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Purposeful Building Of Social Capital And The Adoption Of
Essential Tools And Technologies In Impoverished Communities
In The Philippines

LIM CHON PHUNG

SINGAPORE MANAGEMENT UNIVERSITY

2018

Purposeful building of social capital and the adoption of essential tools and technologies in impoverished communities in the Philippines

by

Lim Chon Phung

Submitted to Lee Kong Chian School of Business in partial fulfilment of the requirement for the Degree of Doctor of Philosophy in Business (General Management)

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2018

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Purposeful building of social capital and the adoption of essential tools and technologies in impoverished communities in the Philippines

Abstract

Despite its popularity and a wide range of applications, social capital is a contested concept. There is also no agreement on whether social capital responds well to external interventions. Many scholars found no or, at most, mixed impacts that social capital can be purposefully developed. However, Burt and Ranchi (2007) and Janicik and Larrick (2005) provided compelling evidence that simple network training can significantly improve participants' ability to see gaps in their network and develop social capital.

The manifestations of social capital are context-dependent and complex, and rarely map into a single discipline or methodology (Jones and Woolcock, 2007). Hence, an exploratory sequential mixed-method study was adopted (Creswell and Plano Clark, 2011). Six remote communities (barangays) from three municipalities in Northern Samar in the Philippines were selected as case-study sites for this research. My journey to Northern Samar, one of the most impoverished regions in the Philippines, started from my firm belief that developing the social networks and capital of the community leaders of these impoverished communities can be a viable intervention to improve their livelihoods.

The research builds on two theoretical foundations. First, findings in cognitive social networks that individuals' perception of their network can improve their 'ability to harness the social capital embedded in the network' and influence their 'decisions and behaviour' (Janicik and Larrick, 2005; Brands, 2013). Second, Burt's (1992) 'structure holes' theory or missing connections between people inhibit information flow, and the advantage of being network brokers to exploit opportunities from separate and non-redundant information in their networks (Burt 2000, 2005, 2009).

The goals of my research are, first, to demonstrate that community leaders, regardless of their socio-economic background, respond well to simple intervention to purposefully develop their social

networks and capital within a short period of three to six months. Second, the purposefully developed social capital will lead to impactful actions that can help them gain better access to productivity-enhancing resources to improve yields and incomes. Third, an alternative policy recommendation on how farmers and fishermen can gain better access to affordable financial resources is recommended. Finally, to develop a practical and holistic approach to assess and implement future social impact initiatives in impoverished communities.

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Last, but not least, I am grateful for the financial support from the Mastercard Financial and Social Inclusion Grant from SMU.

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Dedication

To Lye Ying, Michael and Jennifer

Purposeful building of social capital and the adoption of essential tools and technologies in impoverished communities in the Philippines

Chapter One

1.0 Introduction

The Philippines government adopted an inclusive growth, defined as ‘sustained high economic growth that contributed to mass employment and poverty reduction’, as the core economic development agenda in 2011-2016 (NEDA, 2011). Poverty is generally defined as the lack of basic human necessities such as food, shelter, clean water and medical care (Bradshaw, 2007). The strategic goal was to reduce the national poverty incidence, defined as individuals with per capital income less than per capital poverty threshold, from a baseline of 26.2% in 2009 to 22.5% by 2015 (NEDA, 2011). Though the overall national goal was met in 2015 with a poverty incidence of 21.6% which was contributed by a significant increase in cash transfers to the poor, it was not the case for the farmers and fishermen (NEDA, 2017). Despite the sustained economic growth of 6.3% from 2011-2016, poverty incidence for these two groups was 34% in 2015 at the national level, and higher in rural areas (PSA, 2017). Lack of access to credit and capital, poor rural infrastructure, and low productivity were long-standing challenges faced by the farmers and fishermen; and are the main causes of rural poverty (NEDA 2017). Without these resources, the farmers and fishermen were not able to improve their livelihoods.

Developing sustainable rural livelihoods has been the central focus of national policymakers, international development agencies and NGOs in addressing poverty issues in the 1990s and 2000s (Burnell, 1998.; Ashley and Carney, 1999). The Department for International Development (DfID) of the United Kingdom adopted a sustainable livelihood framework (SLA) based on the ideas from Chamber and Conway (1992) and later expanded by Scoones (1998) to develop a holistic and

multifaceted framework of factors that influenced livelihoods. SLA focuses on how household assets consisting of human, physical, natural, financial and social capitals can be accessed, combined and transformed to improve the lives of the poor. Among these household assets, social capital is the most critical to the poor to gain access to resources to develop sustainable livelihood (Bebbington, 1999). Similarly, the World Bank was instrumental in adopting social capital as an economic development agenda and a core pillar in poverty reduction strategy (World Bank 2001). Several county level studies were undertaken to assess the role of social capital on the well-being of households and poverty in Indonesia (Grootaert, 1999), in Burkina Fasa (Grootaert et al., 2002) and in Bolivia (Grootaert and Narayan, 2004). A more in-depth review of the role of social capital in development strategies from the DfID and The World Bank will be discussed in Chapter 2.

