market. Twenty households (63%) raise chickens at an average of 8 heads per household, mostly for own consumption. Thirteen 13 farmers (39%) raise hogs in their backyards, meant to augment family incomes. For some families, income from hog production go towards the educational expenses of their children at the start of the school year in June or towards paying for expenses during important family occasions. A good number of farmers (63%) own or graze cows. Farmers prefer cows as draught animals over caribou (water buffalo) since cows are more resilient to heat. Also, respondents are mostly upland growers who have

no easy access to rivers and streams for carabaos to bathe or wallow in order to cool down their body temperatures. Additionally, cows fetch higher prices and are relatively more saleable in the open markets than carabaos. Thus, there are only 7 farmers (21%) who have carabaos and these households have easier access to water sources, being near natural bodies of water or irrigation canals. Goats are another source of income for the households and there are 10 farmers (30%) who raise them. A couple of farmers own horses, usually used for carriage of farm produce to the nearest access road for onward delivery to markets. In general, hogs and cows proved to be good sources of livestock income for some 9 households, averaging around Php 21,750 per year (US$ 505).

At least 16 farmers (49%) receive income as agricultural laborers from other farms. There are 9 households (27%) which receive income outside of farming by selling brooms along the roadside, maintaining a small variety store, performing electronic repairs, and other small businesses. Three (3) respondents work as employees of the municipal government. Another three households (9%) are fortunate enough to have extra land which they rented to others, receiving an average of Php 6,000 per year (US$ 140). Summing all incomes from various sources, the average total income per household reaches Php 58,086 per year (US$ 1351) or an equivalent of US$ 3.70 per day. The total income come from crop production, livestock, off-farm labor, non-farm business, and land rents. The average amount does not totally represent the disposable income of each household, since part of this income will be used to finance their next cropping season. The respondents' average annual income falls way below the country's annual average of Php 206,000 (NSO, 2011), or just 28% of the officially declared average income for households in the country. Such income level qualifies the respondents well to be called small farmers.

Additional sources of economic capital especially in cases of emergency come from the sale of household appliances and cellular phones. Household appliances include radio, cassette player, cod/DVD player, refrigerator, television, electric fan, gas stove and washing machine. Each household owns an average of 3 appliances. The television set is the most preferred, with 82% of households owning at least one unit, followed by cod/DVD player with 61% ownership. Every household has at least one cell phone. During financial crunch, families do sell some of their appliances to neighbors or pawnshops in order to gain immediate cash income.

Physical Capital. The majority of households (61%) enjoy safe potable water supply from the municipal water system provided by the local government, while the rest (39%) whose houses are a distance from the main access roads still depend on nearby springs. A good number (82%) have installed water sealed toilet systems in their houses and only 6 households (18%) continue with the simple old style *Antipolo* system, a detached toilet structure which sits on the septic tank and has a toilet seat that drops waste down directly to the septic compartment underneath. The *Antipolo* system is definitely unsanitary, but even the toilets of those with water sealed systems are also largely unsanitary based upon ocular inspection. Only a few (12%) don't have the amenity of electricity and the rest (88%) are connected with electricity. In terms of housing, almost half (46%) possess a permanent type of dwelling made of concrete and galvanized iron roofing, though of varying degrees of completion. Some have concrete walls but with no cement floor. Others have cemented floors but with unfinished concrete walls. A few others have complete but modest concrete structure. On the other hand, twelve households (36%) maintain a semi-permanent structure of wood and cement combination. Two households (18%) have temporary dwellings made of bamboo and local materials. A great majority (88%) prefer wood as fuel for cooking as it is most economical. Three households (9%) use LPG while only one prefers to use electricity. In short, the

respondents can be characterized as having extremely simple and modest means of living, very austere dwellings with “dirty kitchens” using wood for fuel.

Social Capital. Each household has stayed for an average of 31 years in the same village. They may have come from other places but all have stayed put in the same village since starting a family after marriage. Remaining in the same village has the advantage of being near relatives in which households admit to having at least 7 other households as members of immediate families or relatives. They also have other relatives in the adjacent villages, numbering an average of 6 other households. All households have joined around two organizations, under either the sponsorship of the government or non-government organization. Each household has been a beneficiary of a program or a participant in a project sponsored by external organizations for at least three times. Two households are former tenants of a landlord, yet they still maintain their relationship with their landlord, now only as longtime trustees and not anymore active in production. Four households (12%) maintain economic relations with financiers for their production needs while most (88%) want to finance their own production needs. Most farmers (88%) prefer to transact business with their regular traders when selling in the open market. As far as religion is concerned, a good majority (76%) belong to the Catholic Church, 18% to the Pentecostal Church, and only 2 or 6% in the Iglesia ni Kristo, an independent church which originated and founded in the Philippines since 1914.

In sum, the household profile mentioned above practically defines the description of “small” related to respondents’ identity as farmers. The small farmers covered in this study can thus be characterized as having low educational attainment, middle aged, gifted with small household size of around 5, having access to small parcels of land, fortunate enough to be near the big traditional markets, growing vegetables and corn basically, receiving extra income from livestock, receiving very low annual incomes, living in modest dwellings with only few amenities,

professing the Catholic faith, and longer term residents in their villages with connections mostly to relatives, traders, and development agencies. In short, the small farmers are poor in asset or capital resources and appear vulnerable to economic stresses and shocks. Definitely, these are the households who need assistance the most since their present livelihoods and asset base cannot afford them the opportunity to improve their situation by themselves alone. External interventions may be able to contribute in various ways towards attaining sustainable livelihoods.

Mapping Value Chain Integration Activities

The restructuring of market relations between buyers and producers proceeded through the establishment of alternative governance structures and the subsequent upgrading efforts in the different aspects of the value chain. Governance structures and upgrading processes were both concretely expressed in a series of business activities geared towards the integration of the small farmers in the value chain. Every activity in the chain served as the arena for inter-organizational interactions between the small farmers and the other organizations. Value chain integration activities included capital resource generation, infrastructure establishment, purchase and delivery of agricultural inputs, seedling preparation, crop care and maintenance, post-harvest processing, contract negotiation, delivery and sale of vegetables, price establishment, and accounting and distribution of sale proceeds. The business activities towards restructuring market relations involved the following organizations: Jollibee Foods Corporation, Catholic Relief Services, Jollibee Foundation, National Livelihood Development Corporation, Kaanib Foundation, Bukidnon Cooperative Bank, Kauyagan Savers Cooperative, Local Government Unit of Impasugong, Department of Agriculture, Normin Veggies, and the seed suppliers. Table 3.4 presents the actual interactions between the farmers and the external

organizations. It contains the specific activities undertaken by the different organizations in governing the value chain integration of farmers. It also enumerates in finer detail the external interventions, which partially supplies the data presented in the succeeding section related to upgrading processes.

Table 3.4. Inter-organizational interactions between small farmers and external agencies in relation to value chain integration activities

Value Chain Integration Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Micro-Finance Institutions (KSC and BCB)	Impasugong Local Government Unit/ Dept. of Agriculture	Norminn Veggies	Seed Suppliers
1. Capital Resource Generation		•Sources funds from international funding organizations •Negotiates with DA for resources from National Government •Negotiates with LGU for funding assistance •Prepares budgets and disburses allocations •Provides funds for the salaries of consultant, project team leader, field facilitator, and local NGO staff •Provides funds for various meetings, exposure trips, seminars, etc. •Provides funds for infrastructures and production inputs	•Communicates with Department of Agriculture for possible funding assistance to small farmers •Commits own fund for project implementation and courses it through CRS for disbursement	•Communicates with local micro-finance institutions to open business transactions with the pertinent small farmers •Troubleshoots some financing problems for small farmers •Provides solutions to certain financial problems •Enjoin local micro-finance institutions to be more flexible in processing farmers' loan application and to provide reasonable terms in production loans	•Negotiates with LGU, DA and DAR for funding of rainshelter construction and crop production •Takes a Php 200K loan from financial institutions to assist farmers' production •Deducts amount from individual farmer's sale proceeds for capital mobilization •Remits savings amount for capital build-up to Kauyagan Savings Cooperative	•KSC/BCB: conduct orientation sessions for farmers regarding loan application and savings mobilization •KSC/BCB: Disburse funds from NLDC as loans to farmers •KSC/BCB: Create window of opportunity for farmers to make savings from every loan disbursement	•LGU: Provides funds for construction of rainshelters •LGU: Conduit of funds coming from the Department of Agriculture •DA: provides funds for the construction of rainshelters		
2. Infrastructure Establishment	•Conducts farm visits in Impasugong to inspect technologies being used	•Contacts and arranges delivery of plastic materials to farmers •Provides design of rainshelter, sump, water catchment, and packing houses •Provides design, engineer, and funding for establishment of packing house •Provides expert workers for the construction of water catchments •Supplies water pumps to needy farmers		•Recommends to local micro-finance institutions to finance infrastructure establishment in small farms, e.g., rainshelters	•Selects farmers to become beneficiaries of production loans and rainshelter establishment •Dispenses funds for infrastructure establishment and production inputs •Suggests location where to establish infrastructures e.g., sump, packing house, water catchment •Implements actual design of rainshelter construction •Procures construction	•KSC: Serves as conduit of funds from DA for rainshelter establishment •KSC: screens and manages loans of farmers	•LGU: Allows use of municipal trucks for hauling of construction materials •LGU/DA: Provide funds for the construction of rainshelters	•Provides access to new technologies and farming techniques •Serves as conduit for the procurement of greenhouse plastic materials for discounted pricing •Demonstrates to farmers proper use of new technologies •Showcases members' farms as demonstration material •Accesses funds for rainshelters from	

Value Chain Integration Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Micro-Finance Institutions (KSC and BCB)	Impasugong Local Government Unit/ Dept. of Agriculture	Normin Veggies	Seed Suppliers
					materials for distribution to individual farms •Recommends carpenters for the establishment of the rainshelters			Department of Agriculture	
3. Purchase and delivery of agricultural inputs	•Recommends varieties of onions for supply to farmers •Contacts seed companies for supply of onion seeds	•Contacts suppliers for seeds, inputs, greenhouse plastic materials, and irrigation equipment •Provides funds to Kaanib to maintain forward stocks of inputs and chicken manure	•Acts as liaison for ordering onion seed supplies from aggie companies for distribution to farmers •Intervenes in the procurement of seeds for Mindanao production		•Negotiates with local suppliers for discounted prices and for credit lines • Purchases production inputs from contacted suppliers •Distributes inputs to individual clusters •Maintains forward stock of manure, fertilizers, and pesticides, good for the next 5 months	•KSC/BCB: Provide funds for the purchase of production inputs and payment for labor as part of the loan package	•LGU: Provides use of trucks for hauling of construction materials •DA: Provides funds as production assistance to farmers	•Serves as conduit for the purchase of materials to enjoy discounts •Makes advances for purchase of materials and inputs •Utilizes own networks for purchase of materials and inputs	•Secure requested seed supply for distribution to small farmers •Collects excess seed supply in Luzon to be given to Mindanao area Deliver seed supplies in bulk and at discounted prices •Inspect some farms to check on seedling germination
4. Seedling preparation	•Conducts on-site visit to farms to check on cultural practices	•Suggests improvements and innovations •Evaluates procedures and practices for improvements •Procure seed supplies from seed companies			•Repacks and distributes seeds to individual farmers •Suggests protocols on seedling preparation •Monitors progress of seedling germination •Procures and distributes seed boxes to farmers	•KSC/BCB: Provide crop production loan to farmers •KSC/BCB: Conducts farm inspection among individual farmers		•Allows farm visits for technology transfer •Procures seed supply in behalf of Kaanib	•Inspect some farms to monitor growth of onions •Suggests proper cultural practices •Suggests improvements in fertilization and pesticide application
5. Crop care and Maintenance	•Conducts on-site visit to farms to check on cultural practices •Demands careful management as to the use of pesticides, fertilizers and other chemical inputs to reduce unhealthy residues contained in the produce delivered	•Suggests improvements, innovations, and quality crop management •Recommends ways to cut costs •Checks actual application of chemicals to control possible residues •Provides funds for water impounding infrastructure projects			•Discusses improvements in production protocol with farmers •Delivers inputs to individual farmers •Monitors possible infestation of crops and recommends solutions •Inspects farms for compliance with cultural practices •Maintains records on standing crops •Regularly accounts for standing crops for harvest projections	•KSC/BCB: Conducts farm inspection among individual farmers		•Members' farms serve as demonstration farms for small farmers •Suggests techniques on proper crop care	•Suggests technologies on crop care •Troubleshoots problems especially relating to plant growth and management of pests and diseases •Suggests improvements in fertilization and pesticide application

Value Chain Integration Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Micro-Finance Institutions (KSC and BCB)	Impasugong Local Government Unit/ Dept. of Agriculture	Normin Veggies	Seed Suppliers
6. Post-harvest Processing	•Recommends proper handling and drying of onions to increase recovery rates and prevent losses	•Finances construction of packing houses in strategic places for storage and grading •Recommends proper handling of produce to reduce losses			•Supervises farmers in grading produce according to size and quality •Its compound serves as consolidation center for farmers' produce •Hauls produce to Kaanib complex for further air drying •Manages packing house for proper storage •Records all sorted produce for delivery			•Re-sorts onion produce before final delivery •Procures red bags in behalf of Kaanib	•Suggests better handling procedures to reduce post-harvest losses
7. Contract Negotiation	•Consults farmers on costs and cost structure •Discusses and decides details on marketing contract •Determines volume and date of delivery •Issues Purchase Order to Kaanib or Normin Veggies for the purchase of onions	•Prepares farmers through role playing before actual negotiation •Supports and assists farmers in the actual negotiation of contracts •Arranges with JFC re dates and place for contract negotiation	•Recommends Kaanib and Normin Veggies for supply accreditation with JFC •Schedules meeting between JFC purchasing personnel and farmer leaders		•Informs farmer leaders about contract negotiation •Prepares documents to be used for the negotiation •Determines projected volumes for delivery •Secures Purchase Order from JFC indicating volume and date of delivery				
8. Delivery and Sale of Vegetables	•Accredits Kaanib Foundation and Normin veggies as suppliers of JFC •Demands delivery of produce at Zenith Corporation commissary in Cebu, Philippines •Checks produce for quality compliance •Requires good grooming and proper conduct from delivery haulers •Provides report on weights, recovery rates, and costs	•Contacts and arranges sale of onions with JFC •Arranges with JFC for delivery schedules •Recommends freight forwarders to Kaanib for the delivery of produce to JFC •Communicates with JFC for possible adjustments regarding sale and deliveries •Troubleshoots emerging problems for quick resolution •Facilitates sale of off-size onions to local markets			•Determines volume of delivery through actual count of potential harvests •Arranges truck hauling and shipping logistics before date of delivery •Picks up produce from farm sites •Facilitates delivery of produce to JFC •Requests delivery reports from JFC •Facilitates sale of off-sized onions to local markets	•PEF: Provides loans to bridge receivables from Jollibee Corporation		•Acts as consolidator of farmers' produce for delivery to JFC •Arranges shipping of produce to Cebu •Serves as back up resources for production volume deficits	

Value Chain Integration Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Micro-Finance Institutions (KSC and BCB)	Impasugong Local Government Unit/ Dept. of Agriculture	Normin Veggies	Seed Suppliers
9. Price Establishment	•Determines contract price after consulting with farmers •Sets buying price between highest and lowest annual figures in the domestic market •Decides on the contract price based on actual cost plus the margin	•Suggest profit margins for negotiation with JFC •Explains to farmers regarding contract price determination			•Records all expenses to determine full costs •Determines unit cost of production based on full cost accounting •Maintain records of crop production expenses for every farmer			•	
10. Accounting and Distribution of Sale Proceeds	•Provides delivery receipt to Kaanib or Normin Veggies regarding sale proceeds right after delivery •Sends check to Kaanib after 3-4 weeks as payment for products delivered	•Secures delivery reports from JFC •Follows up remittance of sale proceeds from JFC			•Records individual costs and sales •Receives payment of deliveries from JFC •Deducts repayment of loans from actual sale •Computes and distributes net sales to farmers •Remits to KSC and BCB individual farmer's loan repayment	•Receives from Kaanib the payments for loans incurred •Maintains and updates loan records of individual farmers		•Receives sale proceeds from JFC and submits to KAANIB Inc. •	

Upgrading Small Farm Production Systems

As soon as the project was launched in May 2008, Kaanib Foundation went into implementing the preparatory steps, beginning in June 2008. Initial activities involved the recruitment of potential farmer leaders and the formation of the ad hoc committee called the Site Working Group (SWG). Membership of SWG consisted of the field facilitator from Kaanib, the Bukidnon Area Coordinator from CRS, the farmer leaders, the municipal agricultural officer, representatives from the local government unit of Impasugong, and a representative from Kauyagan Savers Cooperative. The SWG held a series of meetings to discuss the detailed plans of activities and to mobilize resources to start the project. The first major endeavor was the setting up of trial farms during the second half of 2008 to determine onion varieties adaptable to the area and to experiment on what variety meets the quality of least 2 inches in diameter for the onion bulbs, the standard set by JFC. At the same time, Kaanib embarked on recruiting farmers, assisted by the farmer-leaders, to initiate the formation of clusters of producers from the different villages of Impasugong. What follows then are the elaborations of how project leaders conducted the upgrading processes of small farm production Bukidnon.

Intra-chain Upgrading. Bulb onions were not produced in significant volumes in the southern part of the Philippines, between 2002 and 2007 (BAS, 2008). The northern part of the Philippines supplied practically all of the demand requirements for the whole country, accounting for 98% of the total domestic production in 2009 (BAS, 2010). However, official government records showed that the province of Bukidnon actually produced around 65 MT of onions in 2004 from a total land area of 10 hectares, contributing merely 0.07% of the total national production for that year (BAS, 2008). There were no production data since then, signifying the absence of significant volumes of supply from the province. The farmers I

interviewed could not recall where in the province onions were grown. Simply put, Bukidnon was never considered an onion-producing province. Supplies came mostly from the outside.

The idea of growing onions in Bukidnon gained acceptance by the Project Steering Committee for two salient reasons. First, onions could be grown year round in the south because of its different climatic patterns compared to the north. Bukidnon is a landlocked province in the island of Mindanao located in the southern part of the Philippines which does not lie along the typhoon path. While an average of twenty typhoons visit the country each year, Bukidnon is normally spared from their wrath. The absence of damaging winds and heavy rains presents an advantage for Bukidnon, especially for vegetable production. But it experiences the usual monsoon rains and recurring dry spell brought about by the El Nino phenomenon. Second, alternative production sites such as in Bukidnon would be essential not only to increase production but more importantly to produce during the off-season in order to smooth domestic demand requirements. The seasonality of onions necessitates importation during lean months. But by producing to cover the lean months at alternative sites outside the typhoon belt, the consequent availability of supply could possibly help reduce the need for imports as well as spread the sources of domestic supply.

The Municipality of Impasugong is the initial site in Bukidnon for onion production (Figure 3.7). Impasugong has a population of 39,315 in 2007, comprising 13 villages spread across mountains, deep canyons, and gorges. Total land area is 107,167 hectares, 83% of which is classified as timberlands and 17% as alienable and disposable. Around 72% of this alienable and disposable land is devoted to agricultural production. The climate is cool and moist throughout the year due to its high elevation, which ranges from 500 meters to more than 1,200 meters above sea level. Average temperature ranges from 160C to 310C. The cool climate, short dry season lasting two months in a year, and the absence of typhoons are the agronomic

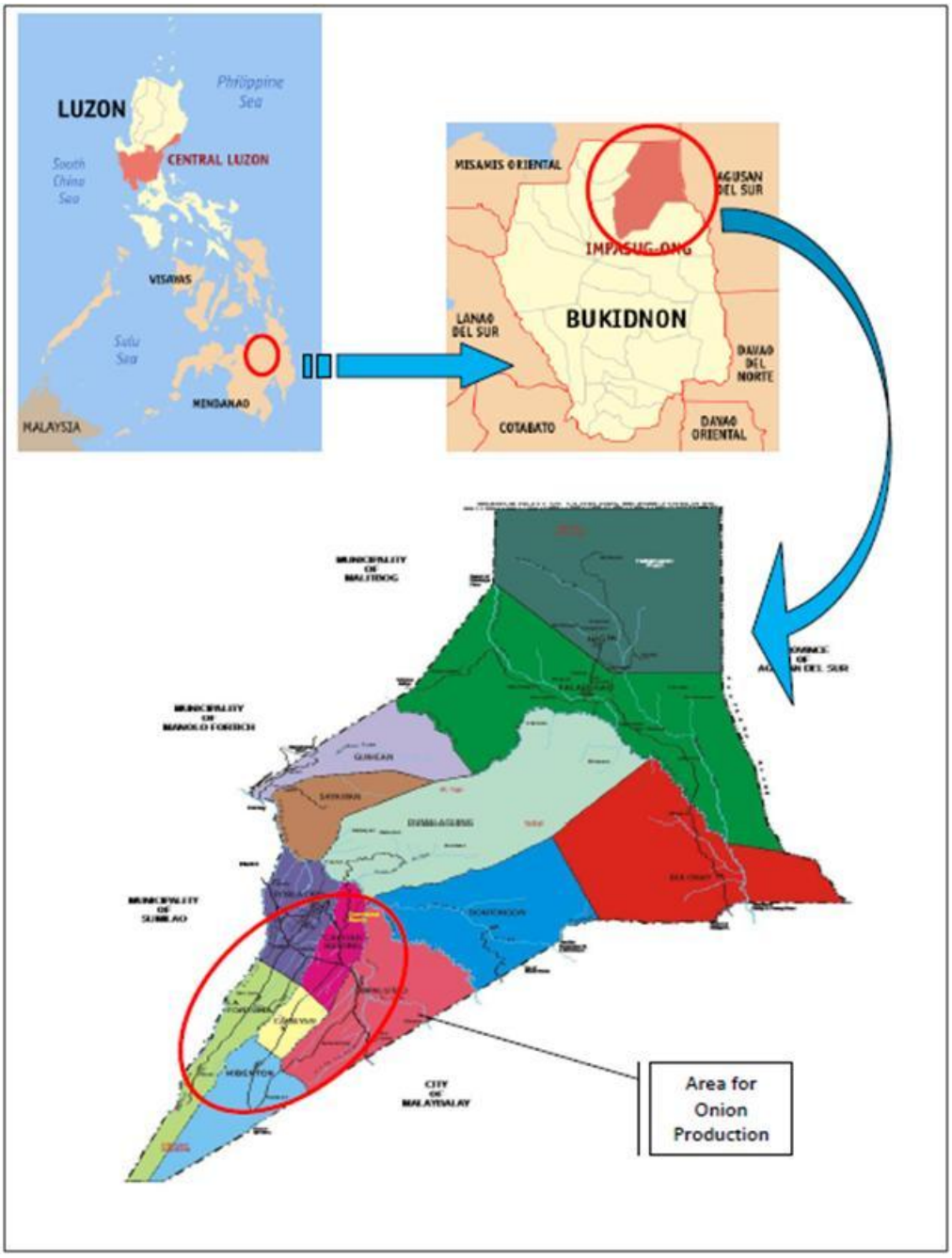


Figure 3.7. Map of the Onion Production Site in Bukidnon, Philippines
(Sources: www.en.wikipedia.org; Kaanib Powerpoint Presentation)

conditions believed to be conducive for onion production. As such, onion production could be done year round in Impasugong since the locality is relatively free from climatic stresses, unlike the conditions often experienced by farmers in northern Philippines. The villages covered in this project include Poblacion, Sta. Ana, Anasagon, San Juan, Intavas, Kapitan Bayong, Quisumbing, and San Vicente[16] from the neighboring municipality of Sumilao.

At the outset of project implementation, Kaanib in conjunction with CRS conducted pilot production beginning in June 2008 involving five (5) farmers to determine the growth characteristics of onions in Bukidnon. Rio Tinto was the first variety to be tried out as it was known to be capable of bulbing at least 2 inches in diameter. Onions were planted under the rainshelters, high tunnels made of bamboo and covered with UV-resistant plastic. Considered as one module, each rainshelter measures 20 meters by 5 meters (100 sq. meter of land area), subdivided into four plots. Four of the six rainshelters or modules produced some yields, while two modules produced practically nothing because of lack of care and maintenance. The available yields were sorted out and graded, with the large ones (at least 2 inches in diameter) readied for quality testing at Jollibee Foods Corporation. The quality of the produce impressed the company as the rate of recovery17 after peeling reached 96%, the minimum requirement being at 85%. The purchasing department of JFC notified the Project Steering Committee that they were giving a go-ahead signal for Impasugong to commence production at market volumes.

At this point, the farmers initially proved that onions could be grown in the municipality; thus, began the shift to this high value cash crop beginning with the first production cycle (see Table 3.5 for the overview of production cycles). Kaanib organized 39 farmers in December

[16] For simplicity of discussion, the members from the village of San Vicente, Sumilao were combined together as part of the farmers from Impasugong. Only 4 farmers participated in the project during the first two cropping seasons, then swelled to 13 by end of November 2010.

[17] Rate of recovery is the percentage of peeled onions by weight to the total volume delivered. It refers to the usable portion of the whole delivery after the onion peels are removed and ready for processing.

2008 and introduced onion production to them. Being a new crop, three learning sessions ensued to get acquainted with the cultural practices attendant to growing onions. Seedling production began in January 2009 and transplanting was done in February 2009. Onion seedling preparation would usually take a month to fully germinate and another ninety (90) days to mature before harvest. Total land area planted to onions covered around 3,500 square meters (0.35 ha).

Table 3.5. Overview of the three production cycles

	Unit	1st Prod'n Cycle	2nd Prod'n Cycle	3rd Prod'n Cycle
Date of Production		January-May 2010	September2010 -April 2011	May-October 2011
Date of Delivery		July 2010	No delivery to JFC	November 2011
Beginning No. of Farmers		35	41	41
Final No. of Farmers		33	35	33
No. of Modules Planted		35	67	43
Area Planted	sq. m.	3,500	6,700	4,300
Total Yield	kg	4,741	3,981	3,268
Average Yield per Module	Kg/mod	135	59	76
Volume sold to JFC	kg	2,181	No delivery to JFC	2,006*
Volume sold to local market	kg	1,801	3,583	1,070

*A buffer stock of 720 kg from Joan Uy's farm was added to increase delivery volume.

Kaanib conducted learning sessions among the growers every month to share good practices and to discuss problems encountered. The CRS Marketing Consultant, Joan Uy, was always present to facilitate and guide the farmers during the course of production. The first crop harvest occurred beginning in May 2009. The farmers sorted their produce and brought it to Kaanib facilities. Together with the farmers, Kaanib consolidated, packed into bags, and properly labeled the produce for transfer to Normin Veggies Consolidation Center in Cagayan de Oro City. As an accredited supplier of Jollibee Foods Corporation, Normin Veggies arranged the delivery from Cagayan de Oro to the processing plant of JFC in Cebu City. The first delivery of

around 2,180 kilos of onions was made early July 2009 to the food company, while the off-sized onions of around 1,800 kilos were sold to the local market during the month of June 2010. There were initially 35 farmers who started the production, but only 33 farmers remained. One of the two decided to discontinue for lack of time, since he was taking care of his other parcels of land. The other quit after the seeds failed to germinate in sufficient numbers. In general, considering this first experience of collective production and marketing effort, upgrading to a new and high value crop presented a distinct possibility for the small farmers to diversify crop production as well as their sources of income.

Two months after the first harvest of onions, farmers attempted planting other high value crops to try out rotational crops to onion growing. Joan Uy suggested the idea in order to reduce the incidence of pest and diseases in the same soil. Also, planting new crops as trial production could provide added learning experience for future crop diversification. At least 30 farmers tried planting sweet peas as these only took 45-60 days to grow and be harvested, while preparations were made to start a new cycle of onion production. Seven of these farmers decided to discontinue for various reasons, such as lack of time and funds to support production. Of the 23 farmers left, gross yield amounted to 292.3 kilograms from an area of 2,500 sq.m. Although yields were not high as expected, the farmers who used to grow only corn had gained the new experience of actually producing sweet peas. All produce were sold to the local market in the nearby city of Cagayan de Oro. The trial was, in fact, successful to the extent that it proved sweet peas could be a practical short-term rotational crop to onions.

Bell pepper was another high value crop the farmers tried out, but in a different parcel of their land. Sixteen (16) households attempted to grow this crop, covering an area of 1,700 sq. m. After two months, the production looked promising as there were a total of 3,019 hills during the vegetative stage. Unfortunately, upon reaching the flowering and fruiting stages,

pests and diseases severely affected crop growth, yielding either smaller fruit sizes or only minimal fruits per plant. Yield was insignificant and quality was poor. Kaanib suggested to farmers that they could sell any marketable produce to the local traders just to recoup their labor expenses. Kaanib shouldered the other production expenses. Unfortunately, the production trial on bell pepper ended in a less than positive note.

By September 2009, Kaanib and the farmers were making ready for the second cycle of onion production. A total of 41 farmers joined the second growing cycle. They started the seedling preparation in September 2009 and transplanted the seedlings the following month in October under the rainshelters. Out of the 41 farmers who participated in the second production cycle, 35 farmers prepared another batch of seedlings in October for transplanting in the open fields in November. Eight (8) farmers discontinued mainly because of the poor germination rate of the seeds planted and the lack of time to take care of the plants. Initially, the expected number of modules planted with onions for this particular production cycle was 76, but it eventually dwindled to 67 modules, 35 modules under the rainshelters and 32 modules in the open fields. CRS decided to try out production in the open fields, so they could make comparisons regarding quality and yields between those planted under the rainshelters and those planted in open areas. Harvests began the following year from February until April 2010, reaching a gross total of 3,981 kilograms. The target was to reach at least 6,000 kilos in gross yield, but the two consecutive batches produced much lower volumes, falling short by more than 2,000 kilograms.

The farmers expected Kaanib to deliver the consolidated harvests to JFC sometime in April or May 2010. But this couldn't materialize, since Kaanib took on a different tack. Instead of delivering the products to Normin Veggies which could facilitate the onward delivery to its final destination at JFC Cebu City as was the case in the first delivery, Kaanib decided in February

2010 to assume the role of delivering the produce directly to JFC in Cebu City, a new function Kaanib wanted to learn. The main reason given was for Kaanib to corner the facilitation fee charged against each delivery as potential revenue generated to sustain the financial needs of the NGO. The motivation was acceptable in support of the long-term viability of the organization, but the timing was questionable. Kaanib needed to be accredited first by Jollibee Foods Corporation as a supplier before it could transact business on its own. JFC Purchasing Department sent out the application documents and list of requirements to Kaanib in March 2010. Kaanib submitted the required documents for accreditation in May 2010. Decision for the accreditation would have been given by June 2010 at the earliest, but through the intervention of the Project Steering Committee, the accreditation was expedited and approved before the end of May. Kaanib finally became an accredited supplier of JFC by May 2010.

While the accreditation process was going on, the harvested onions were slowly deteriorating, e.g., rotting and growing, for lack of cold storage facilities. The first produce came in February 2010. Since then, post-harvest losses kept on mounting as time passed by. If the consolidated harvests would be delivered to JFC, the earliest schedule for delivery would be in the middle of June 2010, 4 months after harvests started in February. Given the low volume of harvest compounded by the deteriorating quality and post-harvest losses in storage, it would not be economical to deliver less than two thousand kilograms to a distant market as JFC in Cebu City. Kaanib, in consultation with CRS, finally came to the decision to dispose of the available supply to the local markets. Joan Uy arranged the contacts for the buyers to hasten the sale of the remaining stocks and, more importantly, to reduce further losses due to lack of proper storage facilities.

During this particular cycle of production in late 2009 up to early 2010, the farmers confronted several problems that contributed to the mediocre production yields. First, the

farmers experienced a lack of supply of the onion seed variety which they had used successfully during the first production cycle—the Rio Tinto variety. CRS inquired before September 2009 about the availability of supply in Manila, but Allied Botanicals, which once supplied the Rio Tinto variety, acknowledged the lack of this specific variety in their central inventory. To rectify the situation, CRS, in concurrence with Kaanib, suggested the use of alternative varieties such as XP Red, Red Creole, Red Juni, and Red Hawk. These varieties were readily available in Bukidnon market but only in small quantities; hence, the need for assorted varieties to fill up the required supply for immediate planting. Seed companies did not stock up bigger quantities of onion seeds in Bukidnon, since the demand was low, not being an onion-producing province. Untried and untested, the varieties used yielded mixed results. The farmers who sowed the Red Creole, Red Juni, and Red Hawk produced onion bulbs of less than two inches in diameter, falling short of the required standard of JFC. Those who used XP Red experienced better yield performance since onions were able to bulb more than two inches. Alejandro Asilan, though a first-timer in planting onions, produced the highest yield in this production cycle with 343 kilograms of onions from a 100 sq. m. module using XP Red. Asked about his trick, Mr. Asilan replied, *"di gyud ko sigurado. Bunyag lang man ko kanunay, dayon pitik-pitik og abono halos kada semana (I'm not sure. I just watered the plants regularly and fed them in small amounts of fertilizers almost on a weekly basis)."* Mr. Henelito Idagan and Mr. Ricardo Sicalan, two of the pioneering onion growers, confirmed the better performance of XP Red with their own produce amounting to 373 kilograms and 320 kilograms respectively, planted in two modules each consisting of 200 sq. m. The majority of the growers (60%), however, produced less than 100 kilograms of onions, attributing the dismal performance to the use of small bulbing Red Creole, Red Juni, and Red Hawk varieties. On the brighter side, the farmers with relatively good yields such as those mentioned above proved that XP Red could be a possible variety for their locality. In fact, CRS

ordered the XP Red variety from a seed company for use during the third production cycle in May 2010.

Another problem was poor germination during seedling preparation. Only half of the expected total number of seedlings actually germinated, substantially reducing expected outputs. Of the 8 farmers who discontinued during this production cycle, 4 farmers passed on their surviving seedlings to augment the standing plants of their neighboring farmers. Still another problem was the non-compliance of farmers to the common production protocol discussed and agreed upon before, particularly related to fertilization and irrigation. Mismanagement resulted to crop damage. Finally, the lack of funds on the side of Kaanib to support production needs prevented the timely distribution of inputs to the farmers. Kaanib did not receive funds from CRS specifically earmarked for production assistance. Instead, Kaanib used its savings from previous projects to provide financial assistance to farmers. But the savings were not even enough and so Kaanib decided to juggle some of its available funds which it borrowed from MASS-SPECC in the amount of Php 200,000. Based in Cagayan de Oro City, MASS-SPECC (Mindanao Alliance of Self-Help Societies-Southern Philippines Educational Cooperative Center) is the mother of a network of around 150 primary cooperatives spread over 27 provinces in Mindanao. The funds became available only later after the growing cycle had begun. As a result, farmers complained of the lack of timing for the inputs to arrive. Susan Roces remarked, *"the young onions had been deprived of nutrients, since the fertilizers and pesticides did not arrive yet after more than two weeks."* Nanding Puling refused to transplant his seedlings since, *"there is no chicken dung for soil supplement. I will not plant the seedlings when there is no chicken dung, since production is practically useless without it."* Joseph Songco couldn't wait for the inputs to arrive, so he decided, *"I will use my available chicken dung for the*

onions and I will just ask for reimbursement later. If I wait for the inputs from Kaanib, my plants will soon die."

Realizing the many problems that plagued the previous growing cycles, CRS supported Kaanib in pursuing another round of production cycles by improving management structures, adjusting production protocols, making input supplies more available, better provisioning of loan assistance, managing timely interventions, and better handling of post-harvest processes, among others. CRS tapped financial assistance from the government through the Department of Agriculture as well as from the local micro-finance institutions that could provide production loans to the farmers. The Department of Agriculture (DA) gave an amount of Php 800K ($18,604) for production assistance and capability building in March 2009 and coursed it through the local government unit of Impasugong. The funds were eventually released to the Kauyagan Savers Cooperative, the only micro-finance institution based in the Municipality of Impasugong, which processed and dispensed the loan assistance to individual farmers. This government fund benefitted primarily the new growers recruited for the third production cycle, the new members in addition to the existing 35 farmers from the second production cycle. This particular loan involved lower interest rate and thus more affordable to the new farmers who were still learning to produce a new crop.

Moreover, CRS and Kaanib negotiated with Bukidnon Cooperative Bank (BCB) to provide loan assistance to the farmers who participated in first two production cycles or who already had the experience of growing onions. BCB was initially ambivalent of this plan without an actual marketing contract with buyer written in paper. Since the contract could not be obtained a month prior to delivery, there was no way of fulfilling this requirement. The Project Steering Committee discussed this matter in their May 2010 and requested representatives from the National Livelihood Development Corporation (NLDC) to intervene in behalf of the farmers. BCB

finally approved the loan assistance after receiving recommendation and reassurance from NLDC. BCB received part of their capitalization from NLDC; hence, the influence of NLDC over BCB. Releasing of the loans started in July 2010 and was coursed through Kaanib for distribution to the farmers.

At the end of the two production cycles, there were a total of 47 farmers who actually joined the project, though not all participated in both cycles. Six (6) of the total participants completely withdrew from the project. Two of those who withdrew transferred residence elsewhere. Three could not devote enough time to the labor-intensive requirements of onion growing as they have other priorities. One decided to discontinue, thinking that she could do better on her own. Lucky for her, she received a good price for her delivery of carrots in 2009 and another in 2010 for her potatoes, which cemented her resolve to cease her participation at this time. Therefore, there were only 41 farmers who remained active in the roster of project participants by May 2010. From these 41 farmers, 27 participated in the third production cycle, while fourteen (14) postponed their participation at a later time. Nevertheless, fourteen (14) new growers were also added at the beginning of this new growing cycle, making the initial total number of farmers for the third production cycle at 41 farmers also.

The third round of production cycle started in May 2010. According to Joan Uy, the plan was to sow seeds consecutively every month so that there would be a monthly harvest after four months, comprising the growing cycle of bulb onions. The target was to produce at least 6,000 kilos (good for one short container van) of onions every month beginning September until December 2010 for delivery to Jollibee Foods Corporation.

The September target for the delivery was delayed until November 2010 since Kaanib could not consolidate enough quality grade onions (at least 2 inches in diameter) for shipment. Even allowing consolidation of products for two months, Kaanib still fell short of fulfilling the

goal of 6,000 kilos. Actual delivery to Jollibee Foods Corporation reached only 2,006 kilos, of which 1,286 kilos came from the farmers and 720 kilos from the farm of Ms. Joan Uy, the CRS Marketing Consultant. There were more off-sized onions than the big sizes, totaling 2,440 kilos which were sold to the local market as soon as they were sorted out. In short, the plan to deliver a container van every month to the buyer starting September up to December did not materialize. The farmers were not able to grow quality onions as required by the buyer. At the least, Kaanib made a delivery to JFC Cebu City in late November 2010 and sold the off-sized products to the local market.

In sum, growing onions in the southern part of the Philippines appears as an agronomic possibility, considering the experience of the farmers who have successfully attempted growing them for at least three production cycles in a span of two years. However, production still falls short from the goal of attaining sufficient high-grade marketable volumes. The initial three growing cycles reveal that production volumes and yields among farmers are erratic. Even yields of individual farmers vary across different growing cycles. The target of consolidating 6,000 kilos of onions to fill up a short container van remains elusive. The local market though has found a new supply source from Bukidnon as it requires only the smaller sizes. There is indeed much yet to be learned about growing onions in a different agro-ecological condition in the south. Perhaps the hope of establishing another site for the onion industry in the Philippines could only be realized, or proven impractical, after several more years of experience. In one of the focused group discussions, the farmers have expressed their intent on continuing to produce until they have mastered the trade of growing onions, with one of them saying, *"if we surrender planting onions, we are the ones who will lose all those things we have learned before. That is regrettable, and so we should continue and do better next time."* In another group discussion, the farmers subscribed to the observation of one farmer who believed that

two years of experience are not sufficient when he commented, *"I am only a novice grower of onions and I have made many mistakes, since there are still plenty of things I don't know. Later on, my ongoing experience will pay off."*

Functional Upgrading. A crucial element in the upgrading process of the small farmers depended on the quality of linkage between the farmers and the food company, Jollibee Foods Corporation. Through the initiative of the owners themselves, JFC established the bridging with the small farmers, coordinated by Jollibee Foundation, Catholic Relief Services, and National Livelihood Development Corporation. In this linkage, JFC committed to accept the onions produced by the small farmers for as long as they could make the quality grade, i.e., diameter of not less than two inches and recovery rate after peeling of at least 85%. JFC well understood that the small farmers were still learning the skills of partnering with high value markets and of producing efficient yields in their farms. As neophytes in onion production, yields were expected to be low, costs a little high, margins narrow, volume small, and deliveries would recur over a longer time. Jollibee was willing to wait for the small farmers to develop themselves into collective commercial producers. It will accept their produce even at a smaller quantity initially. In fact, it offered a window of opportunity for the farmers to deliver 15 metric tons of onions per month if ever they could reach bigger scale in production.

An important aspect of the relationship between the farmers and Jollibee is the forging of the forward sales contract where the price is set at the outset. The predetermined pricing shields the farmer from some risks and uncertainties normally connected to price fluctuations in the traditional wholesale markets. Having set the price, farmers can have more leeway in terms of trying to improve production efficiency to gain more value added in the impending transactions with the food corporation. Further, the assured market of produce provides

incentives for small farmers to take even the tall challenge presented by this relationship and to work out the necessary activities to make production very possible. Lourdes Alcoy noted,

> *…kining programa sa CRS makatabang gayud sa amo, kay laliman ka anang naay ensakto nga market Jollibee… kini pung paghimo ug rainshelter, kay ingon ko nga siguro gyud ang tanum… ako lang huna huna, dili gyud ma failure kay naa gyuy rainshelter… control tanan bisag unsa nga panahon, ting-init o ting-ulan… (this program of CRS can really help us, because, imagine, there is a sure market Jollibee…this rainshelter also, I can say we have more certainty in our cropping…I think we cannot fail, because of the rainshelter…climate is controlled, dry or rainy season…)*

The forward sales contract in this case proceeds in this fashion. When Kaanib determines the projected volume of produce for delivery based on actual assessment of standing crops, it contacts the Project Team Leader of CRS to request a "purchase order" (PO) from JFC. Upon receipt of the request, the purchasing department of JFC in turn requests an itemized unit costing of onion production to be submitted by Kaanib18 to its office for evaluation. JFC may make some modifications to the costing as it sees fit. Once the cost is determined, JFC offers a unit buying price which is more than the unit cost of production plus the margin. The margin is variable, depending on the prevailing prices in the market. The Purchasing Manager of JFC explains the pricing mechanism in this way:

> *The most preferred model we like is …open costing. So, basically, it is like the cost to produce and then we put a certain reasonable mark-up…Keeping in mind that that margin should always be competitive…What I mean by competitive is…for example, onions, we have multiple suppliers who are traders…when somebody is positioned at the high side and another is positioned at the low side, we expect them (the farmers) to be somewhere in between. The other thing that is slightly difficult to manage is when we experience spikes in the prices, for example during the rainy seasons, [which] tends to change a lot…we think of you as farmers and not traders and so we expect you to follow [the open costing] and not the trend [of prices in the market] because you are a farmer and not a trader. We commit to you a certain fixed price which would give you a certain profit, rather than…on a monthly basis. Otherwise, you're gonna look like a trader dealing with me…What we did was we actually put in a reasonable*

[1818] Actually, Joan Uy prepares the unit costing in consultation with Kaanib and farmer-leaders. Kaanib then sends this document to JFC.

weighted average price for them not to feel so bad when prices are up and to feel good during low prices.

In other words, given a fixed unit cost, margins are lower when wholesale price during harvest season are expectedly lower due to ample supply. Margins increase during lean months with less domestic supply and higher wholesale price. In practice, when the prevailing market wholesale price is lower than or close to the actual unit cost of production, JFC determines the price of the onions at the unit cost plus a margin. When the wholesale price spikes to almost or more than double the unit cost of production, JFC sets the buying price at less than the prevailing market price. Such practice implies that farmers would lose a little revenue when prices are high, but they would never lose when prices dip below the cost of production. On the other hand, JFC would be able to save some expenses when prices are high, but it will pay more expenses to farmers when prices go below unit cost. In the end, JFC determines prices at a point where farmers can gain profits even on occasions of very low wholesale prices.

In practice, during the first delivery in June 2009, the prevailing market price of onions was Php 40 per kilo, so JFC set the contract price at Php 38/kg, which is Php 2 less per kilo to the market price. The unit cost at that time was Php 28.53/kilo, netting a profit margin of Php 9.47/kg (33% mark-up). In the second delivery last November 2010, the prevailing market price was Php 34/kg, the contract price given was Php 32.50/kg and unit cost at Php 21.70/kg, the contract price being Php 1.50 less a kilogram than the market price and a profit of margin of Php 10.80/kg (50% mark-up). Computations of unit cost of production were based on the assumption at yields hitting 200 kg. per 100 square meter module. With the price offer and yield assumption, contracting with JFC appeared very attractive as incomes of farmers would certainly be assured. The forward sales contract always guaranteed positive returns to the investments made by farmers.

Simply put, the forward sales contract with JFC, through the issuance of a purchase order, provides a cost recovery for the farmers and an assurance of a profit margin. Hence, the farmers' linkage with JFC secures not only their market buyer but also the price tag that works to their advantage. In return, the farmers, through Kaanib as the product consolidator, must fulfill the obligation stipulated in the purchase order which includes the quality, volume, date of delivery, and place of delivery. JFC reserves the right to reject the whole delivery when the quality of the produce delivered fails its standards.

Unorganized, the small farmers were not capable of pursuing the upgrading process by themselves. External interventions helped promote collective action among the atomistic farmers in Bukidnon. In establishing the linkage between JFC and small farmers, the Project Steering Committee made the major decisions, while Kaanib did the nitty-gritty of organizing the small farmers into production clusters and marketing collectives. But the Marketing Consultant, Joan Uy, and the Bukidnon Area Leader of CRS worked closely in tandem with Kaanib in the entire mobilization process from the initial selection of farmer-leaders, to determination of the first and subsequent production cycles, to the common marketing effort, and until the distribution of sale proceeds to the farmers. Kaanib negotiated with the local micro-finance institutions for production loan assistance to farmers, including Kauyagan Savers Cooperative in the Municipality of Impasugong itself and the Bukidnon Cooperative Bank located in the nearby city of Malaybalay, Bukidnon. It solicited financial assistance from the local government unit of Impasugong Municipality to fund the construction of rainshelters (high tunnel structures) in the amount of Php 180,000 (US$ 4,200) as well as personnel support from its various offices to provide farmers with technical services.

Kaanib spearheaded the construction of rainshelters under which onions were planted and other infrastructures such as sumps, packing houses, and water catchment structures. It

procured, repacked, and distributed agricultural inputs to individual farmers. It constantly monitored the progress of production and acts as the consolidator of farmers' produce. JFC accredited Kaanib as one of its suppliers in May 2010, forging a formal relationship as trading partners. For Kaanib, acting as a supplier was an uncharted territory in marketing management with which it wanted to get familiar with. To recall, during the first production cycle, it was Northern Mindanao Vegetable Producers Association (Normin Veggies) which acted as the consolidator and supplier to JFC, since it already had several years of experience of moving vegetable products to distant institutional buyers. The Executive Director of Kaanib, Imelda Esteban, decided to engage in this trading function in the hope of generating management fee from the farmers as the facilitator of product deliveries to JFC. She also hoped that consolidating farmers' produce and directly shipping them to Jollibee might reduce transaction costs as well as shorten the value chain. Lastly, Kaanib collected the sale proceeds from JFC and distributed them to the farmers.

On the other hand, the Catholic Relief Services, through Joan Uy, accessed some funds from the national government, particularly from the Department of Agriculture to finance construction of more rainshelters as well as training and seminars for the farmers. The Department of Agriculture gave Php 800K ($18,612) as support to the project in late 2009 and passed these funds to the municipal government in March 2010. The funds were released by the municipal government in July 2010. Joan Uy, together with Kaanib, decided to route the funds through Kauyagan Savers Cooperative instead of Kaanib administering the distribution of the funds.

Kauyagan Savers Cooperative is the local micro-finance institution located in the town center (Poblacion) of Impasugong Municipality. Established in 2004, it offers production assistance loans to small farmers who don't have easy access to credit from commercial banks.

It also supports savings mobilization for individual households by virtually acting as a regular bank. Kauyagan receives financial backing from a network of micro-finance institutions and cooperative organizations in the country, such as National Confederation of Cooperatives (NATCCO) and Mindanao Alliance Self-Help Societies-Southern Philippines Educational Cooperative Center (MASS-SPECC). For the bridging project, Kauyagan Savers Cooperative handles the screening procedures, loan processing, disbursements, and collection of repayments. By giving the fund management to Kauyagan, Kaanib saves much administrative work related to loans administration. More importantly, the same funds could reflow to finance subsequent production cycles. This was a major innovation introduced to the project and the officials from the Department of Agriculture were very much amenable to such transparency and accountability. In fact, according to Joan Uy, they promised in principle to provide more funds in the future to support the project and to use such channels.

Furthermore, Joan Uy took care of dealing with other agencies which could support the linkaging project. For example, she negotiated with the plastic producer for the high tunnels at deep discounts. She arranged for the supply of onion seeds from various seed companies and their technical assistance in production-related matters. In particular, a local seed company, Allied Botanicals, allowed the farmers to tour their experimental and seed production farms. Seminis, a multinational seed company, provided a technical person to inspect the farms of the growers in Bukidnon and to suggest improvements and adjustments in their cultural practices. She likewise contacted other big commercial farmers who are members of Normin Veggies for a tour in their farms to teach the small farmers on newer technologies. Farmers visited her farm for learning sessions on more than two occasions.

The Project Steering Committee made important interventions that expedited resolutions to some of the problems encountered during the project implementation. One was

the lack of supply of onion seeds for Bukidnon growers in early 2010. To resolve the problem, the purchasing manager of JFC contacted the seed company and immediately the supply was sent to Bukidnon. Another was the added document required by the Bukidnon Cooperative Bank before they could approve the loans for the farmers, delaying the needed funds for the growing cycles that started in May 2010. To prevent further delay, an executive from the National Livelihood Development Authority contacted the manager of the Bank regarding this matter and soon the requirement was lifted, paving the way for the eventual processing of the production loans. Still another was the request of Kaanib to be accredited as JFC supplier in February 2010. Instead of waiting for the normal channels to operate, the Director of Jollibee Foundation recommended to the Purchasing Department to speed up such accreditation so that Kaanib could finally move ahead with its task. JFC granted accreditation status to Kaanib in May 2010.

Additional new members resulted in the increase of the total participants to 74 active households by the end of November 2010. Indeed, the process of upgrading small farmers by directly linking them to the food company proved a distinct possibility. From all indications, the direct link was a necessary element for the upgrading process to become fully functional, although the linkage was characterized by an almost total dependence of the growers on the organizers of the project. CRS, in tandem with Kaanib, made most of the major decisions and developed the networks for the farmers. The farmers were limited to decisions involving matters directly related to production. This was initially expected, since the farmers were still learning to organize themselves. In time, they might be able to carry out the decisions by themselves. When might this occur is something to really hope for.

Process Upgrading. Onion production in Bukidnon utilizes rainshelter (high tunnel) technology, commonly becoming the preferred way of growing vegetables in the province

(Figure 3.8). Commercial and other large family-owned farms use rainshelters to achieve the quality standards required especially by the modern markets. A rainshelter resembles a shed with transparent plastic roofing and occupies a 100 sq. m. area, considered as a single production module. Each rainshelter can house around 5,000 seedlings. The plastic roofing is made of UV-resistant material and protects the plants from excessive precipitation, characteristic of Bukidnon's weather patterns. Onions thrive better in moderately moist soils as they are susceptible to rotting with prolonged wetness. Especially beginning the 75th day after transplanting, onion bulbs need less and less water to make them ready for harvest 15 days later. The relatively controlled climate within the structure provides some extent of predictability in the production process.

Figure 3.8. Rainshelter used in onion production

Rainshelter technology started in 2001 at DOLE Philippines in the company's farms in Impasugong Municipality. Dr. Balaqui, the then head agriculturist working for the company, designed high tunnels made of coconut lumber (cocolumber) and UV-resistant plastic sheets to become the plant shelter structures in the farm rather than building expensive greenhouses. The high tunnels covered around 2,500 sq. m. (quarter of a hectare) for a single contiguous

structure. The large family farmers under Normin Veggies copied the structure but modified it by using bamboo materials and reducing the size to around 1000 sq.m. Bamboos could last longer than cocolumber, since the latter was susceptible to rotting when always wet in the ground. Joan Uy was one of those who adapted the technology to her farm in 2003. She passed on this technology to the farmer clusters under the bridging project and further made modifications in the structures. Concrete footing was used instead of the bamboos being directly buried into ground. This could lengthen the life of the posts, although it increased the cost a little bit. The size was reduced to 100 sq.m. to become more affordable to the small farmers. Further modifications were being planned by CRS and Xavier University-College of Engineering especially so it can be adapted according to the needs of small farmers.

The downside however is the necessity of expending labor in irrigating the plants. The differing practices of plant watering partially account for the varying yields among the farmers. How much irrigation needed, how to irrigate, when to irrigate, and where to irrigate are a learning experience for most farmers. Practically, it has been a trial and error experience, although farmers learn new ideas from the extension services provided by the seed companies as well as from the seasoned onion growers from the northern part of the Philippines. Establishment of rainshelters increases the cost of production as each structure costs around Php 13,570 ($316). The structure can last up to 5 years and the plastic roofing normally good for 3 years. There could be a maximum of 3 onion growing cycles annually. That brings the cost of usage for the rainshelter (depreciation) for every cycle to Php 1,188 ($28). The additional cost may well be recovered through continuous production cycles and more consistent and larger income streams.

Using the rainshelters, the highest yield so far is 343 kilograms, quite a feat by a single farmer in a single module. National average yield per hectare is 9 metric tons per hectare, or

the equivalent of 90 kilograms per 100 sq. m. If yields are maintained at a realistic projection of 300 kilograms per module, this translates to 30 metric tons per hectare. This could be truly a great achievement towards production efficiency with the use of the new technology. The reality, however, paints yet a bleak picture of actual results. The average yield among all the small farmers in Bukidnon is nowhere near that figure yet. As a matter of fact, the first delivery in June 2009 recorded an average of 135 kilograms per module, the highest being 278 kilograms and lowest at only 15 kilograms. The second delivery in November 2010 dropped to around 83 kilograms per module, the highest at 205 kilograms and lowest at 20 kilograms. The goal set by CRS was to come up with at least 200 kilograms per module. Extreme yields have characterized the production process thus far. While the yield of the first delivery fared well against the national average, the second delivery failed miserably.

Consistency of yields among farmers and across cycles remained much to be desired; hence, constant adjustments in the production protocol and sharing of good agricultural practices among the farmers were always on top of the agenda set by CRS and Kaanib during meetings and gatherings. When seedling germination fell way off expectations during the second growing cycle in October 2009, Joan Uy insisted on using plant boxes for the seedling preparation in order to prevent unnecessary stress to the young plants. When the plants did not bulb sufficiently despite their apparently healthy foliage, fertilization was adjusted to reduce nitrogen intake and to increase uptake of phosphorus and potassium. When water became a problem for some farmers, they were assisted by CRS to construct sumps and water catchment structures to address the lack. When detailed steps in the production guide needed to be taught, farmers went on a tour to other farms to learn by actually observing the processes. In other words, the farmers did engage in a continuous learning process to master the art of producing onions. Yet various difficulties beyond their control seemed to prevent them from

attaining their production goals. Eddie Ligaya, a grower from the Poblacion village, commented, *"We tried to follow closely the protocol about crop handling and irrigation, but we still have a low yield."*

In the process of performing experimentations themselves, farmers bore the risks and uncertainties attendant to such learning process. The learning curve proved too steep for many of them to hurdle. While it might be good for them to actually experience the difficulty of growing new crop using improved technology, the pioneering farmers shouldered the costs of innovations. Poor harvests meant less income and therefore less capacity to pay the loans they had incurred with Kaanib and the micro-finance institutions. Crop failure meant the possibility of getting into debts as they had already taken out a loan with the micro-finance institutions. Hence, instead of helping the farmers increase their household incomes, they were subjected to greater risks and stresses. Lourdes Alcoy, from the village of Quisumbing, expressed her fear after receiving the first legal notice of collection from Bukidnon Cooperative Bank, *"I am very afraid that someone will just come to arrest me, while I am weeding my plants."*

CRS and Kaanib anticipated many of these technical difficulties at the very outset of the project implementation. Thus, as early as January 2009, Joan Uy started conceiving of a plan to partner with educational institutions and to seek assistance in terms of the research and development aspects of the upgrading process. CRS tapped Xavier University, a privately run school, to help out in the project. In April 2010, CRS and Kaanib initiated preparatory activities which included a whole day visit of some eight (8) teachers and staff from various departments of the university to the farms of onion growers. Another full day immediately followed to discuss and share about possible research themes and projects. A different batch of 25 students, teachers, and school staff made another learning visit to Impasugong in July 2010 to prepare for more concrete planning on research efforts. CRS conducted follow-up meetings in

September 2010 with certain officials from Xavier University, including the President of the school, to firm up the research collaboration. Finally, the school committed its personnel and resources to undertake some studies in various aspects of the bridging project while CRS promised to contribute at least Php100,000 (US$2,300+) to subsidize stipends for the researchers for at least a year. With this partnership, CRS hoped to transfer some of the risks of experimentations to the actual research development activities to be conducted by the educational institution, while at the same time generate new knowledge about the production processes adapted to Bukidnon's agro-ecological conditions.