The importance of social capital in development studies and more specifically, its contributions and limitations on poverty alleviation had been well researched (Woolcock, 1998; Dhesi, 2000; Woolcock and Narayan, 2000; Narayan and Pritchett, 2000; Collier, 2002; Narayan, 2002; Bebbington, 1999, 2002, 2007). I agree with Mattessich's (2009) suggestion that 'social capital lies at the heart of community development' and developing social capital is a prerequisite in rural community development. However, systematic research to understand how social capital is developed, deployed and changed in 'resource-limited' rural settings is still lacking (Krishna, 2007; George et al., 2012). Although we know much about the effects of social capital on access to resources, there is still a lack of investigation on 'how' social networks are used and 'when' they are deployed and for 'what specific purpose' (Ng and Rieple, 2014).

There is also no agreement on whether social capital responds well to external interventions (Krishna 2007, Ostrom 2000, Wilson, 1997). Wong (2012) and Mansuri and Rao (2013) found no or, at most, mixed impacts on social capital development among those community-driven development (CCD) projects implemented by The World Bank over the last 25 years that measured the impact on social capital and local governance. However, Burt and Ranchi (2007) and Janicik and Larrick (2005)

provided compelling evidence that simple network training can significantly improve participants' ability to see gaps in their network and develop social capital.

The goal of this research is to fill these gaps and explore how social capital can be purposefully developed, and how it impacts the adoption of essential tools and technologies to improve livelihood in rural communities. More specifically, this research will address these two questions:

1. How do community-based organization (CBO) leaders purposefully develop social capital?
2. How does their purposefully developed social capital influence the adoption of essential tools and technologies?

I embarked on my Ph.D. program in May 2015. Before the program, I worked for Hewlett-Packard in the first 24 years of my professional career immediately after my graduation from college and later with Oracle Corporation for 10 years. I was a senior executive with both companies in the Asia-Pacific Region. I was sponsored by Hewlett-Packard to pursue an Executive MBA with The University of Chicago Booth School of Business in 2001. I was fortunate to meet Professor Ronald Burt in his Strategic Leadership class. The most important impact on me from his class was the realization of how and why certain people and groups developed competitive advantages over others, and were more successful in their careers because of their social networks. Professor Burt's class made me realize the difference between 'being smart' and 'being wise', and the transition from 'smart to wise'. To be wise, I needed to purposefully expand my social networks by fostering strong connections with my peers and my leadership team, get out of my 'comfort zone' to reach out and build new contacts outside of my line of business, and proactively reach out to new customers and industry groups externally.

Professor Burt's research resonated with my intuition from having been an executive with HP and triggered the idea that I, as he did for the EMBA class, could do the same for a great many people who would never have the opportunity to attend an EMBA class. Immediately after my MBA, I developed a training seminar entitled 'Networking with a Purpose' to develop the social network and capital of

the regional and country management teams of my organizations, first with Hewlett-Packard, and later when I joined Oracle Corporation. The training was developed based on the advantage of being a network broker (Burt 1992, 2000, 2005, 2009), how executives could build bridges across their regional networks, make people or organizational changes, and rise above their self-interest. The executives were also shown the social network diagrams of the organizations; they discussed gaps in their networks and developed plans to expand their social networks across the regional networks. I was invited to give a talk on this topic in Professor Burt's ChicagoBooth Executive MBA class in 2006, and the talk was videotaped for later use as a network brokerage case in his Strategic Leadership class at ChicagoBooth and Executive Training program.

To the best of my knowledge, despite the significant effort and investment by The World Bank to build social capital in the economic development programs, there had been no attempt to develop a training program to develop the social network and capital of CBO leaders. In line with my intuition when I was an executive with HP and Oracle, I believe that developing the social network and capital of community leaders is an essential and simple intervention to help them improve livelihoods in impoverished communities. I will leverage my experience teaching executives to develop their social network and capital for this research but simplify the training to a level where farmers and fishermen without much formal education can understand. The details on the intervention training to purposefully develop the social network and capital of CBO leaders will be discussed in Chapter Four.

1.1 My journey to Northern Samar

The Northern Samar region in the Philippines was selected as my field study location to conduct experiments to investigate these two research questions. The considerations on the choice of Northern Samar and the case-study sites for my research will be covered in the rest of the sections in this Chapter.

Chikweche and Fletcher (2012) highlighted several issues relating to data collection and operational challenges for field research in subsistence, ‘resource-limited’ settings such as obtaining up-to-date respondents data, gaining access and securing trust during the interview processes, and personal characteristics and credibility of the researcher. Likewise, there is a need to address multiple operational issues like culture, language and translation, gender divide and inadequate infrastructure to conduct field research in rural settings (Chikweche and Fletcher, 2012).

My research journey to Northern Samar began in March 2017. The top priorities for this phase of the research were to secure the necessary endorsements from the local government authority to conduct field studies in the region, identify and recruit credible NGOs as partners in the research team, and recruit and train research assistants for this research. Since there are on-going insurgencies between the army and communist rebels in the inland farming communities, it was also necessary to address security-related issues while in the case-study sites. I was able to leverage my networks in the Philippines to obtain the endorsement from the Honourable Governor of Northern Samar, Mr. Jose Ong Jr to conduct field research in the region. (Appendix 1.1). His endorsement allowed me to work closely with the mayors from the local municipalities to collect the most current names and addresses of the residents and CBO leaders in the region (Appendix 1.2).

I was also able to develop strong partnerships with a group of well-established local NGOs and a technology partner in Northern Samar as alliance partners in the research team. The NGO partners participating in my research are the Nortehanon Access Center Inc (NAC), the Samar Crusade against Poverty Inc (SCPI) and the Center for Empowerment and Resource Development Inc (CERD). NAC is a network of about 30 CBOs and individuals in Northern Samar who are committed to improving the livelihoods of rural communities through bio-diversity conservation and their community-led activities. CERD works with the fishing communities on marine and coastal resources conservation. SCPI is a social microfinance NGO promoting community-managed microfinance both in urban and rural communities in Northern Samar. The technology partner is Hybrid Solar Solutions Inc (HSSi), a

solar-powered technology distributor in the Philippines with extensive operations in Northern Samar. These NGOs and technology partners provided the local operational support I needed to conduct the field research, and the local expertise to develop and facilitate experimental interventions planned for the research. The NGO and technology partners and research assistants participating in this research are listed in Appendix 1.3 and 1.4.

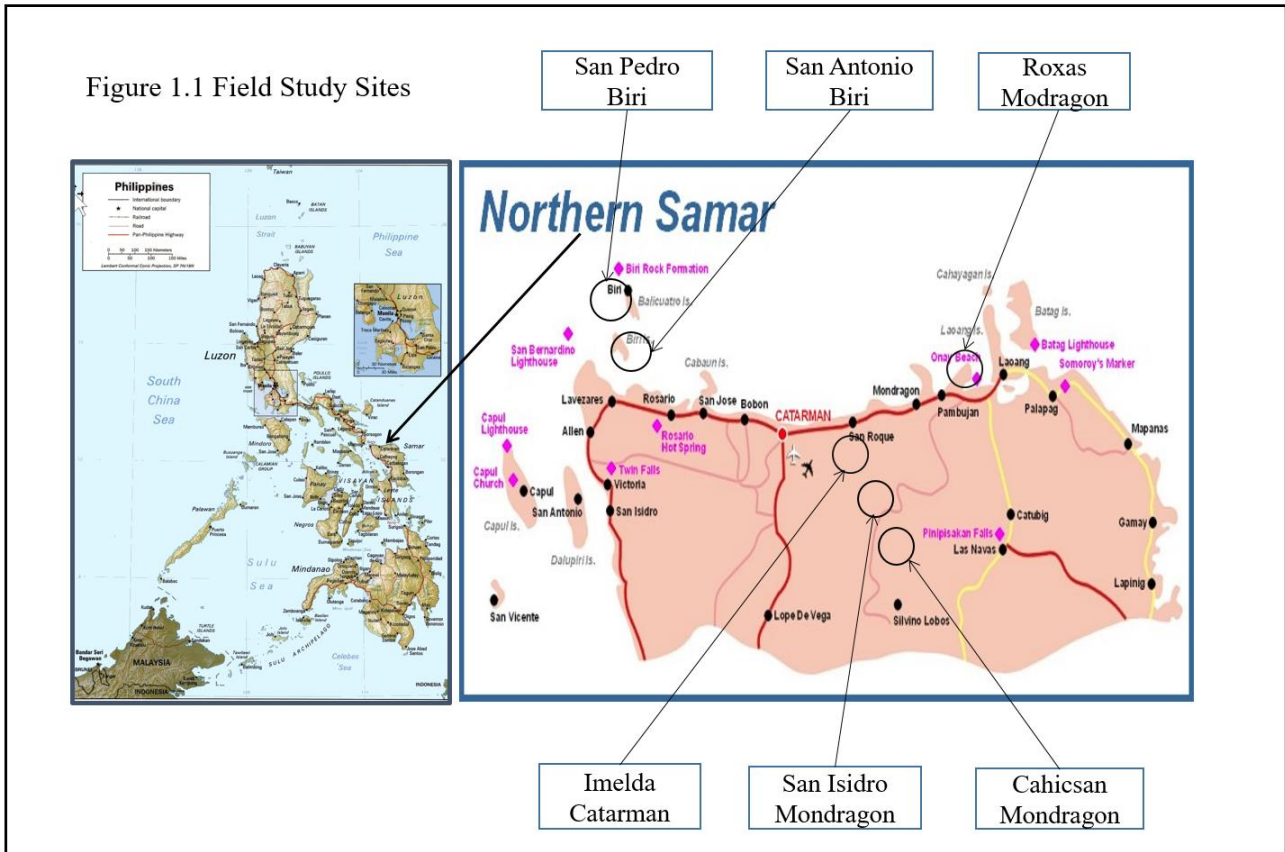
The alliance with the local partners made it possible for me to interact directly and develop trust with the CBO leaders in the case-study sites. Gaining their trust when conducting face-to-face surveys, intervention workshops and post-intervention reviews enabled them to share more openly their thoughts and feelings relating to their relationships with different stakeholders, and their challenges in coping with livelihood issues in their communities. These personal interactions added ‘depth and texture’ during the quantitative phases of the research (Hodgkin, 2008).