As if all these problems related to production were not enough, management inadequacy also plagued the project implementation. Kaanib was the development agency arranged by CRS responsible for organizing the collective production and marketing efforts to deliver the products from the small farmers to Jollibee Foods Corporation. The members of the staff of Kaanib were quite adept at social organizing, but certainly wanting in business management skills. In the previous projects it handled, Kaanib functioned more as community organizer than as an agricultural business leader as it was predominantly oriented towards social development. It left the production processes much to the discretion of individual households. In contrast, in this bridging project with JFC, Kaanib acted as the production and marketing manager in coordinating various tasks towards making a delivery of produce to JFC. However, Kaanib still needed to prepare for this entrepreneurial task as business management presented a different challenge to undertake. Much like the farmers trying to learn new crop production technology, Kaanib was also learning the dynamics of entrepreneurial management in making daily contingent decisions, especially in response to market-oriented demand requirements.

The background of the Kaanib staff directly responsible in implementing the bridging project with JFC could tell it all. Carmelo Buutan (not his real name) was a college graduate in animal science and initially worked as a production worker for Dole Philippines, a multinational company operating banana plantations in the province of Bukidnon. A couple of years later, he decided to move on another job and became a trusted caretaker for a large family farm raising hogs on a commercial scale. His knowledge on animal science was put to good use for about two years, before he eventually transferred to the Municipal Agriculture Office of the local government of Impasugong as an agricultural technician. He was later reassigned as a meat inspector in the same municipality. Unlucky enough to be denied renewal of his contract under the Municipal Government of Impasugong, he started volunteering as a community organizer of Kaanib until he was absorbed as a full-time staff beginning February 2009. He showed proficiency in community organizing and agricultural extension service, but enterprise development seemed not so much a part of his strength. Rosa Rosal liked his being kindhearted, "he is good, hardworking, and busy all the time. He goes to different farms and is very kind to people." Joan Uy appreciated his diligence and initiatives especially in terms of maintaining records despite the lack of computer equipment. Although Camelo was perceived as a good technician, his background did not prepare him well to exercise business leadership. Similarly, Executive Director graduated from college with a degree in Chemical Engineering and later worked in community development under Kaanib around 1992. Business management skills were learned practically through experience as part of the community organizing process in handling various projects in the past. But this proved insufficient. Feeling tired after the delivery in November 2010 to JFC, she said, *"I really feel exhausted in managing this JFC project. This is totally a different experience for me"* (personal communication).

Apparently, the bridging project demands a different set of skills beyond community organizing and extension services. It requires added skills in entrepreneurship, since the project entails both production and marketing management in order to link effectively with the buyer. Thus, despite making their best efforts, Kaanib is found wanting. Inevitably, decisions are slow in coming. Business planning for target projections was lacking. Instruments for better management needed to be installed. Scheduling of activities and sticking to deadlines was quite lax.

Some farmers were quick to notice Kaanib's inadequacy in business management. First, a major recurring complaint was the usual delay of the delivery of materials and inputs that set back the timetable of most farmers. Crop care could not be faithfully followed because of the lack of needed inputs. *"If the inputs are always delayed, we might as well be not under Kaanib, organize ourselves as a cluster and deal directly with JFC,"* Richard Gomez declared after his experience with the second production cycle. Second, production turn-around took too long and delayed succeeding cropping cycles. Farmers usually had only one month after harvest to begin another crop cycle. Hence, rainshelters remained fallow for several weeks, wasting precious time for generating possible income through the use of the structure. Asked why he had not yet started planting, Rosa Rosal, a farmer who hails from Intavas, *"we are still waiting for the decision of Kaanib on what to plant. Yes, the land is lying idle. If I have my way, I could have planted lettuce in this area and produce something after 45 days."*

Third, harvested produce took time to be hauled from the farms, increasing the possibility of spoilage and losses. Collected produce likewise remained long in the bodega of Kaanib without the benefit of cold storage, resulting to heavy losses particularly after the second production cycle. Losses were high (more than 10% spoilage rate) that Kaanib and CRS decided not to deliver the produce to JFC since the quality was questionable and volume not

sufficient enough to be economical. Instead, they disposed them to the local market to minimize further losses. Fourth, slow decision-making by Kaanib took its toll in the delay of being granted accreditation from JFC as a supplier. In February 2010, Kaanib wanted to be the consolidator of the farmers' produce and the supplier to JFC. Jollibee Foods Corporation received its request and subsequently demanded some documents from Kaanib in March 2010. Kaanib submitted the required documents in May 2010. In the meantime, Kaanib already started consolidating the produce from the farmers beginning in February 2010. Most produce were in stock by April 2010. Kaanib could not request a Purchase Order (PO) from JFC if not yet accredited, so no accreditation and no shipment to JFC by the end of April. Its accreditation only came about upon the intervention of Joan Uy with the Project Steering Committee during their meeting in May 2010. Jollibee Foundation recommended that the Purchasing Department of JFC expedite Kaanib's accreditation process. JFC finally granted Kaanib the accreditation in May, but it was too late to arrange for a contract (PO) with JFC when the stocked produce was fast deteriorating. The decision of Kaanib to be the supplier of the farmers' produce to JFC came in too late during the second production cycle when the harvests were already started to be consolidated. The waiting time for accreditation necessitated the storing of the goods for about three months (mid-February to mid-May 2010) without the benefit of cold facilities. As a result, the supposedly second delivery to JFC did not materialize. Thirty-four out of the initial 41 farmers (83%) who participated in the second production cycle made a loss at an average of Php 2,797 ($65) per farmer. Only 7 farmers gained an average net income of Php 2,520 ($59).

In the end, the introduction of a new high value crop with its new technology presented a colossal learning challenge on both the farmers and the local organizers. Technical, managerial, and supply difficulties hounded all three production cycles. Farmers failed to attain target volumes as yields remained less than optimal. They also began to feel the mounting

pressures with regard to loan payments. On the part of Kaanib, lack of managerial experience compounded the already gargantuan problems of the farmers. Despite the good faith which Kaanib exercised its function as the direct organizer of the farmers, it still needed an honest-to-goodness retooling for its manpower, one which could enhance the social development motivation of its personnel while instilling an entrepreneurial orientation in its organizing efforts. Responsiveness to market demands and the ability to anticipate needs before problems occur were examples of capabilities which Kaanib needed if it wanted to be an efficient bridge between producers and buyers.

Product Upgrading. Producing a new crop presents an exciting challenge as well as an immense uncertainty for the small farmers in Bukidnon. The prospects of a higher contract price, the assurance of a profit margin per produced unit, and the guarantee of a ready buyer can certainly lure small farmers into embarking on a different pattern of livelihood activities. Linkage with a ready market substantially reduces the risks attendant to the usual production orientation of farmers, growing something and delivering the produce to the traditional spot wet markets. On balance, another set of risks operates in their livelihood activities, now gravitating more on the production side. The small farmers simply have no previous experience of growing onions in their farms in Bukidnon. Any attempt to produce a new crop such as bulb onions naturally carries with it some uncertainties. While they may have their local experiential knowledge of growing vegetables, growing a totally new crop using new technology in the heavy precipitation mountains of Bukidnon demands constant product upgrading through trial and error. The farmers cannot easily imitate the cultural practices followed by farmers in northern Philippines who are used to planting onions in large open fields during the dryer season of the year. Bukidnon farmers' production takes place during the wet season of the year and under a rainshelter—plastic covered and just a parcel of 100 sq. m. lot per module. Rainshelter

technology requires a different set of practices which are yet to be mastered by the farmers in Bukidnon. Likewise, there has not been much research on this by the government or private universities from which farmers can pull knowledge. There is no other way to do this except by experimentation. Although a protocol was developed during the course of pilot production, revisions and adaptations are on-going in order to discover improved ways of producing better yields using cost-efficient processes. Better yields, reduced unit costs, and higher wholesale prices redound to farmers' ability to capture greater value added from the onion value chain.

In this vein, product development preoccupied much of the concerns of the small farmers and project organizers. During monthly meetings organized by Kaanib, the farmers engaged in sharing agricultural practices as well as in soliciting advice from others on how to cope with plant diseases and abnormal plant growth. The diffusion of ideas shortened the lag time attendant to learning by doing, allowing farmers to easily adapt new practices and apply new knowledge on their individual farms. For instance, farmers affirmed the use of vermicompost to ensure healthy growth of seedlings and to reduce seedling mortality. They all agreed to the use of chicken dung as basal fertilizer to enhance soil fertility and structure for better vegetative growth. They shared various ways of irrigating their farms. These and many other details of cultural practices provided the farmers with useful information to attain success in growing onions.

The first production cycle started in January 2009 and lasted until May 2009 (Table 3.6). Delivery of the onions harvested in this cycle occurred in July 2009. The first production cycle produced a total of 4,741.10 kg from among 35 farmers who each used one module of rainshelter. This translated into an average of 135 kg per module, the highest being at 277 kg and the lowest at only 15 kg. Compared to the national yield average of 90 kg per 100 sq.m.

parcel (9 mt per hectare), the first growing cycle performed much better, although way below the expectations of at least 200 kg. per

Table 3.6. Production Performance for 3 Production Cycles

	Unit	1st Prod'n Cycle	2nd Prod'n Cycle	3rd Prod'n Cycle
Date of Production		January-May 2009	October 2010-April 2011	May-October 2011
No. of Farmers		33	35	33
No. of Modules		35	67	43
Total Yield	kg	4,741	3,981	3,268
Average Yield/Module	kg/mod	135	59	76
Total Cost	Php	108,308	159,879	271,539
Average Cost/Module	kg/mod	3,095	2,386	6,315
Estimated Cost/Kilogram	Php/kg	29.66	28.53	21.70
Actual Cost/Kilogram	Php/kg	22.84	40.16	83
Price Offer	Php	38.00	n/a	32.50
Total Sales	Php	125,317	82,415	78,873
Volume sold to JFC	Kg	2,181	Not delivered	2,006*
Volume sold to local market	Kg	1,801	3,583	1,070
Post-harvest Losses	Kg (%)	557 (12%)	398 (10%)	912 (28%)
Average Sales/farmer	Php	3,797	2,355	2,390
Total Net Proceeds	Php	71,099	(77,464)	(188,836)
No. of Gainers	Household	22	7	1
No. of Losers	Household	13	28	38

*A buffer stock of 720 kg from Joan Uy's farm was added to increase the volume.

module set beforehand by CRS. The target yield of 200 kg. per module was based on computations on the maximum number of seedlings in a rainshelter and weight of each onion bulb, adjusted by a rate of mortality. The actual unit cost of production was Php 22.84 or 23% less than the estimated unit cost of Php 29.66. The discrepancy may be attributed to the absence of labor and depreciation cost to the data provided. The price offered by Jollibee Foods Corporation was Php 38 while the prevailing wholesale price in May 2009 was Php 40, a difference of Php 2.00 more than the contract price. The first growing cycle resulted in a net income for 22 farmers and a loss for 13 other farmers, each farmer taking home an average of Php 2,031.41. This initial production performance was actually not bad at all, considering that

this was the very first time the farmers individually produced and collectively marketed their produce. However, the Purchasing Manager of JFC commented during an interview that they had accepted the delivery at a loss to the company as the recovery rate of the product after peeling reached only 67% as compared to the minimum requirement of 85%. He said, *"we purchased onions from Bukidnon at a major loss… it will not work that way. If we're gonna lose 5 pesos for every kilo, I'd rather…we just did it on another format; otherwise it doesn't make sense doing all these. "*

Unfortunately, the quality of the onions produced by the farmers failed the standards of the food company. Technically, the delivery could have been rejected, but JFC exercised generous flexibility and tolerance to encourage the farmers to produce more and perform better next time. On the side of the Purchasing Manager, that was acceptable for now and not in the future. Joan Uy explained that the recovery rate was low, because the product from Bukidnon was mixed up with products from other sources in the JFC Commissary in Cebu City.

While there was a glimmer of hope after the first production cycle despite some limitations, the succeeding cycles proved otherwise. The success hoped for remained elusive as problems and concerns riddled the next two cycles.

The second production cycle started in October 2009 and ended in April 2010. The growing cycle technically spanned only four months or a total of 120 days. Since the farmers did not plant all at the same time, the supposedly synchronized production effort took around six (6) months to complete. The lack of synchronicity in planting schedules resulted naturally in different harvest schedules. Reasons for this lack of timing included delays in the arrival of seeds and input distribution to farmers and lack of funds to pay for upfront labor costs. It proved unfavorable in terms of collective marketing since product consolidation took longer to complete and delivery was consequently delayed. Kaanib started to consolidate the produce in

February and completed in April. Unfortunately, the length of storage period and the lack of cold storage facilities resulted in high shrinkage losses while awaiting delivery to markets. The first batch of onions to arrive started to shrink while waiting for other produce to come later. This happened not only during the second production cycle but all the other growing cycles as well. Based on Table 3.4, the first production cycle posted a loss of 12% of total yields or 557.1 kg, valued at Php 21,169.80 using the contract price of Php 38/kg. The second production cycle absorbed at least 10%19 of total yields or roughly around 400 kg. If the prevailing wholesale price for this cycle was Php 23, post-harvest losses amounted to around Php 4,600. The farmers shouldered the losses, since it is assumed that the farmers owned the products until sold.

Another major contributing loss to farmers during this second production cycle was the failure to come up with good germination rates for seedlings. Records showed that farmers were only able to transplant to an average of 2.63 plots out of the planned 4 plots per rainshelter. The full 4 plots could contain at least 5,000 seedlings. Hence, the failure to germinate already resulted to almost half of the expected volume. Three farmers had to re-sow seeds, but to no avail. Production was already hampered by the lack of seedlings for transplanting at the very outset of the planting cycle. CRS attributed the failure to improper method of germinating seeds and the lack of care in handling seedlings when transplanting. The farmers blamed the use of new and untried variety of seeds for this growing cycle while claiming that they did as best as they could to grow the seedlings. Loloy Gallogo observed that,

> *"ang akong kakuanan…usahay lagi ang sibuyas…alimahan nato morag lahi ang iyang pagturok…kay sa una lang katong primero, katong gi-deliver sa Cebu, kabilib ko adto kay diretso lang mobukad, motubo. Karon, naay tanom nga 20,000, lahi man ug tinubuan. (My complaint is that it seems onions grow differently despite having taken care of them. I really liked the first batch*

[19] Kaanib conservatively estimated the losses at 10% and not from the discrepancy between the total yields and the actual volume sold, which could have been higher by my approximation. This also revealed the lack of proper accounting on the part of the consolidator.

delivered to Cebu, since the onions easily grow and bulb to a size. Now, I have 20,000 plants, but there is something wrong with their growth.) "

These experiences only confirm that product development was still very much wanting.

The third production cycle tried to address the limitations encountered during the previous cycles. The cycle started in May 2010 and ended in October 2010. As regards the difficulty of procuring the seed variety already tried out in Bukidnon, JFC directly intervened on behalf of the Project Steering Committee with a seed company. To note, Bukidnon was never a priority area for the seed suppliers of onions as it was not a producing region. So suppliers never earmarked any supply for Bukidnon. The Purchasing Manager of JFC made a call to a seed supplier and requested delivery of the variety of seeds desired by the farmers in Bukidnon. The seed supplier immediately complied and released the needed volume of seeds for Bukidnon. The supply of XP Red variety that showed good performance in the previous growing cycle was thus addressed.

To ensure proper handling of seedlings, CRS suggested to farmers to use seedling boxes where they could germinate the seeds. The use of boxes could reduce the stress incurred by the fragile seedlings during transplanting. Instead of having to transfer the seedlings from one place to another, the boxes would just be brought to the field. In doing so, seedlings remain intact and practically untouched when transplanted to the soil. Also, farmers sowed 30% more than the usual number of seeds to ensure sufficient standing seedlings to cover all 4 plots in a rainshelter. CRS further introduced the use of plant markers during transplanting of seedlings. The plant markers served to make holes in the plots where seedlings could be planted. The marker made sure distances between plants were all uniform and spaces within each plot were utilized to the maximum. Some farmers initially hesitated to use these innovations, claiming added expenses could increase total costs. But they eventually complied and most rainshelters were fully planted in the process.

The majority agreed to follow the innovations after witnessing their actual effects on plant growth. Joan Uy of CRS first applied all the innovations to her own farm to determine the effects of such new practices. The farmers made a couple of learning visits to Uy's farm and actually observed the ensuing better plant growth. During these same learning visits, the farmers also discussed most of the adjustments done to the protocol to come up with certain adjustments. They agreed to continue observing the agricultural practices that proved successful in previous cycles, such as the use of vermicompost for seedling production, application of chicken dung for basal fertilization, proper water management, use of different kinds of fertilizers at different plant growth stages, practice of proper fertilization methods, mulching, and other cultural practices. From all indications, farmers conducted sufficient preparations and adjustments to become more adept at growing onions for the upcoming growing cycle. There was no let up in their learning process. New farmers were instructed properly and assisted along the way by the cluster leaders. The technician from Kaanib made his usual rounds to extend his technical services. Everything seemed well and good.

But the unexpected could always happen to counterpoint any positive development thus gained. This time, the onion seedlings failed to grow sufficient bulb sizes. The plants looked healthy with their robust foliage. Plots were replete of seedlings. Rainshelters were all populated by large green standing stalks. Yet the plants appeared more like leeks than onion bulbs. Some did indeed grow their bulbs, but the majority just refused to expand their bottoms into fat bellies. An agricultural technician from a seed company visited some farms and conducted an evaluation on the performance of the plants. He attributed the extensive leaf growth to the imbalance of plant nutrition, which was more of the nitrogen and less of phosphorus and potassium. He recommended using different combination of fertilizers and other inputs to correct the imbalance. On the other hand, CRS attributed the anomaly to the

insufficient supply of sunlight as the growing days were marked by long consecutive days of heavy overcast skies. Besides, the recurring heavy downpours and prolonged days of high precipitation contributed to the high humidity in the rainshelters, a condition less conducive to onions nearing harvest.

To put the experience succinctly, the producers thought they did well, but the product did poorly. Poor harvest resulted from the growing cycle. The target of 200 kg per module became just 76 kg. per module. The farmers absorbed heavy losses. Costs were only partially recovered. Most had outstanding loan amortization with Bukidnon Cooperative Bank and Kauyagan Savers Cooperative. Farmers were saddled with debts rather than with more income.

In the final analysis, the failure to produce a quality product only revealed starkly the need for more serious product research and development. Consistency and reliability in the production process are sorely wanting. Suitable varieties, plant nutrition, quantity and timing of fertilization, irrigation procedures, sunlight (photoperiod), humidity, soil temperature, soil analysis, and other similar factors constitute part of the more scientific conduct of experimentation. The experiential learning through trial and error by the farmers themselves may be good in terms of actual familiarity with the processes entailed in the production. There is no substitute to actual experience. However, the learning process without the complementary benefits of scientific research could not ascertain reliable and valid results. An adverse effect is the economic hardship for participants. At present, what the farmers shared among themselves appears like conjectures or anecdotes about what seemed to have worked in their individual farms. Their experiences lack the power of being generalized to other farms and to other times of the year. In fact, they cannot even replicate their “good” production results within their own farms, since they use different varieties at different seasons of the year. At best, product development by the farmers through trial and error has resulted in an

accumulated knowledge of whatever they have so far tried and tested. The farmers have become more knowledgeable about what possibly can and can't actually work. But their knowledge is devoid of definitive pointers to assure tangible success in future production activities.

While the process of learning by doing may not be totally useless, farmers bear the risks of experimentation without safety nets against possible failures, as mentioned earlier. They can actually provide themselves with more time to learn, but this could be very costly in the process. Small farmers are more motivated in generating income for their family's needs rather than generating knowledge about new things. They place higher priority on creating wealth since they only possess meager resources at their disposal. In effect, this project of bridging small farmers to high value markets situates them in a dual role of both producers and researchers. Farmers absorb the risks of doing research as there is no subsidy to their production expenses. Most have borne the failures, though some have received the gains during the initial success. Generally though, success has not come by easily. They have accumulated financial debts rather than definitive knowledge of reliable agronomic practices.

It was only fitting then that CRS solicited the technical assistance of the extension agents from the seed companies. Technical difficulties characterized much of the problems in the production process. An agent from Seminis Corporation, a multinational seed company, visited Bukidnon during the third production cycle to evaluate the progress of plant growth and recommended possible solutions to some pressing agronomic concerns. Another seed company, Allied Botanicals, sought the cooperation of one of the farmers for the use of his farm to further conduct onion varietal trials. In the meantime, CRS forged an agreement with an educational institution, Xavier University, based in the nearby city of Cagayan de Oro, to carry out formal research related to the production processes of onions. Researchers from Xavier

University started visiting the farms in Bukidnon in April and July 2010 to survey possible concrete actions to be made. Xavier University had earmarked its own financial and manpower resources for research and development as this was also very much in line with the school's mission of better serving the communities through educational research. CRS likewise committed at least Php 60,000 (US$ 1,395) to supplement the research funds. Hence, the small farmers found good allies in their quest to master the process of growing onions. How this collaboration would work out is something to look forward to.

Mapping Cluster Cooperation Activities

Concomitant with value chain integration was the cooperation among farmer clusters strategically mobilized to expedite collective action and active participation in the chain. To note, value chain integration and cluster cooperation mutually reinforced one another. Integration of farmers in the chain instigated the horizontal cluster cooperation as the organizing strategy suitable for the atomistic small farmers, while cluster cooperation in turn developed and facilitated the vertical integration of the producers in the supply chain of a food company.

CRS actively promotes clustering strategies in all of its projects in the Philippines (CRS, 2010a). A cluster is a small group of 5 to 15 farmer-households who are concentrated in a particular locality or village and who commit to produce quality products to supply a market. Clustering developed from CRS' experiences and knowledge accumulated in a three-year project with small farmers in Mindanao. From 2005-2008, CRS implemented a project called "Small Farms and Marketing Project" supported by funds from United States Department of Agriculture (USDA). It partnered with Local Government Units (LGUs) and people's organizations (POs) to assist 3,000 farmers in five project sites in Mindanao in facilitating farmers' active participation

in markets. In the process, CRS developed a practical eight-step approach (Figure 3.9) to clustering and made it into a handbook for agro-enterprise facilitators, entitled "The Clustering Approach to Agro-enterprise Development for Small Farmers." Joan Uy was the central figure or, more appropriately, the author in developing this strategy. She put into practice the clustering strategy in the bridging project with JFC.

The eight steps serve as guides towards establishing clustered supply units. The first five steps are preparatory stages which help farmers understand markets and market dynamics, identify market opportunities, assess their production capacities, formulate initial plans and programs, and organize the informal groups as collective units of producers. The test marketing at the 6th step is actually the first delivery of produce to familiarize the processes of moving a product to the buyer as well as to assess level of expenses against potential revenues. The 7th

Figure 3.9. Eight steps of cluster formation

and 8th steps pertain to expansion of membership and strengthening of organizational capabilities of farm-leaders. Once clusters are fully established and skills enhanced, they may evolve into a formal organization as a cooperative or a farmers' association. At that stage, the farmers themselves are expected to have more leeway in terms of managing the production processes and marketing activities as an organization.

In this bridging project with JFC, the farmers went through all these stages. The first step involved the establishment of the Site Working Group (SWG) in July 2008, an ad hoc committee to commence the formation of clusters and mobilization of resources from the local government, national government, micro-finance institutions, and other agencies. Organized by CRS, the SWG initially provided the manpower resources for gathering information to be used for assessing local production capacities and market opportunities. As mentioned in a previous section, it was composed of the representatives from CRS, Kaanib, Local Government Unit (LGU) of Impasugong Municipality, Department of Agriculture, Department of Agrarian Reform, Kauyagan Savers Cooperative, and Bukidnon Cooperative Bank. An initial group of 5 farmer-leaders were included in this group. The SWG met almost every month since 2008 until middle of 2010, after having performed its task of forming the clusters.

The second step, product selection, was already decided upon by the Project Steering Committee. Onions would be produced as JFC has great demand for the product. Since this is a totally new crop for the farmers, onion varietal trials were conducted to determine the feasibility of growing the crop in Bukidnon. Kaanib chose 5 farmer-leaders from different villages in the Impasugong. These 5 farmer-leaders were beneficiaries of Kaanib's projects in the past. CRS provided the resources to start the pilot testing of onion varieties, including the construction of 5 rainshelters. Also, computation of costs was part of the objectives of pilot testing in order to determine unit cost of production. For the third step, market study, CRS

organized a familiarization tour to Manila and Nueva Ecija in February 2009 for the Executive Director of Kaanib and two of the 5 farmer-leaders. They were introduced to the buyer of the product, Jollibee Foods Corporation, particularly the officers from Jollibee Foundation and the Purchasing Department of JFC. Ronald Halasgo, one of the farmers in the tour, got his big dose of culture shock, "I was really dumbfounded when I went to Jollibee in Manila. It was my first time to ride an airplane, visit a big city, and stay in a hotel. I didn't even know what to do, what to say, or how to act before the executives of the company." Later, the group went to San Jose, Nueva Ecija to interact with seasoned onion growers before proceeding to visit the demonstration farm of Allied Botanicals, a seed supplier, in the province of Pangasinan.

The fourth and fifth steps were done concurrently. This happened even before the market study tour in Manila took place. The 5 farmer-leaders began the recruitment of their cluster members in December 2008. By January 2009, there were a total 35 farmers who signified their intention to participate in the bridging project. A series of meetings ensued to discuss production protocols and crop management procedures. Seedling preparation soon started during the fourth week of the same month. The sixth step was the test marketing of the first delivery of the onions to JFC in July 2009, discussed lengthily earlier. After this first delivery came the attempts at scaling up the project by recruiting more participants to become onion growers (seventh step). Capability-building training and seminars were conducted to slowly build up the organization (eighth step). The clusters thus formed actually stand at the seventh and eighth steps in the process which could continue on for some time to become fully developed.

Behind the ongoing process of establishing the clusters are the enduring activities that contribute towards intensifying joint actions among cluster members. Recurring cluster cooperation activities consisted of feasibility study preparation, formulation of plans and

programs, recruitment of new beneficiaries, accounting and bookkeeping, production protocol formulation and implementation, loans administration, conduct of training and seminars, conduct of meetings, appointment of leaders, rewards and sanctions, and finally, networking and linkage development.

Inasmuch as the farmers are still in the process of becoming organized, most of the activities pertaining to cluster cooperation were initiated, prepared, or performed by the assisting agencies. Major directions of project implementation reside in the Project Steering Committee and the small farmers receive such directions for guidance. CRS and Kaanib organize the formation of clusters, supervise production process of individual farmers, and manage collective marketing efforts. Government agencies provide funds in support of the organizing process and production activities. Micro-finance institutions offer a window for production assistance to farmers. Normin Veggies shares agricultural knowledge and experience to farmers as well as facilitates shipment of products to the buyer. Suppliers provide extension services to improve crop production. The asymmetry of decision-making powers clearly tilts in favor of the assisting agencies as a preliminary but necessary stage towards establishing the farmers' organization and enhancing their leadership potentials. Much of the cluster cooperation activities, therefore, are oriented towards developing the organizational capability of the small farmers to prepare them to become a collective unit and thus able to participate in modern value chains. Table 3.7 shows the particular interactions of the external agencies outlined according to the different activities subsumed under cluster cooperation.