1.2 Selection of Case-study Sites

Six remote communities from three municipalities in Northern Samar in the Philippines were selected as case-study sites for this research (Figure 1.1). These three municipalities are the Municipality of Catarman, Mondragon and Biri. The study sites include three farming (Cahicsan, San Isidro, and Imelda) and three fishing communities (San Antonio, San Pedro and Roxas). Each community has about 150-250 households, and each household has an average of five family members. One farming community (Imelda) and one fishing community (Roxas) were set up as control sites, while the other four villages as treatment sites to purposefully develop the social capital of CBO leaders.

A multiple case-study model, covering two major rural economic activities (farming and fishing) was intentionally chosen for this research. Though social capital is context specific (Jones and Woolcock (2007), CBO leaders’ response to interventions across the multiple treatment and control case-study sites can provide some levels of generalizability of the findings from this research (Yin, 2014).

Figure 1.1 Field Study Sites



Transferability of the findings is another consideration for this research. In-depth qualitative and quantitative analyses and documentation of how the CBO leaders responded to interventions from these case-study sites should allow readers to make informed decisions about the transferability of the findings from this research (Lincoln and Guba, 1985 and Stake 1995). More details regarding the research method will be provided in Chapter Four.

Several factors were taken into consideration when selecting the case-study sites. Firstly, these communities are among the poorest in the Philippines, with farming and fishing as the main economic activities. Each community is separated from one another and has its well-defined geographic boundary drawn up by the local government. The geographical separation of each community reduces potential intra-interactions among communities in the case-study sites. Secondly, each community has a rich history of community building, is socially cohesive, and have developed strong bonding social capital among the residents. Thirdly, since the community leaders are the primary focus of this

research, all selected case-study sites have at least one active CBO with the officers elected by their members.

1.3 Social Structure and Economic Background of Northern Samar, the Philippines

Table 1.1 Average household income and poverty incidence: National, Regional and Case-study sites

	Overall Philippines ¹	Northern Samar ¹	Case-study sites ²
Average HH Income (Monthly)	PHP 22,500	PHP 15,833	4,166
Poverty incidence (Among families) ³	16.5	47.9	Lowest at 93%, Highest 100%
Poverty incidence (Among population) ³	21,6	58.2	Not measured

1: Source: PSA (2016)

2: Household survey conducted for this research, June, Oct 2017

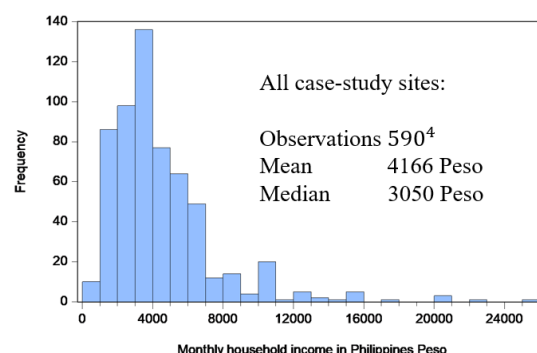
3: Defined as families/individuals with per capital income less than per capital poverty threshold (PSA 2016)

Northern Samar recorded a population of slightly over 600,000 in 2015. The primary sources of household income are farming and fishing. Palay (rice), coconut, abaca and corn are the major crops produced in the region. The residents speak a variety of dialects, and Waray is the main regional dialect. The region is one of the poorest in the Philippines. Household surveys were conducted for 50% of the households in all the case-study sites to collect detailed demographic, social and economic data as part of this research in June (treatment case-study sites) and October 2017 (control case-study sites). More details of the household survey will be provided in Chapter Four.

Table 1.1 provides a comparison of average household income and poverty incidence at the national and regional levels, and at case-study sites. The average monthly household income at the national and regional levels are PHP 22,500 (about US\$450) and PHP 15,833 (US\$317) based on the 2015 Philippines Census (PSA, 2016). However, the average household income in the case-study sites from

Table 1.2 Monthly household income in case-study sites

Case-study Sites	No HH ¹ May 2017	HH Surveyed	% below PHP 4,000	% below PHP 10,000	% Poverty Incidence
Cahicsan ²	199	101	78	97	97
San Isidro ²	166	104	83	96	96
Imelda ³	202	101	68	99	99
San Antonio	265	111	69	100	100
San Pedro ²	175	78	67	96	96
Roxas ³	235	104	59	93	93
Total	1242	599			



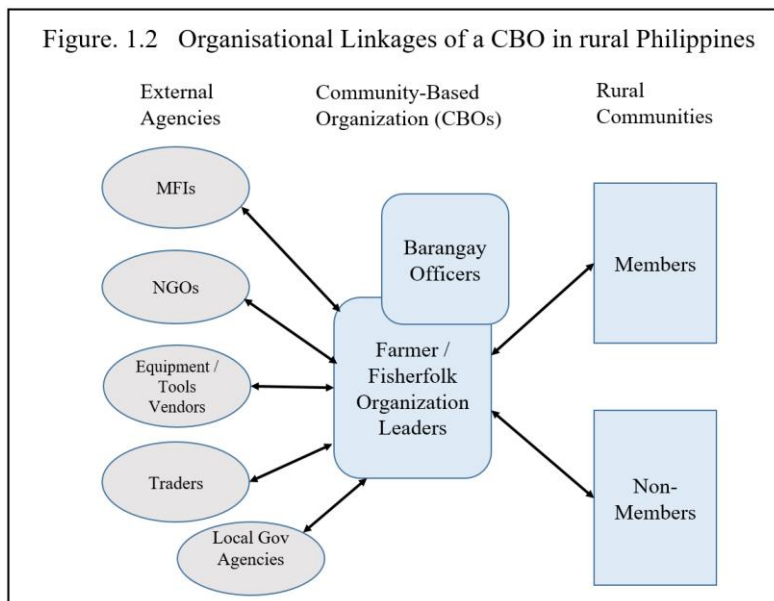
1. HH information provided by the municipality of Mondragon, Biri and Catarman in May 2017
2. Face-to-face HH survey: June 2017 (Treatment case-study sites)
3. Face-to-face HH survey: October 2017 (Control case-study sites)
4. Out of the 559 HH surveyed, 9 HH were not able to provide monthly HH income

surveys for this research is PHP 4000 (US\$80). There is a significant gap in the average monthly income of the farmers and fishermen in the case-study sites as compared to the regional and national average. In 2015, the poverty threshold for a family of five to meet both basic food and non-food needs was PHP 9064 (PSA, 2017); 16.1% in the county and 49.7% of families in Northern Samar earn less than the poverty threshold (PSA, 2017). Almost all families in the case-study sites fall below the poverty incidence based on the survey conducted for this research.

Table 1.2 provides the distribution of average monthly household income ranges for all the six case-study sites. The mean and median monthly household income are PHP 4166 and PHP 3050, with 67% of the households earning less than PHP 4000 per month and more than 90% of all households below the poverty incidence line. Household surveys in these case-study communities provide a grim picture of poverty in these villages. PSA estimated that there are about 6.6 million farmers in the Philippines, of which 4.6 million or about 70%, are small rural farmers (PSA, 2017). According to the Philippines Bureau of Fisheries and Aquatic Resources (BFAR), there are about 1.6 million fishing operators in the Philippines, of which about 1.3 million are small coastal and inland waters fishermen (BAFR 2015). These rural farmers and coastal fishermen are among the most impoverished people of the Philippines.

1.4 Community-Based Organizations (CBOs)

Despite their poverty, the political and social structure of many rural communities in the Philippines is well established. Two events in the past shaped the current structure: firstly, the push towards more local governance in the 1980s after the Marcos regime; and secondly, the shift towards more ‘decentralization’ and



‘community-driven development’ initiated by international aid agencies such as the United Nations and The World Bank (Lejano and Ocamposalvador, 2006; Mansuri and Rao. 2013). These international organizations argued that a decentralized system of government can have positive impacts on the performance of the economy, service delivery, and governance (White and Smoke, 2005). A ‘community-driven development’ is a process in which community groups ‘initiate, organize and take action to achieve common interest and goals,’ (Narayan, 1998). These events led to the revival of ‘community-based organizations’ (CBOs) and barangay (village) councils in the rural Philippines.

CBO is a grassroots organization which has a mission to organize and improve the livelihoods of their communities (Silliman and Noble, 1998). Most CBOs are affiliated with non-government organization (NGOs) networks at the provincial level which in turn are aligned to their affiliation at the national level. The barangay councils are affiliated with political parties and are elected representatives of the communities in the local municipality. CBOs are set up with formal organizational structures consisting of a president, vice president, secretary, auditor and business managers, and two to three

board members to comply with the registration requirement. The CBO officers are elected by the members of their organizations. Figure 1.2 shows the organizational linkages in a typical CBO.