Table 3.7. Inter-organizational interactions between the small farmers and external agencies in relation to cluster cooperation activities

Cluster Cooperation Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Impasugong Local Government Unit / Dept of Agriculture	Micro-Finance Institutions (KSC/BCB)	Normin Veggies	Suppliers
1. Feasibility Study Preparation	•Provides market data to farmers through the Project Steering Committee and Technical Working Group •Approves onion varieties after field testing in Bukidnon •JFC main office serves as venue for meetings of the Project Steering Committee	•Coordinates research on market data •Conducts preliminary studies on market supply and demand requirements among different companies •Researches other farms for adaptation to local context •Gathers good agricultural practices (GAP) from other farms for possible adoption •Provides salaries for the marketing consultant, project team leader, field facilitator, and NGO staff	•Facilitates discussions on appropriate courses of action to integrate farmers in the value chains through the Project Steering Committee •Provides funds for the organizing of farmers as suppliers of JFC •Contacts JFC Purchasing Officers for marketing plans	•Participates in the discussion involving project management during the Project Steering Committee meetings •Communicates with concerned local micro-finance institutions regarding production financing for small farmers in Bukidnon	•Conducts baseline data gathering •Contacts and solicits support from other agencies in preparing project goals and activities •Organizes and facilitates meetings between farmers and other stakeholders for collective production and marketing preparation •Maintains database about field data	•LGU: Participates in project planning and feasibility studies preparation •LGU: Commits resources in the study preparation •LGU: Supports activities geared towards helping small farmers by extending financial and logistical support	•Discusses with CRS and Kaanib regarding possible courses of action on production financing •Commits to help out small farmers in their financial needs	•Provides market intelligence •Offers consultancy advice regarding production and marketing management •Shares crop technologies to small farmers •Offers services in terms of marketing and distribution	•Technicians from seed companies orient farmers on characteristics of every onion variety •commit assistance for varietal trials and demonstration plots
2. Formulation of Plans and Programs	•Agrees to absorb up-to-grade production output from farmers •Shares market intelligence through the Project Steering Committee and the Technical Working Group •Indicates volume that can be procured from farmers •JFC main office serves as venue for meetings of the projects' Technical Working Group	•Provides plans for production •Suggests what crops to produce and where to sell •Assesses production yields and systems for possible intervention •Explores other potential projects for farmer beneficiaries •Consults farmers on viable crops for collective marketing	•Holds discussions on setting project objectives and goals •Recommends to DA regarding funding resources to small farmers •Suggests actions to resolve problems •Contacts other JFC personnel to solicit support for the project •Arranges meeting of CRS and certain JFC personnel	•Arranges with local micro-finance institutions the needed financial backing for small farmer production •Commits funds in organizing small farmers' participation in the value chains	•Organizes meetings with farmers and other stakeholders to plan concrete programs and activities •Facilitates planning sessions with farmers and other stakeholders •Provides inputs for planning and programming •Conducts and monitors production trials for future upscaling •Determines who and where production trials are to be conducted	•LGU: conducts own onion trial farms in support of the project •LGU: mobilizes own government personnel to support program implementation •DA: Extends financial support for training and establishment of rainshelters •LGU/DA: Conducts on-site farm visits	•Commits to extend production loans to small farmers under the project	•Offers learning visits to members' farms •Offers logistical support for marketing and distribution of onions •Serves as conduit for the procurement of supplies and inputs to take advantage of price discounts	•Commits to supply onion seeds for volume propagation •Conducts own trial farms with selected farmers •Commits to conduct farm visits and perform on-site assessment of crop production issues •Suggests interventions to improve production
3. Recruitment of New Project Beneficiaries		•Prioritizes selected areas for recruitment of new beneficiaries			•Conducts area survey and background checks for potential beneficiaries				

Cluster Cooperation Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Impasugong Local Government Unit / Dept of Agriculture	Micro-Finance Institutions (KSC/BCB)	Normin Veggies	Suppliers
		•Acts as resource speaker during orientation of new cluster members •Outlines expectations and responsibilities of beneficiaries			•Decides on who could become farmer leaders in newly formed clusters •Provides orientation for new members in the clusters				
4. Accounting and bookkeeping		•Suggests forms and procedures to improve recordkeeping •Requires various accounting reports from Kaanib			•Maintains records of individual production and sales data •Submits regular accounting reports to CRS	•Requires submission of fund utilization report from Kaanib for possible future replenishment	•Maintains record loan applications, releases, and repayments	•Receives payment from Jollibee as product consolidator and remits them to Kaanib, after making deductions	
5. Production Protocol Formulation and Implementation		•Facilitates protocol formulation •Consults seed company technicians on appropriate protocols •Researches and shows experiences from other farms •Decides with the farmers what protocol to follow			•Organizes and facilitates Farmers' Field School (FFS) to discuss improvements in cultural management •Gathers data from individual farmers' own field experiences •Organizes meetings to discuss protocol improvements •Keeps minutes of discussions for future use •Monitors farmer compliance in the field	•	•Examines production protocol to determine loan amounts	•Offers ideas and knowledge about new crop technologies •Shares proven experiences on cost reduction schemes •Members' farms serve as demonstration sites for learning visits of small farmers •Serves as back up resources or buffer supply source in case of production volume deficits •Agrees to conduct field testing of onion varieties on own farms	•Shares knowledge and ideas about growing onions •Recommends improvements in fertilization practices •Shares ideas on pest management using indigenous materials
6. Loans Administration		•Assists in determining actual cost of production •Negotiates with micro-finance institutions on loan application •Helps resolve problems about loan application •Provides funds for advances made to	•Assists in resolving conflicts and issues between MFIs and small farmers	•Acts on resolving conflicts and issues between MFIs and small farmers •Enjoins MFIs to accommodate farmers in their loan exposure with flexible terms, if possible	•Determines actual cost of production in conjunction with CRS consultant •Extends loans and advances to farmers •Arranges meeting with MFI and farmer-loaners regarding loan application •Facilitates loan application of farmers •Collects farmers' repayments and remits to	•Requires submission of fund utilization report from Kaanib for possible future replenishment	•Screens applicants for production loans •Specifies details on application, processing, and repayment •Requires documents from every farmer loaner •Conducts meetings with farmers •Visits farmers on-site		

Cluster Cooperation Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Impasugong Local Government Unit / Dept of Agriculture	Micro-Finance Institutions (KSC/BCB)	Normin Veggies	Suppliers
		farmers to procure production inputs			MFI •Maintains loan records for every farmer		to monitor production progress •Loan officer also acts as technician to ensure better production yields and thus repayment of loans		
7. Conduct of Training and Seminars		•Provides funding and logistics for training and seminars •Contacts sites and farms to be visited during field school excursions •Maintains active presence during training for possible inputs and clarification •Acts as resource person for the training	•Provides funds for training and seminars, including out-of-town excursions	•Attends trainings of farmers through representatives	•Organizes Farmers' Field School (FFS) as the training program •Schedules training of farmers •Arranges logistics for the conduct of training •Contacts and invites resource persons for the training •Facilitates training among project participants •Makes available own facilities for training and seminars •	•DA: Provides funds for training of beneficiaries		•Members' farms serve as sites for learning visits •Shares Good Agricultural Practices (GAP) to small farmers •Shares new experiences on crop production	
8. Conduct of Meetings		•Facilitates meetings •Provides funds for meals and snacks during meetings •Maintains presence during meetings especially the general assembly for proper guidance and administration of project •Calls emergency assemblies when needed	•Provides funds for regular meetings of farmers	•Attends meetings of farmers through representatives	•Schedules regular meetings among cluster leaders and other stakeholders •Makes available own facilities for meetings •Prepares agenda and facilitates general assemblies •Attends meetings of each cluster for possible intervention	•LGU: Representatives attend site working group meetings to discuss plans and program of activities •LGU: High Officials visit farmers' meetings to provide and assure support from government	•Arranges meetings with farmers regarding loan application and processing •Attend other meetings of farmers to monitor compliance to loan agreements		
9. Appointment of Leaders		•Recommends potential leaders •Suggests creation of leadership positions			•Conducts informal survey in villages to determine potential farmer leaders •Recruits and chooses potential cluster leaders •Conducts orientation sessions and leadership training for leaders •				

Cluster Cooperation Activities	Jollibee Foods Corporation	Catholic Relief Services	Jollibee Foundation	National Livelihood Development Corporation	Kaanib Foundation Inc	Impasugong Local Government Unit / Dept of Agriculture	Micro-Finance Institutions (KSC/BCB)	Normin Veggies	Suppliers
10. Rewards and Sanctions							•Penalizes non-payers or delayed loaners with additional interests on loan incurred •Reduces interest expenses for early payers		
11. Networking and Linkage Development	•Connects CRS and Kaanib personnel to their other suppliers for resource mobilization •Establishes relationships with other food companies for possible future linking with small farmers	•Contacts alternative buyers for harvested produce •Requests information from outside parties on market intelligence •Contacts representatives from seed companies for consultation on crop care and interventions •Maintains relationships with corporate buyers •Meets with DA officials to solicit financial support	•Contacts seed distributors for supply provision to Bukidnon farmer clusters •Recommends to DA for possible additional funding to farmer beneficiaries •Contacts other corporate buyers for possible tie-up with small farmers •Invites representatives from other agencies to the Project Steering Committee for possible future tie-ups	•Maintains strong linkage with local MFI to support small farm production •Conducts visits in the area to monitor progress of project implementation	•Maintains access to LGU resources and personnel •Reports progress during municipal meetings •Updates local officials on project developments •Contacts suppliers for business tie-ups	•LGU: Makes available government resources for use of farmers •LGU: Maintains relationship with Kaanib and farmers for any joint actions • LGU: Supports major activities of farmers and extends logistical assistance when needed •DA: Commits to provide resources to developing small farm production •DA: Conducts field visits as part of learning sessions to other farmers outside of project •DA: Contacts other agencies for possible tie-up	•Assigns loan officers to establish relationship with farmers and Kaanib staff •MFI executives express support to farmers and assure them of benefits from incurring loans •Serve as liaison for possible contacts with other farmer groups in the province	•Agrees to conduct field testing of onion varieties on own farms •Provides information on market intelligence •Establish linkages between potential buyers and Kaanib Foundation as consolidator •Acts as liaison for freight forwarding transactions •Serves as contact agency to scout other market buyers	•Maintains relationship with farmers through Kaanib and CRS •Promises to supply seeds in ample amounts for the next cropping cycles •Offers discounts for bulk purchases

In terms of feasibility studies and specific plans and programs, the Project Steering Committee did much of the preparation and decided on the concrete directions of the project. JFC made available pertinent market information and presented buyer's requirements to producers. Jollibee Foundation provided financing for resource mobilization and serves as liaison to the Purchasing Department executives of JFC. The National Livelihood Development Corporation coordinated with its local micro-finance institutions for linkage with farmers. CRS supplied both funds and manpower resources for planning and implementation of programs. All the other assisting organizations helped in contributing resources towards the fulfillment of the directions and plans developed by the Project Steering Committee. The farmers did not have authority over the general directions of the project. In fact, there was no one of the farmers who sat in the Project Steering Committee.

For loans administration, CRS and Kaanib mainly handled the negotiations with the micro-finance institutions, performed initial screening and processing of potential loaners, and prepared the projected cost of production which served as the basis for the amount of loan to be incurred by individual farmers. An official from the NLDC, who sat in the Project Steering Committee, interceded in behalf of the farmers to facilitate their loan application with Bukidnon Cooperative Bank. In addition, Kaanib gathered required documents from individual farmers, received loaned funds from the financial institutions, distributed them to the farmers, and collected repayments at the end of the growing cycle. Kaanib also performed the recordkeeping related to the production cycles and for accounting purposes.

CRS, particularly Joan Uy, established and sustained the networks and linkages for the farmers. She solicited funding support and grants for agricultural implements from the Department of Agriculture, Department of Agrarian Reform, and the local government of Impasugong. She forged tie up with Xavier University for research and development of onion

production. She negotiated with financial institutions for loan provisions and seed companies for supplies and extension services. She enrolled the support of the members of Normin Veggies for learning visits on their farms. She contacted brokers for the distribution of off-sized products to local markets. Imelda Esteban, the Executive Director of Kaanib, joined Joan Uy on certain occasions during meetings with the representatives of the other agencies. She maintained ongoing communications with the network and, from time to time, reported project progress to pertinent agencies. Furthermore, Jollibee Foundation established contacts with high government officials, especially the Department of Agriculture, to seek their support and assistance to the project as well as with executives from other corporations to invite their participation in assisting small farmers. Specifically, according to Joan Uy, the owners of SM Corporation, the largest retailer in the Philippines, were invited by Mrs. Grace Tan Caktiong of JFC to consider opening their supply lines for vegetable products to small farmers in certain cities (personal communication). SM Corporation agreed in principle and Joan Uy is now in the process of developing the plans for another linkage with this company.

Being directly involved with organizing the farmers, Kaanib appointed the leaders for every cluster. By the end of November 2010, there were at least 6 clusters formed with total membership of 76 households. These leaders in turn recruited the members for its individual clusters. Most of the members of each cluster resided in the same village, except for a few who hailed from the neighboring villages. Kaanib assumed the primary role of facilitating the conduct of meetings as well as training and seminars. Cluster leaders attended the meetings of the Site Working Group to discuss plans and specific courses of action. There had been at least 12 SWG meetings from July 2008 to March 2010. On separate occasions, CRS and Kaanib met with cluster leaders to discuss and evaluate production protocols. The formulation of an improved set of production protocols normally consumed much of the time during these

meetings. Equally important agenda included the scheduling of production activities, updating of product costing, and processing of loan applications, among other things. These meetings with CRS and Kaanib were not usually confined to cluster leaders alone, but also to other members who were interested in the ongoing discussions. But there were general meetings intended for all the onion growers, at least twice during each production cycle. The first general meeting was conducted before the start of the production cycle and the second before harvests started. Attendance at general meetings was usually high at around 25-35 farmers. Kaanib served lunch for the participants and transportation expenses reimbursed. Funds to cover fare expenses were necessary, since most farmers cannot afford the cost of transportation to attend the meetings.

The cluster leaders underwent a two-day Leadership Training Seminar in late April 2010 to equip them with the basic skills in leadership and tools in management. This was yet the first time these leaders had a formal training on capability building. The training session also became the opportunity for the leaders to strengthen their bonds among themselves as personal friends, but, more importantly, to initiate the development of the team. CRS planned additional capability enhancement training and team-building seminars starting mid-2011 with funds provided by the Department of Agrarian Reform.

Kaanib also organized the Farmers' Field School (FFS) or learning visits to other farms, supported by funds provided by CRS. Large commercial farms owned by members of Normin Veggies were the sites of visitation, including the farm of Joan Uy. There were at least 6 visits made to different farms in Bukidnon to familiarize the farmers about new farming practices and technologies. During these visits, the usual refrain among farmers was, *"kung naa lang koy kuwarta, awaton gyud ni nako (if only I have the money, I will copy these things)"*—referring to the large farmers' contiguously placed rainshelters, drip irrigation systems, diversified

production systems, regular crop production, etc. Furthermore, in October 2010, all farmers in the bridging project gathered together in Impasugong to celebrate a harvest festival. They came with their farm products to be sold to the general public. Officials from the local government of Impasugong, the Department of Agriculture, Department of Agrarian Reform, Catholic Relief Services, and Jollibee Foods Corporation attended the celebration. They made a tour around the farms of cluster members. The huge Jollibee mascot was also present to strike a pose in the middle of the onion gardens. Later in the day, the representatives from JFC and CRS had a dialogue with the farmers to listen to their plans, perceptions and sentiments. It was indeed a good occasion to demonstrate the ongoing collaboration among various agencies and the farmers.

In sum, clustering atomistic farmers into a collective unit of producers opened up the possibility of participating in the supply chain of Jollibee Foods Corporation. The process was long and involved several stages before establishing even just the initial clusters while starting the joint production and marketing efforts. The formation of clusters among resource-poor farmers did not happen organically from within themselves, but was catalyzed by various agencies converging together in providing resources not normally accessed by small farmers. The collaboration of JFC, JF, NLDC, CRS, Kaanib, Local Government Units, national government agencies, micro-finance institutions, Normin Veggies, and various suppliers not only ensured the formation of the informal groupings of producers, but also slowly put into place the emerging competitive advantage arising from their joint actions (cf. Pietrobelli & Rabellotti, 2006b). These various agencies were integral in developing the competitiveness of the clusters as they provide the components essential in the smooth flow of products from the farmers along the value chain (M. E. Porter, 1998). Among others, the assured market offered by JFC, the project planning and implementation initiated by CRS, the organizing efforts fulfilled by Kaanib, the

funding support extended by the public sector, and, lately, the product research and development promised by Xavier University are all powerful externalities that set the conditions for the possible attainment of efficiency gains from collective action by small farmers (Pietrobelli & Rabellotti, 2006a).

Schmitz (1995, 1999) defines collective efficiency as the competitive advantage derived from local external economies (or simply externalities) and joint actions. In this light, the bridging project has helped the small farmers develop this collective efficiency to a certain extent. Clearly, as discussed in earlier sections, the collective efficiency gains through a combination of external interventions and conscious joint actions were still short of being considered ripe. For instance, production volume was low, product quality less than optimum, regularity of production yet to be attained, and most household incomes in the red. Nonetheless there had been gains already accomplished, albeit in imperfect and incomplete fashion. The formation of the informal groups of producers, the production of a new high value crop, the delivery of the consolidated products to the buyer, the realization of income gains for the few, and the acquisition of new skills and capabilities are but some of the forward directions towards developing the competitive advantage sought for in clustering. In the final analysis, the competitive advantage is still very much a work in progress, needing further strategic adjustments towards ensuring the effective participation of small farmers in the modern markets. The performance of some of the activities in the cluster cooperation, for example, has to be carried out ultimately by the cluster leaders themselves. The clusters still have to evolve into a formal organization. Farmer-leaders have to strengthen their exercise of decision-making powers in their various joint actions. How long this will take, only time can tell.

CHAPTER 4

ASSESSING THE QUALITY OF LINKAGE MECHANISMS AND SMALL FARMERS' PARTICIPATION IN THE VALUE CHAIN

Introduction

The integration of the small farmers in the modern market value chains and their concomitant cluster cooperation proceeded through a complex of interactions between the clusters of small farmers and the different external agencies supporting them. These interactions constituted the establishment of a governance structure to advance the upgrading processes of the small farmers in the vegetable value chain. A private food company (JFC) instigated this whole attempt at value chain integration in order to incorporate small farmers into their supply chain as part of their corporate expression of social responsibility. A development agency (CRS) complemented the food company's desire of empowering the small farmers by taking on much of the planning and monitoring work to ensure effective project implementation. A non-government organization (Kaanib) accepted the invitation of CRS to partner in organizing farmer clusters and mobilizing local resources in Bukidnon to commence the production of onions in this southern part of the country. Other government agencies and private institutions pitched in their own particular contributions to the effort of upgrading the small farmers. The project formally began in mid-2008 and there has been at least three major production cycles since the beginning. The three-year experience thus far has been punctuated by highs and lows, by great expectations and little successes, by promising starts and disappointing trends, by grand ideals and challenging actualizations.

This section attempts to synthesize the various dynamics and relationships that run through the myriad of interactions between the small farmers and external agents of change.

While the previous chapter breaks down the interactions in fine details in order to demonstrate the over-arching directions of the bridging project, this section discusses the emerging issues and concerns from these interactions and relates them to some of the practical and theoretical disciplines covered in this study. To reiterate, the re-embedding of markets as espoused by Polanyi serves as the general principle to explain the present efforts towards inclusion of small farmers in the value chains. This re-embedding particularly unfolds through attempts at integrating small farmers in the supply chain of a fast-food company strategically worked out through cluster cooperation among the small farmers. The establishment of governance structures is central to the upgrading process of the small farmers to materialize the eventual value chain integration. The vertical incorporation of the farmers in the modern value chains and their collective horizontal cooperation serve to lay the foundations to build a more sustainable set of livelihoods. While a three-year experience may not be enough to establish conclusive statements about the farmers' state of affairs, suffice it to say that it can at least offer indicative powers that provide general directions and lessons to other efforts at including small farmers in the modern value chains.

Unleashing Chained Values from Value Chains

Governance in value chains refers to the exercise of authority and power relationships so as to determine the optimal allocation of financial, material, and human resources in the establishment of an efficient flow of commodity within a chain (Gereffi, et al., 1994). It essentially involves coordination of the different activities and personnel along the chain. In vegetable value chains, governance is driven by the buyers who can actually exercise power and control in the enforcement of product and process parameters demanded from the actors in the chain. The buyers set the relationships with producers and institute mechanisms to coordinate

the various activities in the chain. A large food company such as Jollibee Foods Corporation in the Philippines can command such power and authority over the suppliers in the vegetable chains because of its giant size as processor of assorted agricultural commodities for the production of various fast-food products for final consumers. For onions alone, it requires at least 150 metric tons of supply every month to be used as extenders for their hamburger patties. The company coordinates its supply sources from various traders, requires specific standards for product quality, and demands timely deliveries to its processing plant. It follows exacting schedules in its supply chain management, since it cannot afford to have any one of its food outlets unnecessarily or unexpectedly run out of supply.

Despite the existing operational efficiency in managing its supply chains, the majority owners of the company, Mr. and Mrs. Tony and Grace Tan Caktiong, wanted to introduce some innovations in their business transactions. They asserted their influence over the company's management systems by authorizing the inclusion of small farmers in the very structures of its supply chain as a concrete expression of their corporate sense of social responsibility. To note, giving back to the community has always been part of the values of the company, a corporate policy that is ever more strengthened and institutionalized through the creation of its social arm, Jollibee Foundation. Jollibee Foundation is mandated, among other things, to extend relief operations during emergencies, livelihood projects to communities, and scholarships to bright but poor individuals. Previous efforts at giving back to the community, though already commendable in fact, were not directly related to the operations of the company. Many of them were considered charitable works to provide relief to people in need, livelihood opportunities to some communities, educational assistance to financially wanting yet deserving students, and other socially responsible endeavors. The company provided assistance without necessarily engaging in a long-term commitment to the same beneficiaries.

By making the effort to directly target and develop the capacities of small farmers and to integrate them in the company's supply chain, social responsibility consequently acquires an added meaning. The objective becomes not one of extending support to the beneficiaries solely out of the company's benevolence, but in terms of developing small farmers towards opening up the opportunities for them to take active part as one of the suppliers of the company. Joan Uy of CRS commented that "the owners would like the farmers to become their business partners in a long term relationship." Hence, social responsibility now also refers to building enduring business partnerships with vulnerable groups, more than just making farmers a mere appendix to the company's assistance programs. It means supporting them in a long term relationship to become partners in the core business of the company.

At the same time, the idea of governance in the value chains also takes on another dimension. Governance now also entails a preferential option for the vulnerable sectors of society. Governance is an exercise of power to empower the powerless—in this case, the small farmers. Governance then is not just about efficient coordination but also is responsive to the social development of peoples.

Besides governance being the power to coordinate the activities in the chains so as to establish the smooth flow of resources from production to consumption, it is also the power to make the deliberate choice of including particular human resources to achieve business ends. JFC and other modern markets such as the supermarkets, hotels, restaurants, and other fast-food companies do not necessarily exclude small farmers as a deliberate corporate strategy. Small farmers become marginalized and excluded since they cannot make the grade to fulfill the stringent quality standards demanded by the modern markets. In the process, the better-off or typically larger farmers who can deal directly with the company as large scale suppliers, or the commercial traders who have the capacity to finance big volume product consolidation, are able

to capture the value added in the supply chain of JFC. If left alone to be determined by free market forces, governance readily incorporates those who have the technical, organizational, and financial resources to effect the desired efficient coordination within the chains.

Reflecting on his experiences in dealing with small farmers, the Purchasing Manager of JFC shared:

> *I have to admit the worry is always there. That's still there. Before I go to sleep, I will always pray that nothing goes wrong. It (worry) will always be there, because it's two years only. Maybe, if it's much, much longer, then the trust is built through time, but it is very nice and fulfilling to know that we are able help them.*

In this light, JFC's decision to include farmers in its supply chain reflects an attempt to utilize the power within its governance structures in the chains to effect the re-embedding of markets into the greater social economy. To exercise preferential options for the small farmers runs contrary to the usual course of free market dynamics. Hence, inclusion of small farmers is a deliberate decision to mobilize a particular set of human resources towards making governance socially responsive and as a tool for re-embedding markets. Perhaps it may be aptly called "socially-responsive governance." Socially-responsive governance takes into account not only the deliberate choice of including small farmers in the supply chain, but more importantly also, suggests a commitment towards upgrading farmers' capabilities to help them achieve the task. It can be considered an effort towards re-embedding markets inasmuch as it actualizes in the process the values of reciprocity and redistribution.

Reciprocity was expressed in terms of the buyer's commitment to purchase a product from the small farmers and the small farmers making earnest efforts to produce and deliver the product to the company. The assurance of a market crucially determined the willingness of farmers to engage in the production of onions in Bukidnon, despite their having to learn many new things regarding its planting and post-harvest procedures. Most of the farmers were

vegetable growers and they had been growing crops intended for the local or traditional wholesale markets. The price uncertainty of their crops sold in the market being able to achieve a good price always looms in the air. But with a company signifying its commitment to buy their produce at a pre-agreed price, and are usually with a built-in profit, such invitation was difficult to pass by. What the farmers needed to do was to produce and deliver the expected product to the ready buyer. However, the experiences of the farmers indicated that they fell short of the expectations of the company. There were no regular deliveries. Volume for the two deliveries made was small. Product quality was wanting. Nevertheless the company accepted what the small farmers produced. It was even still willing to wait for future deliveries.

Moreover, the company itself intermediated with the seed companies to supply seeds for the farmers. It expedited the accreditation of Normin Veggies and Kaanib Foundation as the consolidator and shipper of the onions to the company's processing plant such that the flow of the goods from the farm to the plant would materialize smoothly. Thus, a direct give-and-take relationship was present between the small farmers and the company and it likewise assured the farmers of the possibility of capturing the greater value added in the chain. In many instances though, the company had been especially generous and very flexible in their business dealings with the farmers. The asymmetry was understandable since the farmers were still trying to master the capabilities of producing onions while the company had other sources to tap and a greater diversity of resources at their disposal.

On the other hand, redistribution was evidenced by the company's providing financial support to Catholic Relief Services for the actual implementation of the project to the tune of Php 3M, taken from the company's profits. Catholic Relief Services (CRS), which receives funding from the Catholic Churches in the United States, in turn contributed an equal amount of Php 3M to make a total of Php 6M for the entire project. The National Livelihood

Development Corporation (NLDC) promised to contribute the same amount, but never make good on its promise. Being the primary implementer of the project, CRS used the funds for staff salaries that did the actual work of planning, coordinating, monitoring, and evaluation sessions. Part of the funds went to provisioning of agricultural inputs for the farmers to finance production, training, seminars, and exposure trips. NLDC, though it contributed no funding to the pot, was instrumental in prodding the micro-finance institutions under its authority to extend production loans to the farmers. The local government of Impasugong added its share by giving at least Php 100K for the construction of the rainshelters for the farmers. The Department of Agriculture chipped in its Php 800K for the rainshelters as well as for training expenses. All these funds were instances of resource redistribution with the small farmers as the ultimate beneficiaries so as to provide them access to capital assets needed for production and for capability-building purposes.

When a private company such as Jollibee Foods Corporation takes the first initiative, inclusion of small farmers can be a huge possibility. Culling from their experiences in the re-governing markets project, Vorley and Proctor (2008) cited the report of Lucian Peppelenbos, from the Royal Tropical Institute in the Netherlands, that inclusion of small farmers requires the presence of a receptive business sector, facilitating public sector, and organized/empowered farmers in a multi-actor partnership towards assisting small farmers to penetrate modern value chains. Initiatives that originate from the upstream players are necessary and deserving of assistance, but if acting alone, even organized and empowered small farmers still face the difficulties of establishing long and lasting relationships with downstream actors. Likewise, organized farmers with external support from development agencies, NGOs, and/or from public agencies, often face their inclusion in modern markets with gargantuan challenges if market assurance is not present. Interestingly, an emerging pattern from the few existing cases reveals

that positive results come out from experiences in which the business sector takes deliberate actions towards inclusion. It is to be noted though that "the field of market linkages is in its infancy and that there are few proven approaches or models and still a lot of work to be done" (Vorley & Proctor, 2008, p. 12). The case at hand validates such observation and offers a concrete instance that if the primary initiative at inclusion proceeds from a private business company and pushes through with the facilitating partnership among different supporting agencies, chances for success are high for small farmers to actively participate in modern markets. The market assurance proffered by Jollibee Foods Corporation, in particular, hastened the on-going upgrading processes of the small farmers while strengthening the capability of farmer clusters for collective marketing.

However, the experience in Bukidnon clearly indicates that while market assurance is necessary, it is not a sufficient condition for the enduring inclusion of small farmers in the value chains. At best, the small farmers in Bukidnon have only partially fulfilled their contract. One can observe that perhaps they took the first small steps towards their inclusion in the value chains, as attested by their meager volume deliveries to the buyer and lack of production regularity. Despite the presence of a ready buyer, their production does not yet qualify as significant enough to make an impact in the supply chain of the company. The lack of farmers' abilities to take advantage of the presence of an assured market for their produce accentuates the need for a value chain vision[20] in efforts towards integrating them in the supply chain of a particular market buyer. This value chain vision includes supportive external interventions for input provision and transformative assistance, besides market assurance. Asset-poor farmers require financial capital, familiarity with new technologies, and infrastructures to support their

[20] The term "value chain vision" came up in the presentation by Reardon, et al. in the conference organized by the Re-governing Markets Consortium in 2008 (www.regoverningmarkets.org). But a similar concept of "value chain vision" was already suggested by Kaplinsky and Morris (2001) when they published their handbook for value chain research.

production activities. They also need continuing assistance in terms of capability building, both individually and collectively as farmer clusters. While the beginning signs of these may be present in the case of Bukidnon, the external interventions have not been long or intense enough to have attained the level of capacity which the small farmers must possess in order to become significant players in the supply chain of the fast-food company. Continuing assistance and strategic adjustments in the partnership will be helpful in furthering the initial inclusion of the small farmers.

In the light of the farmers' lack of success, perhaps another value unleashed by the owners of Jollibee Foods Corporation was the patience to see the project through. In the Project Steering Committee held last November 2010, Mrs. Grace Tan Caktiong asked the whole group what could be done to make the project work out in Bukidnon, despite all the setbacks. The major decision made was to expand the product lines which the farmer clusters could produce to supply the regional warehouses of the company in addition to onion production. The farmers already had the capacity to produce such vegetables as iceberg lettuce, cabbage, carrots, broccoli, cauliflower, and tomatoes. Production of these products would be smaller in volume but regular in deliveries to directly supply the company's food outlets in Northern Mindanao. JFC was willing to pour in more financial resources to the project so that whatever gains already attained thus far could be furthered towards successful conclusions. This meant that continued input provision, transformative capacity-building assistance, and market assurance would be assured for the next two years. Indeed, the values of reciprocity, redistribution, and enduring support for the vulnerable groups have been given the chance to operate within the value chains with the end of restructuring markets that includes small farmers. The task is not yet complete and needs to move on in hopes of fulfilling the plan started more than two years ago.

Cooperation or Cooptation?

In broad strokes, corporate social responsibility[21] refers to the intimate relationship between corporate philanthropy and community relations. It is the firm's obligation to enhance the values of society beyond its circumscribed economic and technical interests. It represents a firm's sensitivity to changing social values and its exercise of gratuitous actions towards improving the social order. Social responsibilities include such examples as relief operations, community-oriented projects, scholarship programs, improvements in medical care, livelihood programs, educational assistance, pollution control, peace-building efforts, refugee support, environment preservation, and the like. Many companies have taken strides in expressing their corporate social responsibility to support and assist particular communities and individuals within or outside the locale they are operating. However good the intentions they might have, businesses cannot escape the perception from certain quarters of harboring ulterior motives in the performance of their social responsibilities (Carroll, 1999; McWilliams, Siegel, & Wright, 2005). This perception arises precisely because corporate social responsibility contributes to positive media coverage of the company, improves its public image, and increases its goodwill before the larger community. It can actually result to increased sales and profits to a certain extent (Carroll, 1999; McWilliams, et al., 2005). Perceptions can always linger that businesses employ corporate social responsibility to further their hold on the market or to increase their bottomlines, wittingly or unwittingly. In the process, companies may appear to be coopting the very notions of corporate social responsibility to make them look good before the public and subsequently their products. It becomes a virtual marketing strategy without directly making a hard-sell of the company's products and services.

[21] For further details on definitions of corporate social responsibility, refer to: Carroll, A. B. (1999). Corporate Social Responsibility: Evolution of a Definitional Construct. *Business and Society, 38*(3), 268-295.

JFC's attempts at developing small farmers to become suppliers of the company are inevitably subject to the same judgment. While perceptions of ulterior motives are inescapable, good faith cannot be discounted as the prime mover of this expensive and difficult project. At the very outset, the owners are the ones who decided upon the pursuit of assisting small farmers. In fact, Henry So, the Purchasing Manager interviewed, never thought of dealing directly with farmer groups since that would increase transaction costs or perhaps pose a risk to the company in cases of delivery defaults. But because it was the decision of the owners themselves, the company executives must toe the line and appropriate the owners' vision for the company as worth the try in the end (insert interview excerpt). Secondly, the company has yet to show the intentions to broadcast this project in the media. Project documents reveal that the Project Steering Committee is more interested in getting this project documented by able researchers for evaluation purposes rather than publishing an incomplete experience of a concrete expression of social responsibility. Documents also show a pattern of experimentations and adjustments of strategies in the implementation of the project, resulting in very fluid dynamics of inter-organizational relations and interactions among the different stakeholders. The experience of small farmers' inclusion in modern markets needs to mature first before anyone—from JFC to researchers—can posit any definitive conclusions about structures and processes that make it fully functional.

Third, the company put up its own resources for the implementation of the project without expecting immediate economic return from this investment, except of course to see the small farmers deliver their products to the company's processing plant. It has contributed financial resources to the project and is now committed to pour in additional financial assistance to the project until at least 2012. It makes available some of its personnel resources in support of the project, particularly executives from the Purchasing Department. It opens up its facilities

for excursions by the farmers to familiarize them with how giant food processors operate. Fourth, the company exercised utmost flexibility in absorbing the products from the small farmers despite their less than optimal quality and long-recurring deliveries. The company even intermediated with seed companies such as Seminis Corporation and Allied Botanicals to expedite supply requisition on behalf of the farmers. Finally, documents show that the Jollibee Foundation has been establishing contacts with some lead personnel from the Department of Agriculture to solicit its assistance to small farmers especially in terms of infrastructures (rainshelters and water impounding systems), production loan assistance, technology dissemination, and small grants, e.g. plastic crates as stacking materials during harvest. All these efforts indicate that the conscious motivation of assisting small farmers takes precedence over all other intentions.

The farmers themselves have benefitted mostly from the resources that trickled into their households, from input provisions, trainings and seminars, cluster formation, establishment of farmers' organization, and market assurance. While their experiences still need the character of success after a couple of disappointing production cycles, the farmers have expressed their desire to continue on with the project despite the setbacks. According to Joan Uy, the original members want to go on with their participation in the project (personal communication, January 2011). Realizing some weaknesses in the past, the farmer-leaders now aspire to participate more in the decision making functions of the project as well as to strengthen organizing efforts by taking active part in the mobilization of their own clusters. Other households have become interested in joining the project, and at least 74 members have already joined the roster by the end of December 2010. In other words, the farmers never perceive that they are being "used" by the company for its own end. Instead, the farmers are more grateful for the many tangible and intangible benefits they have so far received as project

participants. On balance, the farmers have received a lot more benefits from JFC than JFC from the farmers. In fact, the farmers take great pride that they have actually supplied a giant corporation as Jollibee Foods Corporation with their own produce. Ruben Halasgo said, *"lipay ko kaayo kay nakadeliver gyud ko sa Jollibee. (I feel happy I have really supplied Jollibee.)" When asked by a passing trader how much was the price for his onions, Gener Midagan asserted, "dili na nako ibaligya kay para na sa Jollibee. (I will not sell them, because they are intended for Jollibee)." The same trader offered a matching price with Jollibee, but Gener Midagan refused to sell them to the trader. In a separate occasion, even after being offered by a different trader with a higher price than Jollibee, Jun Sano declared that "para gyud ni sa Jollibee, kay naka-kontrata na ni sa ila. (This is really for Jollibee, since this has been contracted to them.)"*

It is not only between JFC and the farmers in relation to corporate social responsibility that cooptation can take place. Another possible venue of cooptation is between JFC and the implementing non-government organizations, the Catholic Relief Services and Kaanib Foundation. A map of networked interactions among different stakeholders of the project, presented in Figure 4.1, shows that between the small farmers as the producers and Jollibee Foods Corporation as the buyer stands the crucial role of both CRS and Kaanib as the primary "bridges" in the entire project. JFC does not deal directly with small farmers. CRS mediates almost all inter-organizational interactions from JFC to most other entities in the value chain. Kaanib does not even have a direct relation with JFC, despite taking the role of the main organizing agency for the farmers. But CRS works closely with Kaanib in the actual project management and from this tandem emerges the nexus between JFC and small farmers.

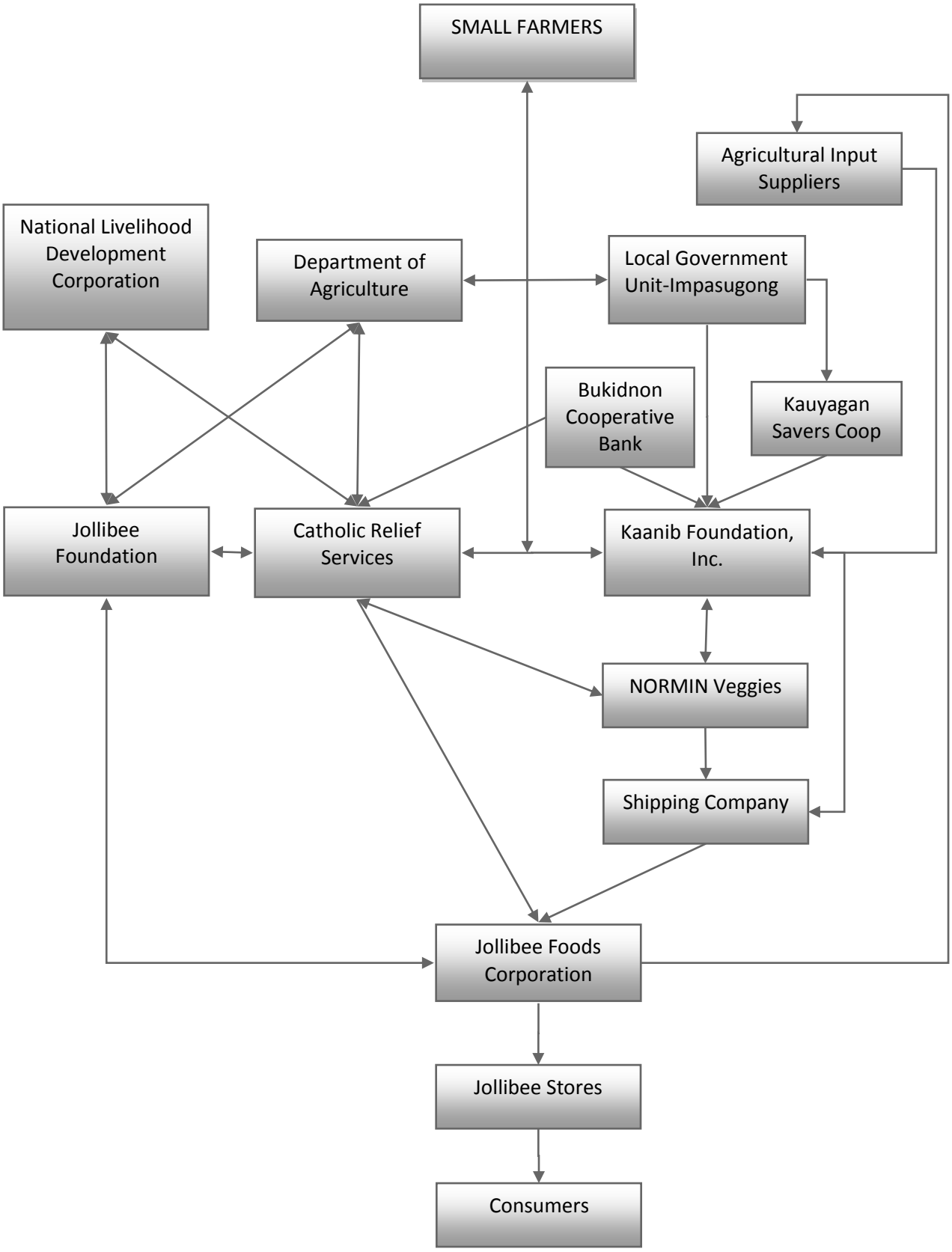


Figure 4.1. Map of inter-organizational interactions along the value chain

The tandem of CRS and Kaanib places them as the virtual management staff for the production of onions from the farmers and for the delivery of these products to JFC. Cooptation appears to exist in that both CRS and Kaanib appear to be serving JFC as extensions of its corporate structure in bringing the products from the farms to the doorsteps of the company. In addition, the funds contributed by JFC for the project are channeled through CRS which spends them partly for salaries and benefits, meetings, transportation, board and lodging expenses of the staff assigned in the project. JFC funds do not go into production assistance directly benefiting the intended households since as Joan Uy says *"Jollibee Foundation refuses to do production financing since it is not part of the mission of the company. The microfinance institutions are more competent and the proper agencies to perform loan assistance."* In effect, JFC is financing the development of socially-oriented facilitators who can functionally organize and mobilize resources directly from the grassroots to establish a business relationship with itself. In the process, JFC utilizes the competence of socially-motivated institutions such as CRS and Kaanib to pursue the business aims of the company. The business enterprise apparently subsumes social development efforts under its corporate governance disguised as constituting social responsibility.

Cooptation in the form of CRS and Kaanib acting as extensions of JFC's management structure can certainly be true if they remain active as the main nexus or major bridge between the food company and the small farmers for a long period of time. It is understandable that JFC needs to contribute its own resources to initiate the inclusion of small farmers. Also, JFC holds tremendous power in the governance structure of the value chain and it is only natural that it takes principal leadership in terms of coordinating activities in the project management. Organizing at the grassroots level is not within the ambit of JFC's competence. But marshalling the experience, network, and capabilities of CRS and Kaanib best complements the vision

started by JFC. By combining resources together from the private sector and non-government organizations, the project hopes to eventually materialize the direct linkage between JFC and the small farmers. Once the linkage becomes functional and structures to sustain it are in place, CRS and Kaanib can subsequently engage in a subsidiary role and allow the farmers themselves to transact business directly with JFC. Otherwise, if CRS and Kaanib retain their "bridging" role, despite discernible capacities of farmers to sustain the linkage mechanism essentially by themselves, then this situation turns into a form of cooptation in that the NGOs are performing corporate work.

At present, the farmers still don't possess sufficient technical, organizational, and financial capabilities to manage themselves and their production processes. They need assistance in many aspects and it will take perhaps at least five years before they can actually be independent of the external resources provided them at the moment. The bridging role of CRS and Kaanib in developing the capacities of the small farmers is undeniably necessary and important. However, the capabilities of the staff of the non-government organization that performs the nitty-gritty work of social organizing at the grassroots level need to be enhanced or retooled in order to become more responsive to the market dynamics of the modern value chains. For instance, Kaanib may be more effective in its organizing efforts if the staff possesses entrepreneurial skills to handle production and marketing management. The usual work involved in social development is to organize farmers to make collective efforts in producing and marketing certain crops. Agents of change may introduce new crops or technologies to improve production and yields. They try to enhance the skills of the farmers as well. But more often, production is sold to the traditional wholesale markets, which are wont to accepting whatever volume or quality and at no particular time requirement. Thus, the organizing efforts do not pay much concern about the quality, volume, and timetable in the production process. In

contrast, bridging with modern value chains, as in the JFC market, demands the attainment of quality produce, the volume required, and the specific time of deliveries, especially if a forward sales contract has been negotiated beforehand. Yet even before the forward sales contract is negotiated, organizers must know the possible volume of quality produce to be promised for delivery after harvest. Also, they need to be knowledgeable about the unit production cost and the cost structure of the production process in order to be well-informed during price negotiation with market buyers. All these require such skills as production planning, inputs inventory management, full-cost accounting, price-setting, profit margin determination, delivery projections, and the like. While the usual organizing efforts in social development should still be performed, these efforts must be supplemented with skills that utilize appropriate business management tools to respond more effectively to the modern market requirements.

This may be true for Kaanib, but it may as well be very true of most other NGOs working with the grassroots. NGOs need to keep up with the changes occurring in the agro-food systems and may likewise adjust their programs to the new demands and opportunities presented by modern value chains. Bridging small farmers with institutional buyers, for example, goes through an upgrading process involving changes related to product, process, functional, and intra-chain improvements. The entire upgrading process leads to a re-orientation of the small farm production systems from traditional peasant farming to market-oriented farming system (Table 4.1).

With all the changes going on at the farm level in accord with the requirements of the modern value chains, agents of change need to possess market-oriented organizing strategies to align themselves with the demands of the modern procurement arrangements of institutional buyers. In fact, part of the capability-building activities should be geared towards enhancing the

Table 4.1. Comparison between Traditional Peasant Farming and Market-oriented Farming Systems

Traditional Peasant Farming System	Market-oriented Farming System
• Production is atomistic or independent of other households	• Production is done by individual farmers but synchronized with other farmers in a cluster
• Households individually decide what crop to produce	• Farmers in clusters decide as a group what crops to produce
• What crop to produce is usually informed by what crop has the high prevailing price in the traditional wholesale markets	• The buyers inform the producers of what crops to produce
• Crops to be produced are usually the ones in which the farmer has knowledge and experience in planting or the ones that can easily be sold at the local markets	• Crops to be produced may be the higher value crops which the ready buyers or the modern markets demand
• Production is done by individual households	• Production is done by individual households and synchronized with other households to attain volume
• Production is financed through own household savings • Traders offer to finance production but they buy the produce from the farmer during delivery at a price determined by them	• Production is financed through own household savings • Micro-finance institutions may finance production as a loan by the farmer, payable at the end of the growing cycle
• Farmers are guided by their local knowledge in producing a crop	• Farmers use both their local knowledge and an agreed-upon production protocol to achieve uniform quality
• Cultural practice is done by the individual farmers	• Cultural practice is developed according to the requirements of the buyers
• Produce are sent to wholesale markets or local retailers	• Quality produce are sold to institutional buyers and off-sized produce to local markets
• Individual households deliver produce to markets	• Produce are consolidated from the clusters and delivered to the buyers
• Selling price determined by prevailing market price at the wholesale or retail markets	• Selling price is negotiated beforehand with the buyers in a forward sales contract • Selling price of off-sized produce follows the prevailing price at the wholesale or retail markets
• Produce delivered at wholesale or retail markets are mixed with produce from other places; hence, no traceability when sold to final consumers.	• Produce delivered to the buyers with an assurance of the origins of the product
• Farmers deliver product volume to markets depending on the quantity of harvests from the farms	• Farmers deliver consolidated produce from among a number of households at a volume required by the institutional buyers
• Farmers deliver produce whenever there are harvests	• Farmers may be required to deliver produce at regular intervals at specific volumes

business management skills of the farmers. The farmers, as a collective, should be able to acquire that capability of engaging business transactions with buyers. This may not happen if the organizers themselves do not have those business skills to interact effectively with modern markets. Hence, it is essential that the organizers go through a re-tooling to equip them with the skills in business management.

Sensing the lack of those management skills from the project organizers, I contributed a little by introducing a series of business management tools in order to establish certain structures and processes for better control and leadership of people and resources. In particular, I set up the flow chart of the entire production process from seedling germination to post-harvest processing to receipt of sale proceeds. I listed down in a chart all the activities needed to be done, the time frames when to do them, and the person in charge of executing every activity. I prepared some of the forms which the staff and the farmers need to fill out to keep abreast of the status of the production and develop a leadership style of "management by forms." I facilitated a two-day leadership training in late April 2010 for the farmer-leaders to equip them with skills in handling people and managing resources. Joan Uy was very supportive of the installation of these management tools. She also prepared different forms to be used in monitoring the progress of production at certain points in time.

In other words, inasmuch as inclusion of small farmers in the value chains involves participation in modern market dynamics, NGOs, motivated by the values of social development, need also to acquire the appropriate entrepreneurial skills and agricultural knowledge to effectively develop the capacities of the farmers in dealing with high value markets. Product quality, timeliness, reliability, and scale are some standards required by modern markets from suppliers. NGOs assisting farmers to engage actively in modern markets have to become adept at understanding the management of production, marketing, and even

financial processes in the business environment. Entrepreneurial capabilities in combination with socially-oriented motivation can be a great advantage in fostering market responsiveness of small farmers. Farmers need to be taught how to program production schedules, troubleshoot potential problem areas, monitor production progress, identify possible risk scenarios, control costs, attain product quality, utilize time and motion studies, conduct supply projections, discover critical production paths, and the like. All these and many more become essential ingredients of organizational capabilities of farmers, but they need to be learned beforehand by the external agents of change or the NGOs.

Hence, instead of the NGOs allowing themselves to be absorbed by and become an extension of the management structures of a business company in the process of assisting small farmers, they could do better if they appropriate the business management skills and teach these skills to the farmers so as to leave the farmers to do the business transactions on their own. The organizers can learn the market orientation of the value chains and supplement social development organizing efforts with skills on entrepreneurship, thereby enhancing the quality of their assistance to small farmers. However, there are yet no clear-cut ways in which to operationalize the combination of market orientation and social motivation in the efforts of linking farmers with modern markets. The case at hand reveals that the inadequacies of the assisting NGO's in terms of managerial skills and agricultural knowledge partially account for the setbacks experienced by the farmers during the more than two years of project implementation. Nevertheless the experience can serve as actual lessons learned for future planning and strategic interventions. The goal remains the same, to directly link the small farmers with the buyers. Once achieved, the assisting NGO can perform support services to sustain the capacities of the farmers as organized entities and provide accountability for farmer-leaders in their exercise of leadership functions. External interventions are reduced to a minimum while

farmers are given the opportunity to wield their power thus gained in making leverage with market buyers.

External Interventions and Unwanted Externalities

The lack of access to resources prevents most small farmers from pursuing diversification of their livelihood activities, upscaling their present production, and much less, upgrading their production systems on their own. External interventions may be deemed necessary, if not critical, in reducing this lack of opportunity to change. In this bridging project, the Catholic Relief Services (CRS) and Jollibee Foods Corporation (JFC) proved essential in providing farmers access to resources to enhance their productive activities. But there were other equally important organizations that delivered quite a number of benefits to assist the farmers. These interventions extended by the other organizations to the small farmers are laid out in the previous chapter in Figures 3.7 and 3.11. From these myriad of interactions that seek to integrate the small farmers in the supply chain of JFC as well as to establish stronger cluster cooperation among themselves, there emerges three different categories of relationships to describe the quality of these interactions: input provision, transformative assistance, output assurance (Figure 4.2).

Input provision refers to relationships in which external organizations serve as a provider of necessary capitals to commence the production process. An input organization supports the small farmers with financial resources such as monetary grants and/or loan assistance for production purposes. Basically, the relationship entails the endowment of capital assets by an external agent to start up production by resource-poor small farmers. Capital endowment is necessary since one perennial problem plaguing small farmers is the lack of financial capacity to support the production process, particularly involving new crops or

innovative practices. Some form of financial assistance which the small farmers can afford to repay at the end of the production cycle can potentially break the inertia of the farmers and initiate new types of production. For example, the Bukidnon Cooperative Bank, Kauyagan Savers Cooperative, CRS, and Kaanib provided credit assistance to the small farmers. The Department of Agriculture, the Local Government Unit of Impasugong, and CRS gave loan assistance for the construction of rainshelters. All these organizations belong to the category of input providers as they serve as sources of capital to finance production. The various input suppliers obviously are also input providers as they make available the seeds, pesticides, fertilizers, and other agricultural supplies to commence production.

Among the external organizations, the Catholic Relief Services and Kaanib were instrumental in the getting access to these resources intended for the farmers (Figure 4.2). They made the contacts and established the networks so that these resources could trickle down for the productive use of the farmers. CRS played a much bigger role in sourcing the fund provisions to start up production activities. CRS directly provided resources to the farmers from its own pool of funds. At other instances, CRS was able to receive funds from the Department of Agriculture. Kaanib, for its part, convinced the Local Government Unit of Impasugong Municipality to support the initial activity of financing the construction of rainshelters. Kaanib also used its accumulated savings from previous development projects to contribute to the financial needs of the farmers. It further contracted a loan amounting to Php 200k ($4,651) from MASSPECC, a microfinance institution based in Cagayan de Oro. Kaanib used these particular loaned funds to assist farmers in their second production cycle (October 2009-April 2010). In addition, since Kaanib worked directly with the farmers, it administered the release of all funds from

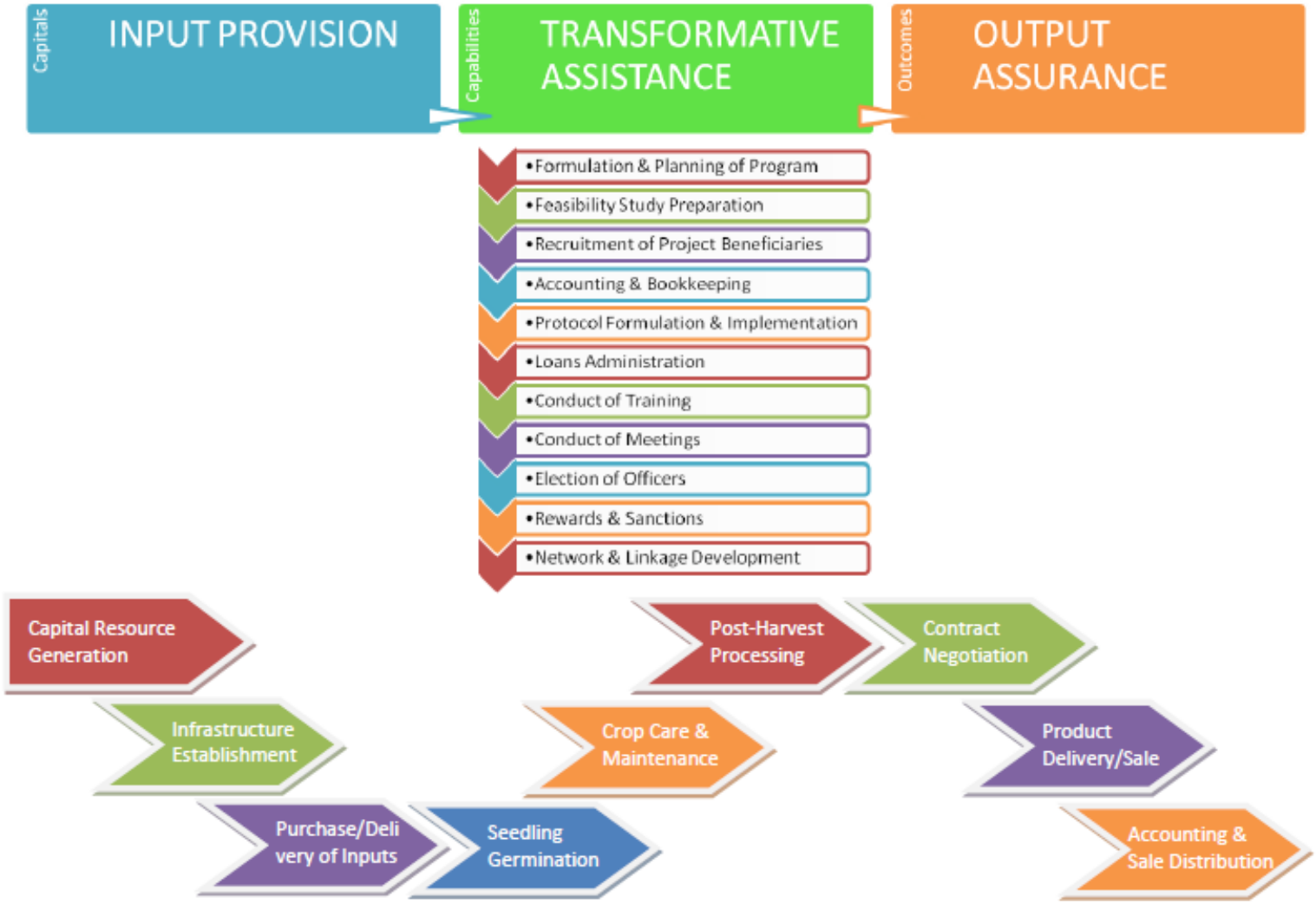


Figure 4.2. Categorization of External Interventions

external sources to the farmers as well as managed the collection of repayments at the close of every production cycle.

I estimated the total cost in implementing the bridging project based on the documents provided by Kaanib (Table 4.2). Since the figures were gathered and collated from different reports, they might show some discrepancies with the official Kaanib terminal project reports, to be prepared in the future. The total amount contributed to the project was Php 7M ($162,791), while total cost was Php 5,551,791 ($129,111). Major contributions came from the Jollibee Foundation and Catholic Relief Services at Php 3M each. Almost two-thirds of the project cost (65%) went to pay the salaries and travel expenses of the two staff members from CRS, while more than a quarter of the total cost (28%) was spent for production and rainshelter loans.