CBO leaders developed their basic knowledge in project planning and management, community organizing, and advocacy skills from their association with NGOs (Shatkin, 2016). These capabilities help them to implement community development programmes, mobilize residents in collective actions, provide members with better bargaining power and political voices, and promote community togetherness (Shatkin, 2016). As a result, CBO leaders are among the most influential individuals in their communities. The interpersonal relationships among members of CBOs and their interactions with CBO leaders are highly personal and social. Many past studies confirmed that these social relationships generate social capital and contribute to improving the livelihood of disadvantaged rural communities (Dhesi, 2000; Islam and Morgan, 2011; McMurray and Niens, 2012).

The CBOs in the case-study sites provide natural laboratories to conduct field research relating to the research questions.

1.5 Past Policy Failure – Rural Poverty Alleviation

Catelo et al., (2017) provides a comprehensive review of rural credit policies in the Philippines from 1960-2009. According to the National Economic and Development Authority (NEDA) of the Philippines, the long-standing challenges faced by farmers and fishermen to improve their livelihood were due to limited access to credit and insufficient working capital despite multiple interventions to improve rural financial and credit delivery system (NEDA, 2017). Examples of policy initiatives implemented to help the poor to gain better access to formal credit include the Direct Credit Program (DCPs), the Social Reform and Poverty Alleviation Act of 1998 (Republic Act 8425), the Agriculture and Agrarian or Agri-Agra Reform Credit Act of 2009 and the various strategic recommendations from NEDA to expand economic opportunities in the agriculture, fishery, and forestry (AFF) sectors.

The DCP was implemented to provide subsidized credit to target specific sectors of the economy with small farmers and micro-businesses in rural areas as the primary beneficiaries (Llanto, 2006).

Case-study sites	% HH owned personal tools	% HH willing to adopt new tools	% willing to share common tools
Cahicsan ¹	15 ³	92	99
San Isidro ¹	31 ³	93	98
Imelda ²	38 ³	99	97
San Antonio ¹	23 ⁴	97	94
San Pedro ²	12 ⁴	95	90
Roxas ²	26 ⁴	100	92

1 Hand tractors, harrow, plough and buffalo
2 Boat and fishing nets
3 Face-to-face household survey: June, July 2017 (Treatment Groups)
4 Face-to-face household survey: Oct 2017 (Control Groups)

These subsidized agricultural programmes failed as a policy tool to reduce rural poverty, and collapsed by the mid-1980s from poor repayment rate and low private sector participation (Llanto, 2004; Agbola et al., 2016).

The Social Reform and Poverty Alleviation Act (1998) introduced a more market-oriented approach for small farmers and businesses to access credit with microfinance as the core programme for poverty reduction (Llanto, 2004; Mercado-Bunker, 2014). The Act resulted in a considerable growth of MFI providers and active borrowers. The Microfinance Council of the Philippines (MCPI) reported a total of 25 NGO-linked, 186 bank-led, and 14,711 cooperative MFIs in 2014, with slightly over 5 million borrowers in 2014 (Mercado-Bunker, 2014). Despite the growing commercialization of microfinance, multiple studies indicated that most MFI loans were designed for the ‘less poor’ in urban areas with a more predictable cash flow rather than the rural poor (Llanto, 2007; Micu, 2013; Agbola et al., 2017). The poor rural farmers and fishermen are excluded as more MFIs shift their focus towards commercial objectives. ‘Mission drift,’ defined by Woller (2002) as ‘the de-emphasis, in the of the social mission

in the pursuit of higher financial returns’ is a challenge that remains unresolved for policymakers and the MFIs.

All commercial banks are required by law to set aside 25% of their total loan funds for agriculture and fisheries credit under the Agri-Agra Reform Credit Act of 2009. However, in 2014, agricultural loans comprised only 2% of total loans or PHP 778 billion out of 40 trillion from all banks (Geron, 2016).

Case-study sites	% HH borrowed in past 12 months	Sources of credit		
		Traders (%)	Friends/Relatives (%)	MFI (%)
Cahicsan ¹	85	70	24	0
San Isidro ¹	98	40	39	0
Imelda ²	80	8	80	5
San Antonio ¹	75	28	44	20
San Pedro ¹	83	14	36	4
Roxas ²	81	5	62	30

1 Household survey: June 2017 (Treatment group)
2 Household survey: November 2017 (Control group)

Similarly, only 9% of total loans from the Land Bank of the Philippines, a government agriculture bank, were made available to small farmers and fishermen (Geron, 2016). The banks are better off by not lending to rural farmers and paying a 0.5% penalty for non-compliance.