Table 4.2. Estimated Total Project Contributions and Cost for Two Years of Implementation

PARTICULARS	AMOUNT (Php)	Percent of Total
Contributions		
Jollibee Foundation	3,000,000*	42.90%
Catholic Relief Services	3,000,000*	42.90%
Local Government Unit-Impasugong	100,000	1.40%
Department of Agriculture	800,000	11.40%
Kaanib Foundation, Inc.	100,000	1.40%
Total Contributions	**7,000,000**	**100.00%**
Expenses		
Production Cost: 1st and 2nd Production Cycles	268,186	4.83%
Production loan: Bukidnon Cooperative Bank	185,000	3.33%
Production Loan: Kauyagan Savers Cooperative	160,000	2.88%
Production Loan: Catholic Relief Services	102,655	1.85%
Rainshelter Loan: Kauyagan Savers Cooperative	640,000	11.53%
Ranshelter Loan: Catholic Relief Services	186,654	3.36%
Meetings	25,000	0.45%
Training	12,000	0.22%
Learning Visits	20,000	0.36%
Salary (Kaanib Staff)	360,000	6.48%
Salaries, Benefits (CRS Staff)	2,680,296	48.28%
Travel Expenses (CRS Staff)	912,000	16.43%
Total Expenses	**5,551,791**	**100.00%**

*Part of the contributions went to the salary and travel expenses of the CRS staff assigned in another site, Nueva Ecija. Php 43 = $1

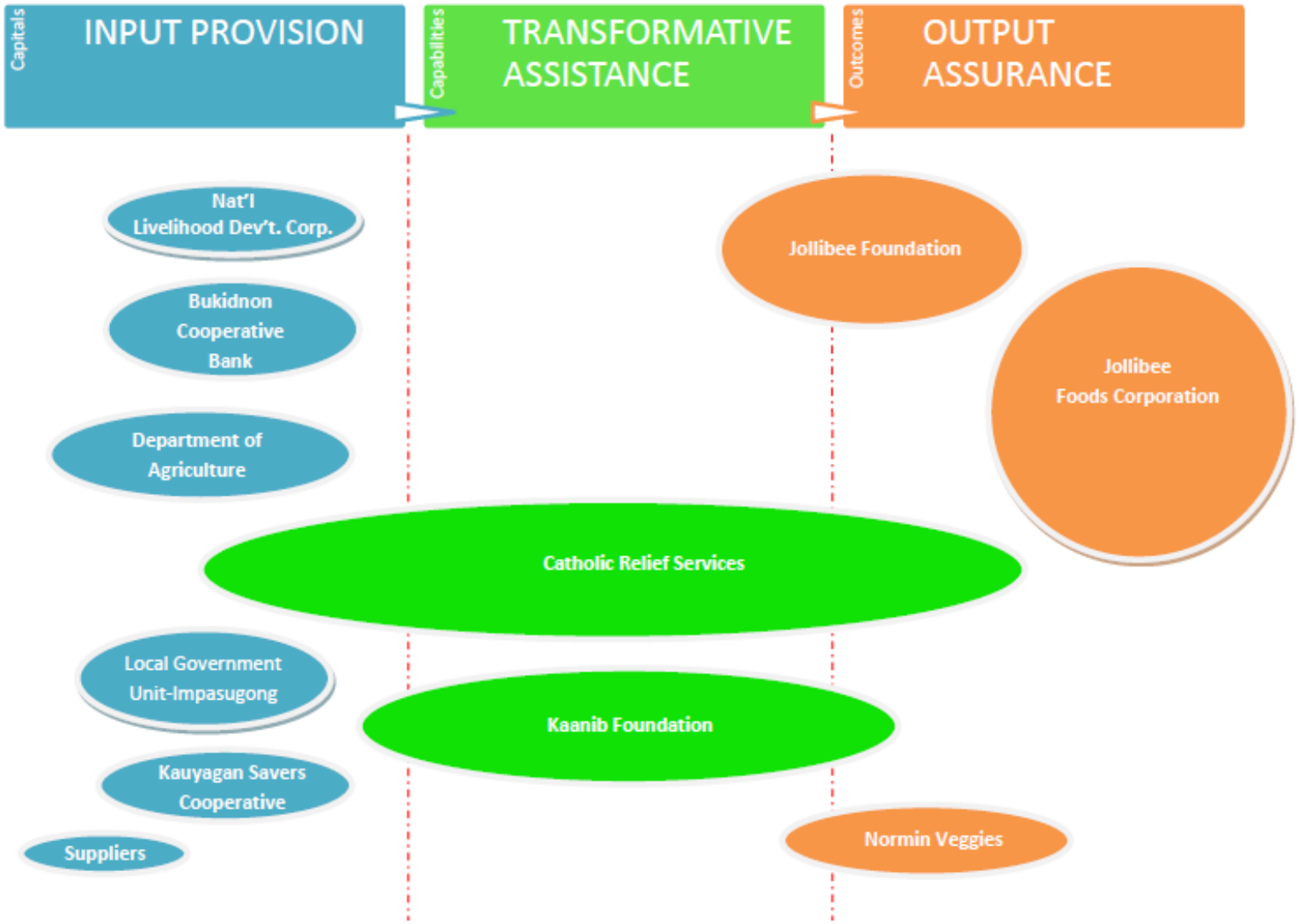


Figure 4.3. Placement of External Organizations according to the Categorization of External Interventions

As per minutes of the meeting of Project Steering Committee in October 2010, the bridging project will move into Phase 2 of implementation; thus, for another two years. Jollibee Foundation and Catholic Relief Services will again make their contributions to the project, but the Committee hopes that funds from Department of Agrarian Reform would be forthcoming in the amount of Php 653,200 ($15,191). This amount is earmarked entirely for capability-building of the small farmers in Bukidnon. CRS is also working out to access funds from the Department of Agriculture.

Secondly, transformative assistance refers to the relationship in which an external organization assists the small farmers in terms of enhancing their capabilities in producing and processing a product desired by the market. Interactions within this relationship involve the provision of training and seminars to upgrade the individual and organizational skills of the farmers as well as the monitoring of their capacity to produce a particular commodity. Farmers are introduced to various activities within the chain in the hope of transforming them into capable leaders and members who can eventually assume the decision-making aspects pertaining to these business activities. In other words, the assistance extended by an external organization to the farmers aims at the transformation of farmers' individual capabilities to become efficient and productive growers as well as to collectively become managerially capable of organizing their ranks as market-oriented clusters participating in the value chains; hence, a transformation of both product and people.

In this vein, the Catholic Relief Services and Kaanib Foundation assumed the primary role of enhancing the capabilities of the farmers to produce commodities and to manage themselves. Jollibee Foundation and the National Livelihood Development Corporation, as members of the Project Steering together with the Catholic Relief Services, provided the general framework of intervention for capability-building but both neither was ever directly involved in

the actual work of capacity enhancement. The members from Normin Veggies served to assist the small farmers mainly through occasional sharing of their knowledge and facilities by conducting learning sessions for the farmers. Xavier University, an educational institution based in Cagayan de Oro City, promised to help out in production research and infrastructure development, among other things. Initial preparations were already done and actual work scheduled to start by November 2010, the beginning of the second semester for school year 2010-2011.

Thirdly, output assurance refers to the relationship in which the external organization either facilitates the marketing of a product to the buyers or serves as the buyer itself. The external organization focuses on ensuring that commodities produced by small farmers have ready markets or are easily absorbed by the markets. This form of intervention necessitates the external organization's strong links with prospective buyers or at least a certain connection with potential markets such that it can effectively link small producers to extra-local markets. Jollibee Foods Corporation is at the forefront of this relationship as it is the entity which presented itself at the very outset to be the buyer of farmers' produce. The offer of becoming the buyer of the commodities produced by farmers started the whole process of organizing people and mobilizing resources so that small farmers are bridged to the Jollibee supply chain. Catholic Relief Services, Jollibee Foundation, Kaanib, and Normin Veggies crucially facilitated the movement of products from the small farms to Jollibee Foods Corporation. CRS' connection with JFC and JF provides the assurance and flexibility of absorbing the outputs from farmers. According to Joan Uy, the constant refrain of the owners of JFC is to see the bridging project really work out for the benefit of the small farmers (personal communication). With such assurance, the farmers can look forward to continuing their attempts at producing onions for

the company. Such relationships are hard to come by and it is only fitting for CRS and the other entities to continuously search for the right ways of making the project successful.

While the bridging project aims at ultimately helping the farmers improve their present livelihood conditions, the provisions of interventions by external agents are not without any unwanted externalities during the assistance process. The case in point is the general direction of switching production towards a totally new crop for the farmers. Kaplinsky and Morris (2001) call this an "intra-chain upgrading" as it involves the production of a new commodity or product line. In this case, the farmers upgraded to onion production from their usual corn and vegetable growing, although the switch was not total in that only a small parcel of land was given to onions as an initial attempt to diversify household crop production. The decision to engage in onion production came mainly from the Project Steering Committee, since onions were an essential raw material for JFC's food processing. The farmers, in turn, welcomed the proposition of switching production to a higher value crop, especially when there was market assurance.

However, the intra-chain upgrading subjects the small farmers to a new and different set of risks. To note, the usual way of proceeding for the small farmers is to grow a certain crop based on their own decisions and then to sell the harvest to the market. They face the risks related to pests, diseases, and climatic extremes which are common to any production process. But the greatest risk resides in the demand side or the marketing of their produce. As price-takers, small producers do not have control over the prevailing prices in the market. For instance, Mario Kalan commented, "the price of Chinese cabbage (*wombok*) is different in the morning and in the afternoon." Another farmer, Flora Kulot, felt much regret when she delivered her produce to the wholesale market at a time when there was a supply glut. She said, "I was forced to accept a very low price for my lettuce just to recoup my capital and transportation expenses. I could not bring back the produce to my village and wait for a better

time. That would be more costly." One other farmer, Vilma Bahandi, decided not to deliver her tomato produce anymore and left them to rot in the fields, since the wholesale market stopped buying due to oversupply. Often, falling prices and market failures figure as heavy burdens for small farmers and provide the central risks in every growing cycle.

On some occasions, however, farmers may be fortunate and receive a good price for their harvest during conditions of lean supply. As an example, Nora Onor was able to receive a windfall gain when she sold her carrots during the 2009 Christmas season when demand was high and supply was low. "I spent some of my earnings to install new jalousie windows in my house, buy a karaoke machine for our entertainment, and a new cell phone for me," she happily shared. Much luckier was Tirso Cruz who produced potatoes in a half-hectare land, sold it to the market at a very high price, and used most of the earnings to begin the construction of his permanent concrete house. He said, "I thank God for the blessings. At least, now we can have a better house. This doesn't happen all the time." More often than not, small farmers face the risks of falling prices and diminishing margins if there is no assurance of a ready market that can absorb their produce and afford them a surplus from their hard work. Windfall gain, though very much welcome, doesn't come easily or often.

In the bridging project, the market assurance substantially reduced the risks allied to marketing. But the farmers faced the uncertain task of producing a commodity on a grade required by the buyer and a volume economical enough to be shipped to a distant destination. The uncertainty came from the strategy of switching to a new crop, while small farmers had not yet proven their ability to produce such a product on a sustained manner and with a limited knowledge of proper techniques, seeds, and other production demands. The risk heavily shifted to the production or supply side, since the farmers had to learn new cultural practices, observe new production protocols, and discover the particular onion varieties suitable to the agronomic

conditions of Bukidnon. In fact, the low level of total production volumes for each growing cycle and the small amount of quality-grade onions resulted from the farmers' inexperience of growing a new crop as well as from the inexperience of the organizers from external organizations. Also, since most farmers lack the financial resources to engage in the production of onions, they were initiated into a production loan scheme with a micro-finance institution (something they normally not do), further subjecting them to the risk of repayment problems after their harvests fell short of expectations.

The intra-chain upgrading to respond to market driven changes in the value chains might have been too soon, too abrupt, and too fast for the resource-poor farmers. A transition phase in terms of skilling of farmers and product development was not established at the outset to determine the feasibility of engaging in a new crop production under new conditions. Also, the farmers' existing capacities to produce other high value crops were not first considered for volume and quality upgrading as they jumped immediately to a new commodity. In this light, the trial production made by the first six farmers in June 2009 was not definitive enough to conclude the feasibility of onion production in Bukidnon. More research and longer product development could have been performed to ascertain appropriate varieties and proven cultural practices. As mentioned in the previous chapter, the small farmers acted as both growers and researchers. Virtually relegating the research task to the farmers entailed risks related to production normally attendant to trial-and-error process of experimentation. As a major consequence, all farmers in the bridging project incurred outstanding payables to CRS, Kaanib, Bukidnon Cooperative Bank, or Kauyagan Savers Cooperative. Especially for the 23 farmers who received loans from Bukidnon Cooperative Bank for an average amount of Php 6,100 ($142), the legal notices sent by the bank to the farmers demanding the prompt repayment of the loans exacerbated their anxiety. Edgar Mortiz, one of the first 35 pioneering farmers in this project,

juggled the proceeds from his corn production to make cash payment against his liability in the bank to relieve himself of the lingering apprehension. At least another two farmers were planning to use the proceeds from their other crop production to settle their debts in the bank. Alma Moreno feared that "somebody might just come to her farm and arrest her for non-payment." The unease was real for the farmers who were not used to transacting business with formal business institutions. On the other hand, Kauyagan Savers Cooperative had more flexible repayment terms since the funds loaned out to 40 farmers came from the Department of Agriculture, as mentioned earlier in Chapter 3. Nevertheless they all have to pay their loans from the future proceeds of the next growing cycles. In the end, the farmers contracted for loans without the well-founded hope of making sufficient yields to defray the investments made in the production of a new crop and possibly to generate a hefty surplus. The cost of switching to a new crop proved too high for those who were left to settle outstanding liabilities instead of creating more wealth for their households.

To mitigate the unease experienced by farmers in relation to their financial liabilities, CRS decided to release almost Php 95,000 (US$2,200) in order to repay the outstanding loan at Bukidnon Cooperative Bank. In effect, CRS assumed the loan provisions to the farmers including all interest charges, while Kaanib acted as the collector for future repayments. This whole process of having to tap the services of a formal micro-finance institution, and all obligations only to be assumed later after a production failure, was tantamount to a long round-about subsidy mechanism. In a similar manner, CRS could have set aside a budget to be loaned out to farmers to support the production of a new crop which they were still uncertain of delivering a sufficient volume of harvest. This would have served as a subsidy to the risk of production in case of failure, with the intent of sparing the growers from the anxiety of having to deal with formal institutions with which they were not accustomed to relate. In short, CRS, in conjunction

with Kaanib, could have provided the budget for loan assistance directly to the farmers as the initial attempt to subsidize the switching costs and to save the farmers from unwanted externalities. The subsidy is not an outright grant, but a loan with flexible repayment terms. Such a safety net would be appropriate as a necessary incentive for the farmers to engage in intra-chain upgrading processes without the fear of depleting their own household resources.

Moreover, realizing the slow progress of onion production in Bukidnon, the Project Steering Committee decided in their October 2010 meeting to tread on a new tack for the Bukidnon area. CRS proposed to continue the onion production starting in May 2011, making some adjustments to address the past weaknesses and hopefully produce better harvests. These adjustments include revisions of the production protocol, increase in the number of project participants, heightened participation of cluster-leaders in decision-making process, and direct facilitation by CRS staff. Jollibee Foundation (JF) likewise suggested that, in addition to onion production, farmers could produce the crops needed by their food outlets around the region, such as slicing tomatoes, lettuce, broccoli, cabbage, Chinese cabbage (*wombok*), sweet peas, etc. The new strategy was to engage in a "one product-big volume" (onions) and at the same time "multiple products-smaller volumes-regular delivery." The bigger volumes of onion production would be delivered to the central processing plant of JFC in Cebu City. The smaller volumes of assorted products with regular deliveries would be absorbed by the regional distribution centers of JFC. Moreover, Jollibee Foundation, specifically co-owner Mrs. Grace Tan Caktiong, invited the owners of SM Supermarkets to allow its various outlets to participate in the project of helping small farmers. SM Supermarkets is the leading and fastest-growing chain of supermarkets in the country today. They were not averse to the idea, and, in fact, initial contacts and planning were already afoot starting last December 2010. As expected, Miss Joan

Uy of CRS was designated as the point person in this expansion strategy, since she has the skills to deal with corporate buyers and the preliminary plans to implement it.

The new strategy takes advantage of the cumulative experience and knowledge of the farmers in growing crops such as lettuce, tomatoes, broccoli, cauliflower, sweet peas, etc. It also puts into action the individual clusters which will be assigned a particular crop to produce. For instance, the cluster from the highland village of Intavas, will produce lettuce starting in February 2011 for harvest beginning late March 2011. The plan is to program the production in a staggered fashion every two months in a small parcel of land (about 2,500 sq. m. of open field) so that there will be regular harvests and hence regular delivery. CRS plans to impose the use of plastic crates to improve post-harvest handling and reduce losses. Another cluster will produce broccoli at the same time and in the same staggered manner. Meanwhile, more farmers are enlisted, especially the seasoned vegetable growers in the highland areas of Impasugong and the beneficiaries of the agrarian reform program of the government in two different villages. The onion production under the rainshelters will proceed as planned beginning in May 2011 to continue strengthening the new capacities already learned over the last two years and, hopefully, with better success.

In other words, the new strategy calls for an improved functional, process, and product upgrading of the farmers' existing capabilities. Functional upgrading involves the mobilization of individual clusters to be in charge of producing a particular set of products for regular deliveries to regional distribution centers of JFC. Cluster leaders are now paid an allowance by the CRS as an incentive to exert their leadership more effectively over the group. They will also go through a series of capability-building seminars to prepare them for the formation of their own cooperative organization in the near future. The establishment of a cooperative organization formalizes their cluster cooperation, slowly relegates the decision-making powers to the group,

and provides them the legal status to claim access to external resources, both from the public and private sector. Normin Veggies may play the role of product consolidator and distributor to the JFC as it is more experienced in marketing and distribution of assorted vegetables locally and in adjacent large cities. Process upgrading includes the use of plastic crates for better product handling. Refrigerated vans from Normin Veggies may be rented in the future when necessary. Quality and freshness may become part of their leverage to bargain for better pricing with the buyer. Finally, product upgrading requires the close monitoring and control of chemical residues in the vegetable products. Product volume depends on the demand requirements of JFC regional centers, and regularity of product deliveries is much desired in the process. Some members of the faculty and students from Xavier University will be assisting in terms of product and infrastructure development. Technical agents from different seed suppliers will continue their agricultural extension assistance to the farmers. All of these ideas are on the drawing board of CRS and Kaanib, as conceptualized by the Project Steering Committee and operationalized by the Technical Working Group. Hopefully, the small farmers will produce better results with this new strategy and hence better incomes. But perhaps they could settle first their outstanding liabilities with Kaanib and CRS and be relieved of any apprehension related to outside financial obligations.

Sustainability: Project Lifetime or Lifetime Project?

Sustainable livelihoods, as defined in this study, consist of increasing incomes, regularity of income flow, and diversified sources of income. The available data from the bridging project indicate that the integration of small farmers in the supply chain of JFC has not yet made a significant contribution to the sustainability of farmers' livelihoods. Incomes did not substantially increase after three production cycles over a period of two years. Only 8 out of the

total 64 farmers (13%) gained an average of Php 1,498.31. One farmer garnered the highest net income of Php 4,786.80. This particular farmer participated only once during the second production cycle. In contrast, another farmer accumulated a loss of Php 14,293.15. Among the three production cycles, the first production cycle had the best positive results, with 63% gainers (22 out of 35 farmers), the 22 farmers receiving an average of

Table 4.3. Summary of Net Proceeds from Onion Production

Production Cycle	1st Production	2nd Production	3rd Production	Over-all Performance
Date of Production	Jan-May 2009	Oct 2009-Apr 2010	May-Oct 2010	Jan 2009-Oct 2010
No. of Farmers	35	41	45	64
Gainers				
No. of Farmers	22	7	1	8
Percent Gainers	63 %	17 %	3 %	13 %
Ave. Gain	Php 1,311.67	Php 2,519.63	Php 2,067.09	Php 1,498.31
Maximum Gain	3,577.05	4,786.80	2,067.09	4,786.80
Minimum Gain	186.30	165.80	2,067.09	33.90
Decliners				
No. of Farmers	13	34	44	56
Percent Decliners	37 %	83 %	97 %	87 %
Ave. Decline	Php (909.67)	Php (1,759.62)	Php (4,887.15)	Php (4,305.98)
Max Decline	(2,284.94)	(5,405.40)	(12,649.65)	(14,293.15)
Min Decline	(275.18)	(207.95)	(465.41)	(38.27)

Note: Php 43 = $1

Php 1,311.67. The second production cycle followed suit with 7 farmers gaining an average net income of Php 2,519.63. The number of gainers drastically declined, but the average net income of the 7 gainers increased by 92% from the previous growing cycle. The third production cycle had the least positive performance with only one out of the 45 farmers (3%) receiving a gain of Php 2,067.09, lower than the average net proceeds from the preceding cycle.

Alternatively, 13 farmers suffered an average loss of Php 909.67 during the first production cycle ending in May 2009. The number of farmers who made a loss climbed to 34 in the second cycle and further increased to 44 (all but one) in the third cycle. Expectedly, losses kept mounting at an average of Php 1,759.62 in the second cycle and then at Php 4,887.15 in the third cycle. The average cumulative loss across the three cycles was Php 4,305.98. All these

losses also represented the amounts of liabilities which the farmers incurred in the production process. Indeed, the objective of increasing the household incomes of small farmers as conceived in this bridging project fell short of expectations.

Furthermore, the financial gain was not even sizeable for those 8 households who benefitted from the project so far, considering the three production cycles in a span of two years. Instead, a large number of households (87%) incurred debts. Nevertheless, the bridging project cannot be considered a total failure inasmuch as there were at least eight families who did better despite all the problems besetting the whole process of linking the farmers to a corporate buyer. But, by other indications, sustainability in terms of increasing incomes remained to be attained.

Furthermore, the regularity of income flow was nowhere near optimal, since there were only three production cycles in a period of two years and thus also three receipts of net proceeds, if any. The first growing cycle occurred in January 2009 and proceeds for those who gained were released sometime in November 2009. The second growing cycle happened in October 2009 and net proceeds were released in July 2010. The third growing cycle took place beginning in May 2010 and sale proceeds were not received by the farmers as they were routed to settle the obligations at the Bukidnon Cooperative Bank and Kauyagan Savers' Cooperative, except for that single farmer who made a positive gain. Onion production normally requires a season of about 120 days from seedling germination to harvesting. Hence, if the first growing cycle ended in May 2009, there were four (4) months before the start of the next cycle which started in October 2009. When the second growing cycle ended in February 2010, the next cycle began after 3 months, in late May 2010. In other words, the production turn-around was quite long and potential incomes could not come as often as the farmers wanted. At the outset, Joan Uy envisioned a production program of monthly plantings such that there would be

monthly harvests later on. Such attempts were made during the third production cycle, planting monthly beginning in May until August 2010 for monthly deliveries of around 6,000 kilograms of onions starting October 2010 until January 2011. The difficulty of sticking to schedules, coupled by low yields, among disparate farmers prevented the monthly plantings and harvests to materialize. Instead, the harvests from September to November 2010 were consolidated, resulting in storage losses, especially for those onions that came ahead in September. Therefore, sustainability in terms of regularity of income flow remained elusive.

Finally, diversification of income sources proved to be a mixed reality. On a positive note, diversification of crop production actually happened as farmers attempted to grow onions for three consecutive growing cycles. This they did in addition to their existing crops, such as corn, bananas, and other assorted vegetables. They demonstrated the feasibility of producing onions in Bukidnon, although they still need to find the right variety that can bulb well during the wet season months starting in May until October. At the least, they confirmed the possibility of growing onions, but not yet the capacity of producing yields at a scale economical enough to generate a surplus for the households. Thus, on a negative note, the farmers may have successfully started to diversify their crop production, but this particular diversification experience still had not proven to the vast majority that it was a real source of income. As a matter of fact, only 8 out of 64 farmers could positively say that it had become another source of income for their household. For the rest of the farmers, numbering 56, diversification as another source of income still appeared as disconnected or disjointed, since they had accumulated losses instead of gains from the production process. Therefore, for the greater majority of onion growers, sustainability in terms of diversification of income sources still remained a promise yet real enough to be actualized as soon as production conditions allow for better yields.

The literature on clusters observes that industries that grow out from a geographical concentration of entrepreneurs usually takes at least ten years to develop as an industry or a fully mature cluster (Schmitz, 1995). Rufino Gomez, a long time onion producer, remembered his father started growing onions in the 1950's and their province of Nueva Ecija in Northern Philippines was only beginning to be considered as a major onion producing site. Nueva Ecija achieved the reputation as the onion basket in the Philippines starting around 1970s, when thousands of hectares were planted with onions during the second growing cycle of the year (October to March the following year). In this light, the bridging project with JFC, in its attempt to establish an alternative source for domestic onion supply, is essentially still at the doorstep towards becoming an industry. It is just starting its baby steps in developing the potential alternative site. Expectedly, those baby steps are replete with weaknesses, shortcomings, and frustrations, normally experienced during the learning process. More than two years and a half of project implementation are too short a time to make a conclusive judgment about the viability of such undertaking. Those two years can never be sufficient from which to gauge the prospects of sustainability for the small farmers who are engaged in such production process. The time frame in reaching the goal of sustainability is usually not confined within the lifetime of a project. More time, more experience, and more research and development are needed to usher the cluster cooperation for onion production into becoming a developed industry.

A judgment about sustainability involves a diachronic analysis across a temporal stretch of actually extended external assistance to discover patterns of interplay between successes and failures and subsequently to determine directions of income dynamics. For instance, data on just three production cycles are not enough to discover patterns of gain or loss related to income receipts by the small farmers. Their sheer inexperience, incomplete knowledge about onion cultural practices, and deficient understanding of onion's plant biology formed part of the

constellation of factors that affected the results of the first three growing cycles. Satisfactory mastery of the production process through continuing attempts at growing onions can certainly provide the necessary cumulative effect of experience and knowledge in hopes of smoothing out previous inadequacies as well as regularizing production protocols for the succeeding growing cycles. Likewise, evidence of onion adaptability to the soil and climatic conditions of Bukidnon needs to be gathered in order to ascertain if there is any single variety suited to the locality and its seasonal variations. Perhaps a time frame of at least five years of intensive external assistance and formal research on product development, which can cover six to eight growing cycles, may yield a set of relatively definitive recurring patterns of production performance and thus income changes across time. But at the moment, the elapsed time of the bridging project implementation is insufficient to make strong conclusions about sustainability of farmers' livelihoods. At the very least, it supplies indicative powers to decision-makers about the strong need for radical adjustments in terms of strategies undertaken towards making the integration of the small farmers in the value chain more functional and effective. Among them, the adoption of "multiple products-smaller volumes-regular delivery" (assorted vegetables) strategy, in addition to the existing "one product-big volume" (onions) as mentioned in the preceding section, is a positive direction in this regard. The collaboration with Xavier University and seed companies for purposes of research and development is another step forward.

Just as time and experience are necessary to improve the prospects of sustainability, equally important are the quantity and quality of external assistance provided to the farmers. Externally-sourced funds for input provisions allow asset-poor farmers to access resources to finance their production portfolios. A subsidized program of loan assistance, for example, can hasten the start-up of productive activities while at the same time reduces the anxiety from farmers who are averse to transacting financial obligations with formal institutions and who

avoid taking a debt. This may be done until such time when farmers could prove their capability to successfully produce a certain crop and enhance their reputation of creditworthiness before financial institutions. At which point, accessing resources especially from micro-finance institutions could be as assured as their capability to repay outstanding financial obligations, guaranteed by the ongoing proficiency in their livelihood activities. If only possible, generating their own savings from existing productive endeavors can help finance and sustain their succeeding production activities. In other words, while the quantity of input provisions from external resources is necessary, the assistance needs to aim at enhancing the farmers' capability for asset accumulation. Expansion of their present asset base and capital resources indicate a positive step towards sustainable livelihoods. Resiliency against stresses wrought by the usual production risks could be increased as accumulated assets become standby resources to replenish dissipated investments. In time, subsidies for input provision may become less intensive as capacity for asset accumulation improves.

However, asset accumulation towards sustainability requires matching quality of assistance to develop farmers' capability at transforming capital resources to actual commodities. On the individual level, external assistance needs to aim at improving farmers' capability to produce a particular product demanded by the market at a volume sufficient enough to generate surplus value. Ongoing attempts at reducing costs and increasing yields are necessary to augment profit margins. Continuous upgrading of existing production practices can help add value to commodities produced. As mentioned earlier, technical proficiency in crop production may assure delivery of product volumes and thus boost individual reputation of creditworthiness before financial institutions.

On the group level, external assistance needs to strengthen cluster cooperation among the atomistic farmers. The need to empower cluster leaders and develop their leadership

potential through management training and seminars is a concrete move towards strengthening their organizational skills. Building up the organizational skills of the farmers develops their capability for joint action, especially for collective production and marketing of their products. It likewise reinforces their potential for planning and decision-making, and hence, capacity for general administrative functions.

On both individual and group levels, a clear implication emerges as to the quality of staffing of the assisting NGOs. Since the individual farmers need continuous technical assistance on crop production, NGOs must also possess manpower resources knowledgeable about agronomy, plant sciences, or allied fields. Collectively, the clusters require someone from among the organizers with the entrepreneurial management skills to teach them how to operate their production processes as a business enterprise.

More importantly, the strength of the farmers' organization as market-oriented producers' group may serve as their leverage to claim access to resources, especially from the government. As individuals, they are not able to access resources from outside, but once capably clustered and linked to a particular market, farmers may stand a good chance. As examples, concerned personnel from the Department of Agriculture have signified their intentions of supporting the bridging project by funneling some funds intended for loan provisions and capability building support. This national government agency has actually extended financial support to the project and they are willing to sustain it. Another government agency, the Department of Agrarian Reform (DAR), is becoming an active player in the project since it is interested in assisting the agrarian reform beneficiaries in their livelihood activities. It has promised to channel funds to increase the input provisions to the farmers. There are at least 32 agrarian reform beneficiaries included in the project out of the total 64 farmers. In the budget prepared by CRS last November 2010, DAR is expected to release the sum of Php

653,200 to finance the capability building program of the small farmers over a one year period in 2011. Another budget for 2012 earmarked for capability building is subject to negotiation before the end of 2011. The program includes leadership training, test marketing and product development, technology training, management training, learning visits, and regular meetings.

In the end, the crucial contributing factors to sustainability include the individual farmers' capacity for asset accumulation supported through external input provisioning and continuous technical proficiency as well as the organizational capability to manage cluster cooperation and to exercise leadership over collective market-oriented actions. External input assistance for resource-poor farmers is important, but a lasting legacy lies on the quality of transformative interventions to develop individual and collective capacities. In other words, external assistance to advance the effective participation of small farmers in modern markets and thus their livelihood sustainability demands a holistic approach to interventions or a value chain vision which encompasses input provision, transformative assistance, and market assurance. Quantitatively and qualitatively, the intensity of these external interventions may diminish over time as farmers' experiences build up in time. Hopefully, a point may be reached when the farmers' organization only maintains a consultative relationship with external assisting agencies and external interventions are reduced to a minimum. In this light, it may be good to ascertain the viability of livelihood sustainability of the small farmers in the short or immediate term, while always mindful of their eventual empowerment in the long term. Thus, sustainability may never come during the project lifetime, since it is always a work in progress. But a good mix of the quantity and quality of assistance in both short- and long-term time frameworks may hasten such progress. And without a doubt, livelihood sustainability is a lifetime project.

CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

This study explores the structures and processes through which small farmers can actively participate in the changing agro-food sector and consequently attain sustainable livelihoods. Alongside the traditional spot wholesale and retail markets, the Philippines experiences the rise of supermarkets, hypermarkets, and groceries that offer the convenience of air-conditioned and clean shopping environment. Fast-food chains, restaurants, and hotels are likewise increasing in numbers. Driven partly by rising household incomes, urbanization, and changing lifestyles, the emerging modern markets are potentially lucrative sources of incomes for horticultural producers. However, evidence from other countries (Berdegué, et al., 2005; Boselie, et al., 2003; Dolan & Humphrey, 2000; T. Reardon & Berdegué, 2008; Shepherd, 2005) points to the threat of exclusion of small farmers from modern markets because these producers cannot fulfill the stringent requirements imposed by modern buyers related to procurement methods and quality standards. The large commercial farmers, product consolidators, or multinational companies with the financial, organizational, and technical muscle are better positioned to take advantage of the opportunities from the emerging markets.

The threat of exclusion is a particular instance of the dis-embedding of market relations which Karl Polanyi predicted would happen in the increasingly neo-liberalistic and globalizing world. The once primal role of people in markets gives way to the valuing of profits in trading transactions. In this case, small farmers are marginalized from the matrices of emerging

markets as they are marginalized and relegated to the price volatile spot markets. High risks attendant to spot markets make incomes uncertain and livelihoods less secure. Compounding the problems of small farmers is the anemic performance of domestic agriculture in the Philippines. Government neglect, poor infrastructures, insufficient budgets, lack of research and development, and recurring extreme weather conditions are among some of the factors that contribute to the lack of inertia of developing the domestic vegetable industry to become globally competitive. The Philippine vegetable industry has been a laggard relative to its neighboring Southeast Asian countries. It is against this backdrop that the bridging project with the supply chain of Jollibee Foods Corporations was implemented—to re-engineer market relations and to assist small farmers attain sustainable livelihoods in the hope of slowly reviving the domestic vegetable industry in the process.

The initiative to link the small farmers to the supply chain of the company came primarily from the owners of JFC who desired to concretely express their firm's corporate social responsibility by integrating small farmers as one of their direct suppliers of agricultural commodities. The bridging project took off in May 2008, following a governance structure characterized by a partnership among different private and public agencies united by a desire to help link farmers to JFC. At the helm is the Project Steering Committee, composed of the representatives from Jollibee Foundation, Catholic Relief Services, and National Livelihood Development Corporation. The Project Steering Committee prepares the general directions of project implementation, decides on budgets, establishes linkages with other external agencies, and addresses weaknesses and threats to project development. Directly under this committee is the Technical Working Group (TWG) which is composed of another set of representatives from Jollibee Foundation and Catholic Relief Services. TWG executes the general decisions

made by the Project Steering Committee by preparing the detailed plans of action, monitoring project progress, evaluating results, and trouble-shooting problems.

One of the project sites was in Impasugong, Bukidnon and the task of directly organizing the small farmers went to Kaanib Foundation, the local NGO operating in Bukidnon for more than 20 years. Two facilitators, one from Kaanib and the other from CRS, worked hand-in-hand to establish the clusters of farmers who would become the producers for JFC. Doing much of the decision-making at the field level, in consultation with Kaanib and the farmers, was the marketing consultant of CRS, Joan Uy, who concurrently sits as a member of the Project Steering Committee.

The general project objective was to upgrade small farm production systems in four different but interrelated fronts. Preliminaries to project implementation in Bukidnon started in June 2008. Three production cycles occurred during the period from January 2009 to November 2010. The first production cycle started in January 2009 with 35 farmers participating. The second cycle was in October 2009 with 41 farmers. The third cycle began in May 2010 with 41 farmers. In total, there were 64 different farmers who participated in the bridging project, but some have withdrawn from the project for various reasons.

The first upgrading process implemented was the production of a crop (onion) which was relatively new to the locality, but highly demanded by JFC for its food processing (intra-chain upgrading). Considered a high value commodity in terms of weight-to-price ratio, onions were projected to provide a good source of income for farmers with small landholdings. Producing onions from the southern part of the country also began the gradual diversification of sources for domestic supplies. Second, the farmers were directly linked to JFC through the assistance of CRS and Kaanib, while other agencies contributed other resources to support the linkage mechanisms (functional upgrading). A forward sales contract, specifying the quantity,

price, and delivery, was negotiated with JFC before the harvested produce was shipped to the company's processing plant. Kaanib, in tandem with CRS, did most of the direct mobilizing work with the small farmers in Bukidnon.

The local organizing strategy was to form clusters of farmers as the basic production units and to engage in synchronized production and collective marketing of onions for delivery to JFC. Clusters are informal groups of 5-15 farmer-households who are committed to produce a specified crop or several crops for delivery to a ready buyer. Each group was headed by a cluster leader chosen by Kaanib. Since the small farmers were still atomistic and had no formal organization, the formation of clusters went through several stages of development until at least 6 clusters were formed by the middle of 2010. Included in the formation of clusters is the process of organizing dispersed, independent farmers and the preparation of the marketing plan for bridging with JFC. Clustering attracted the support of other external agencies which provided financial and other resources in the course of project implementation. The Department of Agriculture and the local government unit of Impasugong Municipality provided funds for the construction of rainshelters. More recently, the Department of Agrarian Reform has promised to contribute in support of the capability building programs for the small producers. Likewise, Xavier University, a private educational institution, started efforts related to product research and development. The technicians from the seed companies also assisted the farmers through on-site agricultural extension. As a result, aside from the market assured by Jollibee Foods Corporation, the joint actions among clustered small farmers were spurred to greater heights by the local "external economies" expressed through the collaboration extended by different assisting public and private agencies.

Third, production was done through the use of modular systems (process upgrading). A module consists of a rainshelter, covering a 100 sq. m. area (20 m. x 5 m.) and divided

lengthwise into four equal rows. A rainshelter resembles an adapted version of high tunnels, using locally available bamboo materials. The project staff hoped the rainshelters would produce an average of 200 kilograms of onions (an equivalent of 20 tons per hectare), a production yield higher than the prevailing national average of 9 tons per hectare. The rainshelter proved more costly in terms of the additional expense to construct the infrastructure and labor for manual irrigation, but the expected yield could more than compensate for the added cost.

Fourth, farmers produced onions with at least 2 inches in diameter as specified by JFC (product upgrading). Most onions available in the local markets are the red varieties and less than 2 inches in diameter as they are more in demand than the white ones or the bigger sizes. JFC prefers bigger sizes of either white or red variety. Product volume was targeted at 6,000 kilograms (one small container van) per delivery to make shipment more economically efficient. In effect, farmers were introduced to product differentiation and sizable volumes as part of the quality standards required by the buyer. They tried producing what was expected by the market buyer, with assistance from Kaanib, CRS, the seed companies, and other agencies.

However, the results were less than positive from the three production cycles, covering a period of more than two years. Instead of three deliveries for three different growing cycles, only two shipments successfully went to the commissary of JFC. The harvest during the second growing cycle failed to be delivered to JFC. Instead of 6,000 kilograms per delivery, only around 2,000 kilos were shipped, representing 33% fulfillment of targeted volume. The single small container van could not even be filled halfway; and hence, the shipment was more expensive per unit cost. Instead of growing onions with at least 2 inches in diameter, only about 50% of the harvested produce made this size. The off-size onions constituted the other half of the harvest and were sold to the local market. Instead of increasing the incomes of households

through the project, most farmers who participated in the project incurred financial liabilities arising from the loans they contracted with the micro-finance institutions and Kaanib which provided the production assistance. Despite the difficulties encountered during the initial years of project implementation, the experience of bridging small farmers to a modern market buyer had its own set of accomplishments. The following section summarizes the findings and conclusions from this experience of re-embedding of market relations involving small farms and big firms.

Conclusions

The experience of bridging small farmers to the supply chain of Jollibee Foods Corporation covers an assortment of findings despite the limited material achievements the farmers have produced thus far.

1. The values of reciprocity and redistribution within the value chain were clearly manifested by the buyer (JFC) through its preferential option for the small farmers to become one of their direct suppliers. The farmers commit to produce for the fast-food company, while the latter promises to absorb the quality grade products delivered by the farmers. The buyer wants to make this relationship into an enduring partnership with small farmers. To make it happen, the buyer even extends financial assistance towards developing the capacities of small farmers to integrate in its supply chain structure. Restructuring of market relations could be possible through the instigation of those who hold the power and control over the value chains.
2. Governance may not only be expressed through efficient coordination of resources and flow of products, but also through the deliberate choice of producers or buyers who can participate in a supply chain. The choice is motivated by a desire to improve the

livelihoods of the small farmers, thereby adding a sense of social responsiveness to value chain governance.

3. Market assurance is a necessary, but not a sufficient condition for successful participation in value chains. It is however deemed crucial in facilitating the upgrading process of the small farmers. The farmers' continuing capacity to deliver the required product at a specific volume and quality is equally important.
4. Cooptation by institutional buyers over small farmers or intermediating NGO facilitators can be a real possibility, but is not yet evident in this case. NGOs facilitate the inclusion of small farmers in the modern markets and should not become the extended administrative unit of a buyer. External facilitators need to lessen the intensity and quality of assistance to small farmers once the latter has developed their own organizational, financial, and technical capabilities. Small farmers themselves need not be tied up with only a single market buyer, even though it is well assured. Risks could be lessened when farmers are linked to multiple market buyers.
5. The market-driven changes in the production systems at the downstream level necessitate acquisition of new management skills attuned to the business dynamics of value chain participation. The upgrading processes result in the transformation of the traditional peasant farming systems to market-oriented production systems. In the midst of these changes in the value chains, both in the upstream and downstream, NGOs must learn the business entrepreneurial skills to help manage farmers' organizations and to develop the grassroots leaders with the skills to effectively transact business with modern markets.
6. Development agencies assisting small farmers may be better able to improve the livelihoods of small farmers if they direct their interventions through the three-fold

components of the value chain vision: input provision, transformative assistance, and market assurance. The intensity and quality of assistance may hopefully taper off over time, depending on the progress of small farmers in their attempts towards attaining competitive advantage.

7. The bridging project clearly emphasized at the outset the assurance of a market buyer that could absorb the products from the small farmers. While this substantially reduced the marketing risks as compared to traditional spot markets, the linkages with modern buyers definitely shifted the risks to the production or supply side. Farmers really need to improve their organizational and technical capabilities in order to reduce production risks and consequently respond effectively to market-driven opportunities.
8. Finally, the small farmers' participation in the supply chain of JFC has not yet made a substantial impact on household incomes, much less the sustainability of their livelihoods. While the quality of participation in the modern markets is slowly improving, its benefits on the security of livelihoods of small farmers remain much to be desired.

In the end, the bridging project of small farmers with a modern market in this case has become a complex of networks and alliances, involving the partnership of different private and public sector agencies. The private-public partnership type of governance is facilitated by an NGO (CRS) which can manage to establish functional linkages with big private firms and national government agencies as well as with the small farms and producers at the field level. The emerging private-public partnership is illustrated in Figure 5.1. The efficiency required to participate in modern value chains necessarily demands a more sophisticated governance structure over multi-stakeholders which can promise to pool together resources to advance the

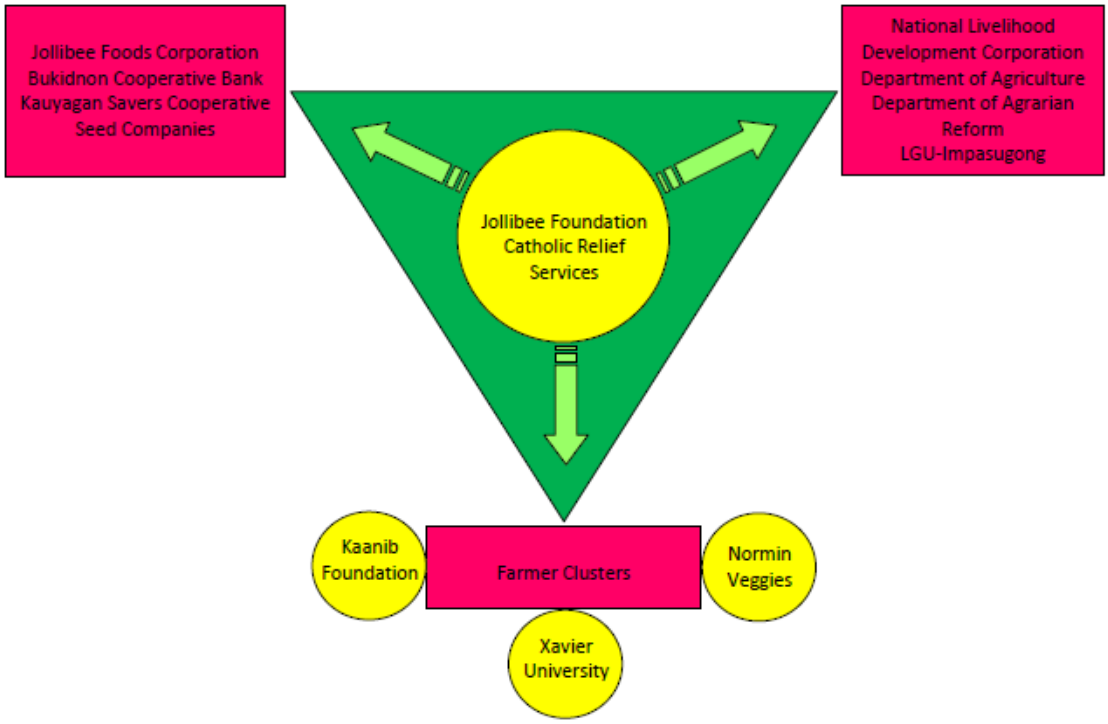


Figure 5.1. Emerging Public-Private Partnership with NGO Facilitation

competitive advantage of small farmers. This implies that organizing small farmers for inclusion in modern markets becomes a much more difficult task in that it entails coordinating different assisting agencies and accessing various resources. Transaction costs could be heavy in the process, since there seems to be no one agency which can wield a monopoly of resources. Different agencies contribute different resources. Hence, the partnership requires a market-conscious NGO which can assume the crucial role of capably marshalling and mobilizing these resources together to make inclusion of small farmers possible.

The Intersection of Value Chain Analysis, Clustering, and Sustainable Livelihoods Frameworks

The combination of three different sets of literature in this study is not just a matter of eclectic style to justify the theoretical themes related to the case at hand. As it turns out, super-

imposing the three frameworks of value chains, clustering, and sustainable livelihoods together creates a balance and the three complement each other.

Value chains provide the wider and dynamic context in which livelihoods take place. They are the structures which help to shape how farmers' perform their livelihood strategies. Value chains emphasize power and control in coordinating or governing the activities in the chain. They are the repository of wealth and can thus be potentially captured by these players with greater control of the activities along the chain. The modern value chains, in particular, highlight the requirements for those who are capable of participating in the chains.

Clustering supplies the potential of agency within the structures of chain governance. In fact, for small farmers, clustering, or some other forms of cooperation or collective action, is a necessary condition for the possibility of insertion in the value chains. There is no better recourse for resource-poor producers to participate in the modern value chains except to "cooperate to compete" (Berdegué, 2001). The necessary level of organizational, financial, and technical capabilities does not exist among small farmers. Instead, collective action and external assistance can establish their productive powers to engage in market transactions with modern buyers. The formerly atomistic households thus become a collectivity through clustering and make the value chains as their arena to create livelihoods. Livelihood outcomes are generated not simply through individual efforts at transforming existing household assets, but through a pooling of manpower and other resources for synchronized production and collective marketing. The agency of households in sustainable livelihoods framework finds concrete expression in clustering as the strategy for transformative actions. In short, the power of structures in value chains is balanced by the prospects of agency (bargaining power) through clustering that hinges on the transformative capacity of households seeking livelihood security.

In turn, sustainable livelihoods set the material and intangible goals of participating in the value chains. Security of livelihoods is what individual households aspire to achieve. It provides the motivation to engage in cluster cooperation activities. It also helps define more precisely how external agencies may be of assistance to farmer-households: by input provision to increase capitals, by transformative assistance to enhance capabilities, and by market assurance to deliver the outcomes. Furthermore, livelihoods are not only about production and yields. They are not limited to creating wealth from the benefits of the farmers' land assets. Livelihoods extend to include producers' participation in all the activities of the chain from production to marketing. Livelihood security results from capturing the values generated by the producers in the value chains. Attaining sustainable livelihoods therefore implies participation of farmers not simply as producers, but also as marketers or distributors of the very commodities they produce along the value chain. Yet this can only be achieved through clustering and the on-going capability building to empower individual households with technical production proficiency and organized collectives with managerial leadership. Thus, livelihood sustainability is influenced by the collective decision of small farmers to engage in joint actions, the nature and quality of interventions by external agencies, and their effective insertion in value chains proffered by a ready buyer.

Implications for Social Development

I propose a model of interventions that spell further implications for social development in general and agricultural development in particular (Figure 5.2). Synthesizing the literatures from value chain analysis, clustering, and sustainable livelihoods with the findings of this study, I draw up a set of configurations that could be helpful for development agencies in analyzing and planning for social change actions involving small farmers. First, external interventions to small

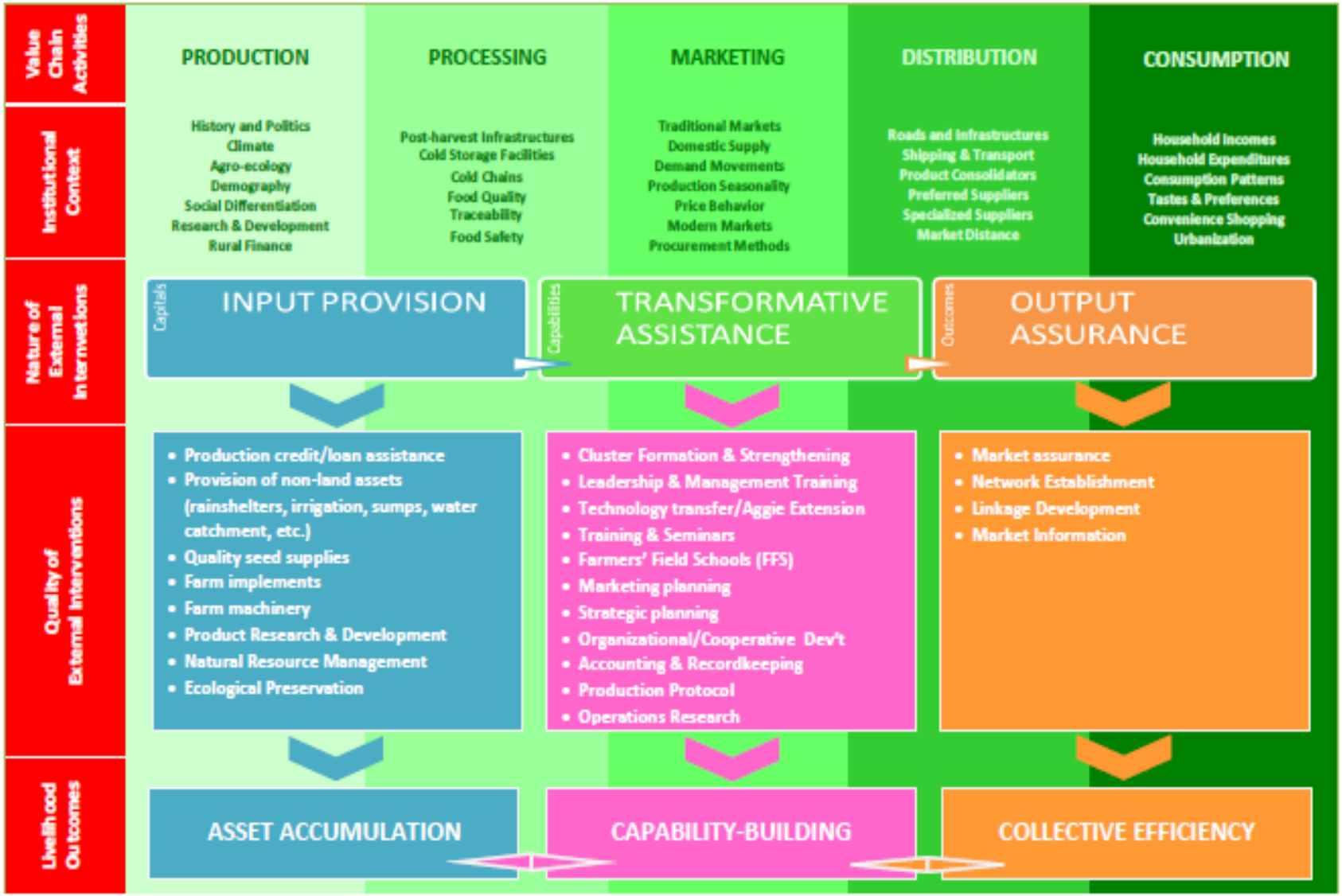


Figure 5.2. Proposed model of external interventions for inclusion of small farmers in value chains

farmers necessarily entail assistance towards making them participants in value chains, whether the traditional or modern value chains (*value chain vision*). Any assistance extended to small farmers constitutes an attempt to make them players in a value chain, whether it is cereal, fruit, vegetable, or other commodity value chains. Thus, programming of assistance requires consideration of the whole process in the value chains, from production to consumption (located at top of figure), in order to avoid bottlenecks and improve efficiency in the flow of products and resources in the chain.

Second, value chains exist within the greater social, economic, political, and cultural context (*institutional context*). In this regard, there are a host of factors (located at bottom of figure) that impinge across the different activities along the value chain, more or less corresponding to chain activities from production to consumption. Development agencies need to take cognizance of the institutional context as it determines in multifarious ways the participation of small farmers in the value chains. These factors may facilitate or impede the development of planned future actions. They can impel or constrain existing programmed activities. They may inform further or hold back any tactical adjustments addressing project strengths and weaknesses. Understanding these factors require a dynamic appreciation of the constant interplay of the various currents in the vegetable industry. Further, characteristic of value chains is the ripple effects that reverberate across the different activities in the chain, when even one element from this industry-wide context makes a significant change. Markets are ever-changing and so does the way interventions are to be implemented.

Third, inasmuch as any agricultural development is enmeshed in the value chain, the *nature of interventions* must attend to the triple components of the chain vision: input provision, transformative assistance, and output assurance. Because project beneficiaries are usually resource-poor, assistance should include access to capital assets, enhancement of

capabilities, and linkage with ready buyers. Provision of capital assets alone, without capability-building and market assurance, may turn any extended assistance into dole outs or temporary relief aid, because of the lack of guarantee to engage in a continuous transformation of such assets into commodities and, more importantly, for those commodities to be assuredly absorbed by a market. Enhancement of capabilities alone, without input provisions and market assurance, may prove useless, since production could not be started for lack of enabling resources or available markets. Market assurance alone, without the requisite provisions to begin the production process and/or the corresponding capabilities to produce what is required, may become a wasted opportunity, since there is no product of quality grade or in sufficient volume that could be delivered to the ready buyer. In effect, piecemeal assistance may not work effectively, since it addresses only a part of the activities of the chain. External assistance should have a holistic approach in valuing the whole chain as to cover all three components of the chain vision in varying intensity, depending on the actual need of the beneficiaries. Each component is certainly necessary, though it is not sufficient to enable a smooth process along the value chain.

Fourth, various activities subsumed under each component define the qualitative nature of interventions *(quality of assistance)*. Input provision includes access to credits, establishment of non-land assets, availability of quality seed supplies, etc. Transformative assistance may be in the form of agricultural training, technology transfer, management training, organizational development, etc. Market assurance is developed through network establishment, linkage development, and a direct connection to ready buyers. A single development agency may not possess all the resources and wherewithal to initiate all these activities for the small farmers. Hence, a partnership among different supporting actors and organizations could be established in order to mobilize resources from various sources. A private-public sector partnership has

been emerging as a viable way to implement this study's cooperation, with an NGO assuming the central role of coordination between the business sector and the government agencies (Vorley & Proctor, 2008).

Moreover, as small farms are being connected to big firms, the quality of interventions demands the acquisition of business capabilities on the part of the organizers, since participation in the market chain dynamics are at the heart of all the activities earlier mentioned. The NGO staff will become better facilitators for agricultural development if they also possess the basic skills in managing a business enterprise. Practically, small farm development projects involve collective actions among households within a formal or informal organizational structure and, at the same time, a shift from traditional peasant farming to market-oriented farming systems. Development projects fostering market orientation ultimately bring us to the interface between the non-profit motivation of social development organizers and the profit-based incentives of business firms. For small farmers to succeed in the value chains, they must cooperate to compete. For small farmers to compete effectively, they must appropriate, both individually and collectively, the rules of the business game. Social organizers steeped in management skills can better facilitate the small farmers' appropriation of the rules of the game in business enterprise. In the words of Berdegué (2001, p. abstract), *"NGOs that do not make a sustained effort to unlearn their old approaches become part of the problem of rural poverty."*

Finally, external interventions are directed towards producing *livelihood outcomes* which may be in the form of some combinations of asset accumulation, capability build-up, and collective efficiency. Production incomes hope to increase economic capital in order to sustain financing for the next production cycles or to smooth household consumption (Murdoch, 1995). Increased economic capital may also result in improved capacity to acquire more assets or to

rent lands from other households in order to expand crop production area. More assets mean better resiliency against shocks and stresses as these assets may be converted to cash so as to defray unusual costs (Bebbington, 1999; DFID, 1999; Scoones, 1998). Capability building ensures the acquisition of skills and capacities to transform assets into commodities. It consists of two levels: individual and collective. Individual capability building is the learning of new technologies and production practices to enable the household to produce a commodity from its own set of resources. Collective capability building pertains to the enhancement of capacity of clustered production units to engage as an organized collective in market relations with external organizations. Collective action among households may be sustained by technical and organizational proficiency of individual farmers.

In the end, the mutual reinforcement of asset accumulation and capability building may lead to the strengthening of the small farmers' collective efficiency. Collective efficiency is derived through joint efforts among clustered small farmers and the local economies engendered by the public-private partnership among different stakeholders (Nadvi, 1999; Michael E. Porter, 1998; Schmitz, 1999). Small farmers engage in joint actions through pooling together of their resources for synchronized production and common marketing efforts as a way of attaining economies of scale. Local external economies are the benefits accruing from the external assistance provided by the support agencies collaborating together in developing the capacities of small farmers. The combination of joint actions and external assistance can develop the collective efficiency of small farmers, through which cooperation (horizontally among farmers and vertically with other organizations) they are able to compete in the modern markets. In a new light, these three elements (asset accumulation, capability building, and collective efficiency) comprise the crucial ingredients for livelihood sustainability.

However, changes occur in the wider context of value chains from time to time that can certainly influence the resulting outcomes in livelihoods, for the better or worse. The degree of sustainability of every household may thus be strengthened or threatened across time and seasons, because contextual dynamics are ever-changing that positively or negatively impact asset accumulation and collective efficiency. In this vein, sustainability may be considered as not only a state of being, but also more of a continuous process of becoming. It is a constant attempt at struggling against the perils that threaten the security of livelihoods as well as taking advantage of opportunities that increase resiliency against all odds. It cannot be freely given to individual households, but each household holds the responsibility to make it happen.

Recommendations for Future Research

The experience of going through a study involving clustered small farmers becoming integrated in the value chains has made me realize the immensity of the present social problematic begging for concrete attention. There are still a lot more questions that need to be understood and answered with new insights. It is in this light that I propose possible directions for further research, especially in relation to the theme of poverty alleviation of vulnerable sectors, such as the small farmers.

First, since this present study is still incomplete, additional data on the continuing project may be gathered to gain more ideas on the possibility of integrating small farmers in the value chains. Quantitative data could be expanded with the increase of the number of farmers involved to pave the way for a quantitative analysis between the farmers' participation in the modern markets and the sustainability of their livelihoods over time. Second, inasmuch as small farm production systems become more market-oriented in the process, it may be wise to determine its effects on the traditional social obligations of households, community customs,

and certain cultural aspects. Improvements in the households' material well-being may be achieved at the expense of altering certain social and cultural values within the family or community.

Third, a more in-depth analysis of risk may be conducted when participation in high value chains results to focusing production on a limited number of cash crops and marketing to only a few buyers. What could be the trade-off between increasing household incomes and household resiliency in the context of the farmers' participation in modern markets? Fourth, the use of rainshelter may be investigated over some period of time to assess its contribution to small farm production systems and household incomes. A rainshelter is a non-land asset directly related to crop production and a good factor to check on impacts on crop rotation, incidence of pests and diseases, income flows, crop diversification, production costs, labor, etc. Or instead of just focusing on rainshelter, the additional non-land assets in general may be studied. Non-land assets include rainshelters, sumps, simple irrigation systems, water catchment, and pack houses.

Fifth, considering the tendency of modern markets to prefer large commercial farmers, it threatens exclusion of small farmers, but it could also be a magnet for landless rural workers. What are the impacts of modern markets on rural labor in general and landless agricultural workers in particular? To note, the landless rural workers are even more vulnerable, since they possess no land assets or have no access to land resources. Can it improve rural employment and household incomes? Can it reduce unemployment rates from the mass of landless agricultural workers? Will it contribute more to rural development? The exclusion of small farmers may also turn out to be related to increased inclusion of landless rural workers.