The lack of basic farming and fishing tools in the case-study sites is the main cause of poverty. Based on household surveys conducted in June and November 2017 (Table 1.3), 15% of farmers in Cahicsan, 31% in San Isidro, and 38% in Imelda own some farming equipment consisting of hand tractors, harrows, ploughs, and buffaloes. Only 23% of fishermen in San Antonio, 12% in San Pedro, and 26% in Roxas have their own boats and/or nets. The farmers and fishermen are unable to increase their household incomes without these essential farming and fishing tools. They are unable to acquire the tools they need due to the lack of capital and limited access to credit.

Similarly, due to the lack of access to formal credit, most fishermen in the case-study sites depend on informal credit from village traders, friends and relatives (Table 1.4). When farmers or fishermen

obtain credit from village traders, they are required to sell their crops or catches only to the traders to repay these loans at prices set by the traders. This informal ‘trader as lender’ financing model is well entrenched in the rural Philippines. It is known to cause harm to the poor due the high interest rates and sometimes unscrupulous practices (Esguerra et al., 1993; Hendriks, 1994; Sagrario Floro and Ray, 1997; Provido, 2012; Kürschner et al., 2016). Their current situation is made worse with 100% of the loans being used primarily for short-term working capital and consumption shortfalls, rather than being used to invest in essential tools that could improve their livelihoods.

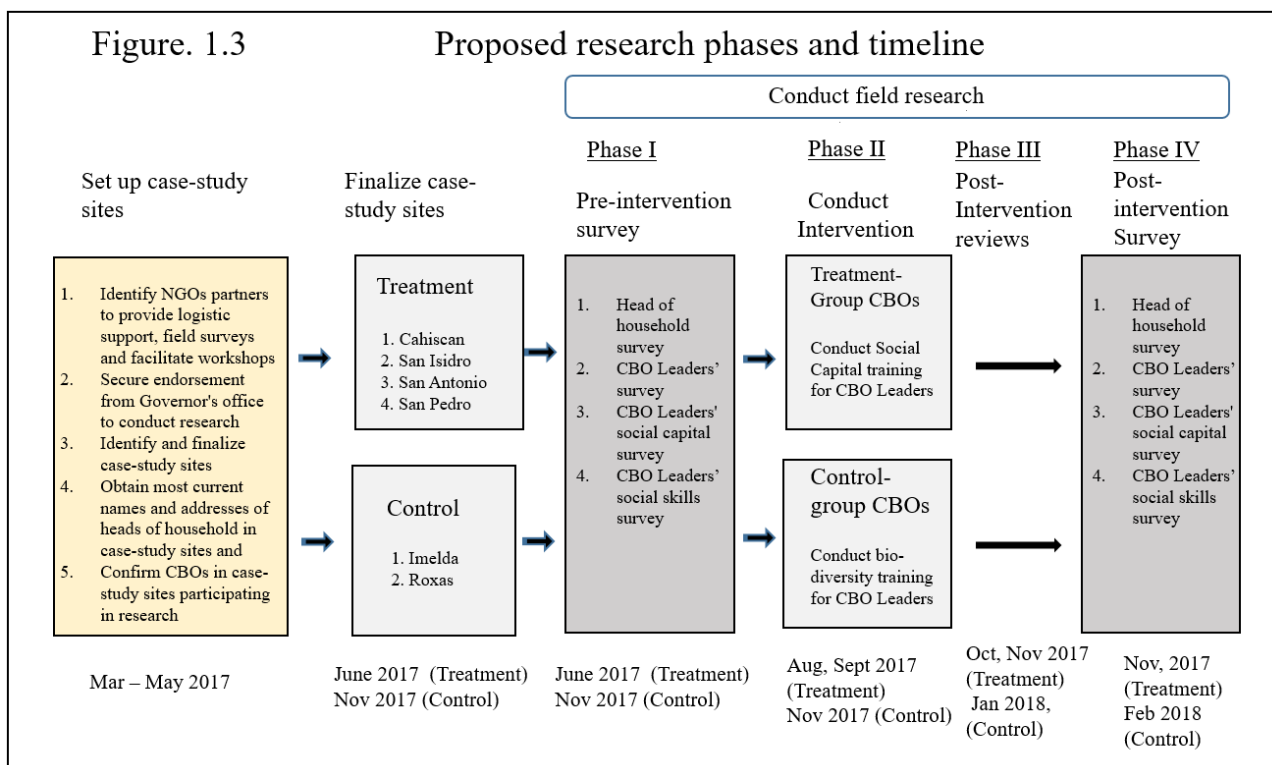
Despite deliberate attempts by policymakers to improve the flow of credit to farmers and fishermen during the last 50 years, these poverty alleviation policies have not worked. In addition to resolving issues relating to the lack of access to credit and capital, policymakers are well advised to consider how the poor can be provided with some capabilities to develop livelihood-improvement projects that can be implemented collectively.