Finally, a quantitative study may be conducted to compare levels of livelihood sustainability between project participants who are integrated in the supply chain of a fast-food

company and non-project participants who remain connected to the traditional wholesale and retail markets. Results on household income comparisons (technically speaking, coefficients of variations of individual household incomes), for example, may provide insights related to the effects of risks absorbed by each group of respondents. Perhaps the two-stage Heckman regression analysis (a special variation of the Tobit analysis) may be appropriate to address selection bias of having to choose first the project participants and then compare them with the non-project participants.

Epilogue

As a final note, there is so much wisdom in utilizing existing theories and making further improvements to make them more responsive to newly emerging questions of our time. Theories may be refined in answer to newer questions or they may be combined with others to form a much more insightful framework for analysis. But whatever best analysis we can have about present realities, they are our only best approximations of the bigger truth that lies before us. Sociology and other intellectual disciplines, in other words, are simply tools to make possible a better intelligibility and appreciation of the much larger realities in our world. They also provide the sources of motivation that can drive us further to seek more understanding and response to present realities. It is my ardent hope therefore that this study has contributed to the intelligibility of the world of small farmers and their place in the modern economy. I may never attain the complete answers to my questions, but at least the miniscule approximations of the truth about small farmers are enough prodding to move on—to continue searching for innovative ways to improve their lives. We penetrate the truth, so that, later on, we can celebrate the meaningfulness of life with them. This is sociological imagination[22]. This is what I want to continue to do.

[22] Referring to C. Wright Mills in his book, *The Sociological Imagination (Mills, 1959)*.

APPENDIX

HOUSEHOLD SURVEY QUESTIONNAIRE
Value Chain Integration, Cluster Cooperation and Sustainable Livelihoods:
The Experience of Small Vegetable Farmers in the Philippines
Fr. Rene C. Tacastacas, S.J.

Name of Household Head: _____ HH Number: _____
Purok: _____ Barangay: _____
Municipality: _____ City: _____
Interviewer: _____ Date: _____ / _____ / 2010

SECTION A. HUMAN CAPITAL

1. Gender: □ male □ female
2. Age of respondent: _____ years old
3. Ethnicity: □ Bisayan □ Ilonggo □ Tagalog
   □ Ilocano □ Igorot □ Muslim
   □ Binukid □ Manobo □ Others
4. Years of Education: □ Incomplete elementary □ Complete High School
   □ Complete elementary □ Incomplete college or other
   □ Incomplete High School □ College Graduate
5. Occupation: □ Working mainly on own farm □ Working on non-farm jobs
   □ Working mainly on other farms □ Not working
6. Number of years household lived in the village: _____ years
7. If the household migrated here, from where did they migrate? _____
8. Total no. of members living in the household: _____
9. Number of household members under the age 15: _____
10. Number of household members over the age 60: _____
11. Number of household members presently working: _____
12. Number of household members working on own farm: _____
13. Number of training and seminars attended: _____
14. Number of exposure trips attended: _____
15. Frequency of visits by extension workers: □ Daily □ Every two weeks
    □ Weekly □ Monthly
16. Health condition of household head: □ Excellent □ Good □ Fair □ Poor

SECTION B. NATURAL CAPITAL

17. Total agricultural land of the household: _____ has.
18. Type of land control and number of hectares under each:
    _____ Formal title _____ Rent-free
    _____ Family commons _____ Lease
    _____ Tribal or traditional commons
19. Land rented from another party: _____ has.
20. Land rented to another party: _____ has.
21. Type of soil: □ Sandy □ Clay □ Peaty
    □ Silt □ Loamy □ Chalky
22. Source of irrigation: □ Rain water □ Water catchment □ Common irrigation
    □ Wells □ Spring
23. Distance from water source: _____ kms.
24. Number of Standing Crops: _____ Forest trees _____ Fruit trees
25. Distance to nearest market: _____ kms. Distance to village center: _____kms.
26. Altitude or distance above sea level: _____ m.

SECTION C. ECONOMIC CAPITAL

27. Livestock:

Name of Animal	Quantity	Estimated Value
Chicken		
Hog		
Cow		
Carabao		
Horse		
Goats		

28. Total land actually owned: _____ has. Estimated value: Php _____
29. Number of Bank Accounts: _____ Estimated value: Php _____
30. No. and Total Paid loans in the past 5 years: _____ Estimated value: Php _____
31. Outstanding loans: Number: _____ Total Value: Php _____
32. Total annual income from off-farm activities (hired labor, transport, etc.): Php _____
33. Total annual income from non-farm activities (labor, wage, business, etc.):Php _____
34. Annual income earned from land rents: Php _____
35. Annual remittances received from other family members and/or relatives: Php _____
36. Estimated value of jewellery: Php _____
37. Pension received annually: Php _____
38. Household Appliances:

Name of Appliance	Quantity	Estimated Value
Radio		
Cassette Player		
CD/VCR/DVD Player		
Refrigerator		
TV		
Electric Fan		
Cooking/Gas Stove		
Washing machine		
Cell phones		

SECTION D. PHYSICAL CAPITAL

39. Source of potable water: □ Deep well □ Open well □ Spring □ River/stream □ Piped supply □ Rain water
40. Type of sanitation: □ Water sealed □ Antipolo □ None
41. Access to electricity? □ Yes □ No
42. Type of housing: □ Nipa (temporary) □ Wooden (semi-permanent) □ Concrete (permanent)
43. Housing condition: □ Excellent □ Good □ Fair □ Poor
44. Type of fuel used: □ Firewood □ LPG □ Charcoal □ Electricity □ Kerosene

45. Number of Public Transport vehicles present? _____
46. Frequency of public transport? □ All the time □ Once a day
□ 4x a day □ Every other day
□ 2x a day
47. Road infrastructure: □ Concrete □ Gravel
□ Asphalt □ Paved
48. Road condition: □Excellent □ Rough but passable by vehicles
□ Good □ Impassable by vehicles
49. Access to information: □ Own experience □ Private company extension workers
□ Other household members □ Input dealers
□ Neighbors/other farmers □ Radio/television
□ School/NGO □ Farmers' organization
□ Gov't extension workers □ Newspaper/mags/other print media
50. Distance from farm to access road: _____ kms.
51. Distance from residence to access road: _____ kms.
52. Agricultural Assets:

Name of Equipment	Quantity	Amount
Thresher		
Tractor		
Hand tractor		
Miller		
Irrigation pipes		
Pump		
rainshelter		
Water catchment		

53. Draught animal:

Kind of Animal	Quantity	Estimated Value
Carabao		
Cow		
Horse		

54. Vehicles:

Type of Vehicle	Estimated Value
Truck	
Car	
Jeep	
Motorbike	
Bicycle	

SECTION E. SOCIAL CAPITAL

55. Number of years living in the village: _____ years
56. Number of relative households within the village: _____
57. Number of relative households in nearby villages: _____
58. Religious affiliation: □ Catholic □ Seventh-day Adventist
□ Baptist □ Islam
□ Pentecostal □ Methodist
□ Iglesia ni Kristo □ Others: _____
59. Number of organizations of which household is a member: _____
60. Held any position in the barangay government? □ Yes □ No What? _____
61. Number of times household became beneficiary of a project: _____
62. Any past or present landlord? □ Yes □ None Who? _____
63. Financier presently patronized? □ Yes □ None Who? _____
64. Trader (suki) frequently patronized? □ Yes □ None Who? _____

SECTION F. LIVELIHOOD ACTIVITIES

65. Annual Crop Production

	Crop	Area Planted (has.)	No. of Croppings	Approximate quantity produced (kg)	Estimated expenses (Php)	Approximate income (Php)
a.	Vegetables					
b.	Rice					
c.	Corn					
d.	Cassava					
e.	Sugar Cane					
f.	Fruits					
g.	Others:					

66. Annual Livestock Production

	Animal	No. of heads	Approximate quantity produced	Approximate Expenses (Php)	Approximate Income (Php)
a.	Chickens				
b.	Pigs				
c.	Goats				
d.	Cows				
e.	Others:				

67. Off-farm Livelihood Activities

	Nature of Work	HH Member 1	HH Member 2	HH Member 3	Approximate income (Php)
a.	Hired out aggie labor				
b.	Other works:				

68. Non-farm Livelihood Activities

	Nature of Work	HH Member 1	HH Member 2	HH Member 3	Approximate income (Php)
a.	Hired out non-farm labor				
b.	Wage				
c.	Business (e.g. sari-sari store)				
d.	Other works:				

BIBLIOGRAPHY

AFP. (2008, April 9, 2008). Philippine Daily Inquirer. Retrieved August 4, 2010, from http://business.inquirer.net/money/topstories/view/20080409-129319/Rice-crisis-to-cost-Philippines-1-of-GDP--Credit-Suisse

Aguilar, A. V. J. (2005). *Rice in the Filipino Diet and Culture*. Makati City: Philippine Institute for Development Studies.

Aquino, C. (2004). The Philippine Vegetable Industry Almost Comatose. *Focus on the Global South-Philippines, 2004*(2). Retrieved from http://focusweb.org/philippines/content/blogsection/8/6/9/90/

Bair, J. (2005a). From Commodity Chains to Value Chains and Back Again? Mimeo, Yale University, Department of Sociology.

Bair, J. (2005b). Global Capitalism and Commodity Chains: Looking Back, Going Forward. *Competition and Change, 9*(2), 153-180.

Balisacan, A. M. (2006). Poverty and Inequality. In A. M. Balisacan & H. Hill (Eds.), *The Philippine Economy: Development, Policies, and Challenges* (pp. 311-341). Quezon City: ADMU Press.

Balsevich, F., Berdegue, J. A., Flores, L., Mainville, D., & Reardon, T. (2003). Supermarkets and produce quality and safety standards in Latin America. *American Journal of Agricultural Economics, 85*(5), 1147-1154.

BAS. (2007). *Marketing Costs and Structure: Onion*. Quezon City, Philippines: Department of Agriculture.

BAS. (2008). *Selected Statistics on Agriculture 2008*. Quezon City: Bureau of Agricultural Statistics.

BAS. (2010a). CountryStat Philippines. from Bureau of Agricultural Statistics: http://countrystat.bas.gov.ph/

BAS. (2010b). Performance of Philippine Agriculture: January - December 2009. *Performance of Philippine Agriculture*. Retrieved from http://www.bas.gov.ph/

Bebbington, A. (1999). Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty. *World Development, 27*(12), 2021-2044.

Benziger, V. (1996). Small Fields, Big Money: Two Successful Programs in Helping Small Farmers make the Transition to High-value added Crops. *World Development, 24*(11), 1681-1693.

Berdegué, J. A. (2001). *Cooperating to Compete: Associative Peasant Business Firms in Chile.* Universidad de Wageningen, Holanda, Wageningen.

Berdegué, J. A., Balsevich, F., Flores, L., & Reardon, T. (2005). Central American supermarkets' private standards of quality and safety in procurement of fresh fruits and vegetables. *Food Policy, 30*(3), 254-269.

Blatt, P. J., Concepcion, S., Dagupen, K., Lizada, M. C., & Murray-Prior, R. (2007). *The Vegetable Industry in the Philippines* (Final Report). Canberra, Australia: ACIAR.

Boselie, D., Henson, S., & Weatherspoon, D. D. (2003). Supermarket Procurement Practices in Developing Countries: Redefining the Roles of the Public and Private Sectors. *American Journal of Agricultural Economics, 85*, 1155-1161.

Briones, R. M. (2008). *Addressing policy issues and constraints in agricultural diversification: the potential contribution of the fruits and vegetables subsector*.Unpublished manuscript.

Burgos, N. J. (2010, October 19, 2010). 'Mang Inasal' CEO confirms P3B sale to Jollibee. *Philippine Daily Inquirer*. Retrieved from http://services.inquirer.net/print/print.php?article_id=20101019-298489

Carroll, A. B. (1999). Corporate Social Responsibility: Evolution of a Definitional Construct. *Business and Society, 38*(3), 268-295.

Catelo, S. P. (2006). The region's changing retail food sector - the case of the Philippines. Retrieved from http://www.pecc.org/food/papers/2005-2006/Philippines/ppecc-catelo-paper.pdf

Chambers, R., & Conway, G. (1992). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century. *Discussion Paper-Institute of Development Studies, University of Sussex (United Kingdom)*.

Clapp, R. A. (1994). The moral economy of the contract. *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, 78-96.

Concepcion, S. B. (2005). Consumer market Segments in the Philippine Vegetable Industry. Retrieved from http://www.eoq.hu/iama/conf/1212_paper.pdf

Concepcion, S. B. (2005). *Vegetable Purchase and Consumption Patterns in Mindanao.* . Paper presented at the Mindanao Vegetable Industry Stakeholders Collaboration: A Stronger Linkage to Markets.

Concepcion, S. B., & Digal, L. N. (2007). *Alternative vegetable supply chains in the Philippines*. Paper presented at the Lotus Pang Suan Kaeo Hotel, Chiang Mai, Thailand.

Concepcion, S. B., Digal, L. N., & Uy, J. (2006). Keys to Inclusion of Small Farmers in the Dynamic Vegetable Market: The Case of Normin Veggies in the Philippines.

Coyle, W. (2006). A Revolution in Food Retailing Underway in the Asia-Pacific Region. *Amber Waves, 3*(4). Retrieved from http://www.ers.usda.gov/AmberWaves/June06/Features/Revolution.htm

CRS. (2010a). Bridging Farmers to the Jollibee Supply Chain Project. Unpublished Report. Jollibee Foundation and Catholic Relief Services.

CRS. (2010b). Catholic Relief Services. Retrieved July 15, 2010, from http://crs.org/

DAR. (2010). Land Acquisition and Distribution (as of June 2010). Retrieved August 6, 2010, from http://www.dar.gov.ph/beneficiaries_statistics.html

David, C. C. (2006). Agriculture. In A. M. Balisacan & H. Hill (Eds.), *The Philippine Economy: Development, Policies and Challenges* (pp. 175-218). Quezon City: ADMU Press.

Daviron, B., & Gibbon, P. (2002). Global Commodity Chains and African Export Agriculture. *Journal of Agrarian Change, 2*(2), 137-161.

de Haan, L., & Zoomers, A. (2005). Exploring the Frontier of Livelihoods Research. *Development and Change, 36*, 27-47.

Deininger, K., Olinto, P., & Maertens, M. (2000). Redistribution, Investment, and Human Capital Accumulation: The Case of Agrarian Reform in the Philippines. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer /IW3P/IB/2004/05/12/000265513_20040512170225/Rendered/PDF/28953.pdf

DFID. (1999). *Sustainable Livelihoods Guidance Sheets*: Department for International Development.

Digal, L. N., & Concepcion, S. B. (2004). Securing Small Producer Participation in Restructured National and Regional Agri-Food Systems.

Digal, L. N., & Montemayor, R. (2008). *The Philippine Vegetable Industry: Trends, Issues and Policy Implications*: International Federation of Agricultural Products.

Dixon, J. (1999). A cultural economy model for studying food systems. *Agriculture and Human Values, 16*(2), 151-160.

Dixon, J. (2002). *The Changing Chicken: Chooks, Cooks and Culinary Culture*.

Dolan, C., & Humphrey, J. (2000). Governance and Trade in Fresh Vegetables: The Impact of UK Supermarkets on the African Horticulture Industry. *Journal of Development Studies, 37*(2), 147-176.

Dolan, C., & Humphrey, J. (2004). Changing governance patterns in the trade in fresh vegetables between Africa and the United Kingdom. *Environment and Planning A, 36*, 491-509.

Ellis, F. (1988). *Peasant Economics: Farm Households and Agrarian Development*: Cambridge University Press.

Esman, M. J., & Uphoff, N. T. (1984). *Local Organizations: Intermediaries in Rural Development*. Ithaca, New York.

FAO. (2007). *Philippines: Onions and Tobacoo* (FAO Briefs on Import Surges): FAO.

FAOSTAT. (2010). Retrieved July 30, 2010, from Food and Agriculture Organization: http://faostat.fao.org/

FNRI. (2004). *Philippine Facts and Figures 2003*. Quezon City: Department of Science and Technology.

Friedberg, S. (2006). French Beans and Food Scares: Culture and Commerce in an Anxious Age, Gastronomica, Spring, 6, 2, 102-102: Friedberg, S., 2004. *French Beans and Food Scares: Culture and Commerce in an Anxious Age*.

Friedland, W. (1984). Commodity systems analysis: an approach to the sociology of agriculture. *Research in Rural Sociology and Development, 1*, 221-235.

Gaiha, R., & Thapa, G. (2007). Supermarkets, smallholders and livelihood prospects in selected Asian countries. *Occasional Papers: Knowledge for development effectiveness, 4*. Retrieved from http://www.ifad.org/operations/projects/regions/pi/paper/4.pdf

Gereffi, G. (1994). The Organization of Buyer-Driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks. *Commodity Chains and Global Capitalism*, 95–122.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy, 12*(1), 78.

Gereffi, G., Korzeniewicz, M., & Korzeniewicz, R. P. (1994). Introduction: Global Commodity Chains. In G. Gereffi, M. Korzeniewicz & R. P. Korzeniewicz (Eds.), *Commodity Chains and Global Capitalism* (pp. 1-14).

Getz, C. M. (2003). *Transnational Linkages, Social Capital and Sustainable Livelihood Security: Organic Agriculture in Baja California.* University of California, Berkeley California.

Ghezán, G., Mateos, M., & Viteri, L. (2002). Impact of Supermarkets and Fast-Food Chains on Horticulture Supply Chains in Argentina. *Development Policy Review, 20*(4), 389-408.

Gibbon, P., Bair, J., & Ponte, S. (2008). Governing Global Value Chains: An Introduction. *Economy and Society, 37*(3), 315-338.

Gibbon, P., & Ponte, S. (2005). *Trading Down: Africa, Value Chains, And The Global Economy*: Temple University Press.

Glover, D. (1987). Increasing the benefits to smallholders from contract farming: problems for farmers' organizations and policy makers. *World Development, 15*(4), 441-448.

Goldsmith, A. (1985). The Private Sector and Rural Development: Can Agribusiness Help the Small Farmer? *World Development, 13*(10/11), 1125-1138.

Habito, C. F., & Briones, R. M. (2005). *Philippine Agriculture over the Years: Performance, Policies and Pitfalls*. Paper presented at the Policies to Strenghten Productivity in the Philippines.

Hayami, Y. (2000). *An Ecological and Historical Perspective on Agricultural Development in Southeast Asia*. Paper presented at the World Bank DECRG.

Heffernan, W. (1984). Constraints in the Poultry Industry. In H. K. Schwarzweller (Ed.), *Research in Rural Sociology and Development* (Vol. 1, pp. 237-260). Greenwich, CT: JAI Press.

Hendrickson, M., Heffernan, W., Lind, D., & Barham, E. (2004). Contractual Integration in Agriculture: Is there a Bright Side for Agriculture of the Middle? In T. Lyson & R. Walsh (Eds.), *Agriculture of the Middle*. Pennsylvania: Penn State Press.

Hopkins, T. K., & Wallerstein, I. (1994). Commodity Chains: Construct and Research. *Commodity Chains and Global Capitalism*, 17–20.

Humphrey, J., & Schmitz, H. (2001). Governance in Global Value Chains. *IDS Bulletin, 32*(3), 19-29.

JFC. (2010). Annual Reports. Retrieved August 22, 2010, 2010, from http://www.jollibee.com.ph/index.php?/investors

Johnson, G. I., Weinberger, K., & Wu, M.-H. (2008). *The Vegetable Industry in Tropical Asia: The Philippines*. Shanhua, Taiwan: AVRDC-The World Vegetable Center.

Kaplinsky, R. (2004). Spreading the Gains from Globalization: What Can Be Learned from Value-Chain Analysis? *Problems of Economic Transition, 47*(2), 74-115.

Kaplinsky, R., & Morris, M. (2001). A Handbook for Value Chain Research. *Report prepared for IDRC*.

Key, N., & Runsten, D. (1999). Contract Farming, Smallholders, and Rural Development in Latin America: The Organization of Agroprocessing Firms and the Scale of Outgrower Production. *World Development, 27*(2), 381-401.

LBP. (2010). National Livelihood and Development Corporation. Retrieved July 15, 2010, from https://www.landbank.com/subLBP_livelihood.asp

Macabasco, D. R. (2009). The Supermarket Business in the Philippines. Retrieved July 12, 2010, from http://www.ats-sea.agr.gc.ca/ase/4672-eng.htm

McWilliams, A., Siegel, D. S., & Wright, P. M. (2005). Corporate Social Responsibility: Strategic Implications. *Rensselaer Working Papers in Economics*.

Milagrosa, A. (2007). *Institutional Economic Analysis of Vegetable Production and Marketing in Northern Philippines: Social Capital, Institutions and Governance.* Unpublished Ph.D. Thesis, Wageningen University.

Mills, C. W. (1959). *The Sociological Imagination*. New York: Oxford University Press.

MPDO. (2010). *Municipal Profile: Municipality of Impasugong, Bukidnon*. Bukidnon, Philippines.

Murdoch, J. (1995). Income Smoothing and Consumption Smoothing. *The Journal of Economic Perspectives, 9*(3), 103-114.

Murphy, J. T. (2007). The Challenge of Upgrading in African Industries: Socio-Spatial Factors and the Urban Environment in Mwanza, Tanzania. *World Development, 35*(10), 1754-1778.

Nadvi, K. (1999). The Cutting Edge: Collective Efficiency and International Competitiveness in Pakistan. *Oxford Development Studies, 27*(1), 81-107.

NSCB. (2010). Statistics. Retrieved July 21, 2010, from National Statistics Coordinating Board: http://www.nscb.gov.ph/

NSCB. (2011). Official Poverty Statistics in the Philippines. Retrieved March 16, 2011, 2011, from http://www.nscb.gov.ph/

NSO. (2003). 2002 Annual Survey of Philippine Business and Industry. Retrieved July 12, 2010, from http://www.census.gov.ph/data/publications/aspbi05_tab2.html

NSO. (2005, March 15, 2005). 2002 Scenario of the Agriculture Sector in the Philippines. Retrieved August 6, 2010, from http://www.census.gov.ph/data/sectordata/sr04144tx.html

NSO. (2008). 2007 Census of Population. Retrieved July 15, 2010, from http://www.census.gov.ph/data/census2007/index.html

NSO. (2009). 2008 Annual Survey of Philippine Business and Industry, Preliminary Results. Retrieved July12, 2010, from http://www.census.gov.ph/data/sectordata/2008/aspbi08_01.htm

NSO. (2010). http://www.census.gov.ph/.

Olchondra, R. T. (2009, December 6, 2009). RP to stock 4.4MMT of rice *Philippine Daily Inquirer*. Retrieved from http://www.inquirer.net/specialfeatures/riceproblem/view.php?db=1&article=20091206-240558

Page, S., & Slater, R. (2003). Small producer participation in global food systems: policy opportunities and constraints. *Development Policy Review, 21*(5/6), 641-654.

Pietrobelli, C., & Rabellotti, R. (2006a). Clusters and Value Chains in Latin America: In Search of an Integrated Approach. In C. Pietrobelli & R. Rabellotti (Eds.), *Upgrading to Compete: Global Value Chains, Clusters, and SMEs in Latin America*. Washington D.C.: Inter-American Development Bank.

Pietrobelli, C., & Rabellotti, R. (Eds.). (2006b). *Upgrading to Compete: Global Value Chains, Clusters, and SMEs in Latin America*. Washington D.C.: Inter-American Development Bank.

Polanyi, K. (1944). *The Great Transformation: The Political and Economic Origins of Our Time*: Beacon Press.

Ponte, S., & Gibbon, P. (2005). Quality standards, conventions and the governance of global value chains. *Economy and Society, 34*(1), 1-31.

Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.

Porter, M. E. (1987). Changing Patterns of International Competition. In D. J. Teece (Ed.), *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*. Cambridge, MA: Ballinger Publishing Co.

Porter, M. E. (1998). Clusters and the New Economics of Competition. *Harvard Business Review, 76*(6), 77-90.

Porter, M. E. (1998). *Competitive Advantage: Creating and Sustaining Superior Performance*: Free Press.

Raikes, P., Jensen, M. F., & Ponte, S. (2000). Global commodity chain analysis and the French filiere approach: comparison and critique. *Economy and Society, 29*(3), 390-417.

Reardon, T., & Berdegue, J. (2006). The Retail-led Transformation of Agrifood Systems and its Implications for Development Policies. Retrieved from http://www.rimisp.cl/FCKeditor/UserFiles/File/documentos/docs/pdf/WDR/Paper_21_%20Reardon_and_Berdegue.pdf

Reardon, T., & Berdegué, J. A. (2002). The Rapid Rise of Supermarkets in Latin America: Challenges and Opportunities for Development. *Development Policy Review, 20*(4), 371-388.

Reardon, T., & Berdegué, J. A. (2008). The Retail-Led Transformation of Agrifood Systems and Its Implications for Development Policies. *Background paper for the WDR*.

Reardon, T., Timmer, C. P., Barrett, C. B., & Berdegue, J. A. (2003). The Rise of Supermarkets in Africa, Asia, and Latin America. *American Journal of Agricultural Economics, 85*(5), 1140-1146.

Remotigue, M. E. (2005, August 18-19, 2005). *The Mindanao vegetable industry situation.* Paper presented at the Second Mindanao Vegetable Congress, Davao City.

Schmitz, H. (1995). Collective efficiency: Growth path for small-scale industry. *The Journal of Development Studies, 31*(4).

Schmitz, H. (1999). Collective Efficiency and Increasing Returns. *Cambridge Journal of Economics, 23*(4), 465-483.

Scoones, I. (1998). Sustainable rural livelihoods: a framework for analysis. *Working Paper - Institute of Development Studies, University of Sussex (United Kingdom)*(no. 72), 22 p.

Sen, A. (1997). Editorial: Human capital and human capability. *World Development, 25*(12), 1959-1961.

Shepherd, A. W. (2005). *The Implications of Supermarket Development for Horticultural Farmers and Traditional Marketing Systems in Asia*. Paper presented at the FAO/AFMA/FAMA Regional Workshop on the Growth of Supermarkets as Retailers of Fresh Produce.

Singh, S. (2002). Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab. *World Development, 30*(9), 1621-1638.

Singian, M. R. C. (2005). The Philippines: A stout market with a Room to Grow. *FASWorldwide*. Retrieved from http://www.fas.usda.gov/info/fasworldwide/2005/09-2005/Philippinesfood&bev.pdf

SWS. (2010). Second Quarter 2010 Social Weather Survey: 88% have much trust in Noynoy Aquino, 77% for Jojo Binay; 53% say PNoy can fulfill a few of his campaign promises. Retrieved August 6, 2010, from http://www.sws.org.ph/

Vorley, B., & Proctor, F. (2008). Inclusive Business in Agrifood Markets: Evidence and Action. Retrieved October 10, 2010, from http://www.regoverningmarkets.org/

Watts, M. (1994). Life under Contract: Contract Farming, Agrarian Restructuring, and Flexible Accumulation. In P. Little & M. Watts (Eds.), *Living Under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*. Madison, Wisconsin: The University of Wisconsin Press.

Weatherspoon, D. D., & Reardon, T. (2003). The Rise of Supermarkets in Africa: Implications for Agrifood Systems and the Rural Poor. *Development Policy Review*, 3.

Webber, C. M., & Labaste, P. (2009). *Building competitiveness in Africa's agriculture: a guide to value chain concepts and definitions*. Washington DC: The World Bank.

VITA

Rene C. Tacastacas was born in Cagayan de Oro City, Philippines on February 11, 1966 to a family with eight other children. He initially went to the local public elementary school at Camp Evangelista, a military establishment, his father being a soldier in the Philippine Army. He later proceeded to Xavier University High School, a Jesuit school in the same city for his secondary education. Aiming for greater heights, he applied in 1982 to Ateneo de Manila University, a topnotch school based in the capital city of Manila, for his college education and received various scholarships that allowed him to earn a degree in Management Engineering in 1986.

His Jesuit education and his personal acquaintance with some Jesuit Priests greatly influenced the direction of his life. In 1988, he entered the Society of Jesus in the Philippine Province to become a priest. The long years in formation included, among others, spiritual formation according to the Spirituality of St. Ignatius and intellectual development in Communication Arts, Philosophy, and Theology. While doing his philosophical studies, he also enrolled himself in sociological studies, focusing on rural development. He received his MA degree in Sociology in 1996 at the Ateneo de Manila University. He was ordained a priest in 2000 and immediately assigned as the pastor at San Isidro Labrador Parish in the Municipality of Titay, Zamboanga Sibugay, in the southern part of the Philippines. Fr. Rene served as the Parish Priest of Titay for two years before given another major responsibility in mid-2002 as the Vocation Director of the Philippine Province of the Society of Jesus. For three years, he recruited young men from different parts of the country and initially formed them to become priests or brothers in the Society of Jesus.

Ardently desirous of working in social development especially with small farmers, Fr. Rene began his doctoral studies in Rural Sociology in August 2005 at the University of Missouri in Columbia, Missouri, USA and completed his PhD degree in May 2011.