1.6 Are Farmers and Fishermen Risk Averse?

Over the years, researchers continued to be puzzled by why poor farmers are slow to adopt new technologies, practices or ideas that can maximize productivity (Henrich and McElreath, 2002; Yesuf and Bluffstone, 2009; Fafchamps, 2009). Similarly, agricultural technology adoption in developing countries is widely researched but with many questions remaining unanswered or new questions raised on adoption (Lee, 2005; Doss, 2006; Deflo et al., 2007). Insightful data collected from individual households and CBO leaders’ surveys showed their strong desire for change to adopt new tools and technologies, willingness to learn new skills, and willingness to share common tools. Almost all farmers and fishermen surveyed expressed willingness to adopt new tools and equipment individually (94%) and equal numbers expressed willingness to adopt shared common tools (Table 1.3). Also, 56 out of 57 CBO leaders surveyed expressed willingness to learn new skills and adopt new tools.

The communities are endowed with strong bonding social capital, trust, collective action and a desire for change. They can build upon the capabilities that already exist to accelerate adoption of basic tools and technologies to improve their livelihoods.

1.7 Scope of My Research



The field research in the case-study sites is estimated to take about 12 months. For planning purposes, the field study is divided into phases. Figure 1.3 provides a timeline and the expected milestone for each phase of the research project. A detailed discussion on my research method will be provided in Chapter Four. The scope of the research will focus on collecting the supporting primary quantitative and qualitative data to validate the proposed hypotheses for the two research questions. This study also lays the foundation for future research and practice opportunities on alternative approaches to building scale and scope for social impact initiatives in these impoverished rural communities. It also provides

the opportunities to develop complementary initiatives to support social and financial inclusion initiatives in rural communities. Several infrastructure projects such as providing solar-powered solutions to communities without electricity, solar-powered water pumps for rice irrigation, low-cost communication services, and rural banking services have been identified as part of my future social impact projects after the completion of my Ph.D.

1.8 Structure of Thesis

Following the introduction in Chapter One, this thesis is divided into the following chapters:

Chapter Two will review the existing literature on social capital. There is a large volume of research on social capital in multiple disciplines. It will explain why social capital is still a contested concept and the need to understand the ambiguities and confusion relating to how it is conceptualized, defined and measured. I will limit the scope of the literature review by focusing on social capital literature relevant to this study to identify the research gaps, and the theoretical foundation to support the proposed hypotheses for this research.

Chapter Three will discuss the research gaps and the supporting theories for the proposed hypotheses relating to the two research questions.

Chapter Four will provide the background and primary activity of each CBO selected from the case-study for this research. It will explain the research method and document the field research activities in the case-study sites. This research adopts a mixed-method research methodology (Creswell and Plano Clark, 2011). It will discuss the proxy measures, the reliability and validity of the measures adopted for this research. It will document the survey instruments deployed to collect the quantitative data needed for this research. The design of the social network training for the treatment groups and bio-diversity farming and fishing for the control groups and how the training is conducted for both

groups will be provided. It will also describe the post-intervention review process with the CBO leaders two and three months after attending the intervention workshop, and document observable behavioural changes and results from these reviews.

Chapter Five will report how CBO leaders from the treatment group respond to the social networks intervention workshops and how they react to their pre-intervention social capital and social skills survey results. It will document topics they discussed the most and those where they needed to be pushed to discuss, and observable behavioural changes during the intervention workshops and post-intervention reviews. It will document the basic socio-economic and demographic information of households and CBO leaders from the treatment case-study sites from the household and CBO leaders' surveys. Paired variance analyses of the social capital measures from interventions will be provided. This chapter will conclude with the validation of the proposed hypotheses for research Question One.

Chapter Six will focus on changes to CBO leaders' social capital from the control group based on biodiversity and sustainable fishing workshops. Their social capital and social skills survey results will not be shared during the workshop. It will also document the socio-economic and demographic background of the households and CBO leaders from the control case-study sites. Finally, a comparison of the pre- and post-intervention changes to selected questions from the social capital survey, and the assessment from the heads of households on CBO leaders' behavioural changes will be presented.

Chapter Seven will investigate CBO leaders' actions and the results from these actions from their expanded social capital to validate proposed hypotheses for research Question Two.

Chapter Eight will conclude the research study and highlight the contributions and limitations of this research. An alternative policy recommendation on how farmers and fishermen can gain better access to formal and informal financial markets will be proposed. It will discuss future research and practice opportunities from the current research in the case-study sites. It will also explore alternatives to

building scale and scope on social impact and complementary infrastructure initiatives to accelerate social and financial inclusions in impoverished communities.

1.9 Summary

‘Having an organization of their own so that they can negotiate with the government, traders, and NGOs’ was the single most important feedback based on the Narayan-Parker (2000) survey of over 40,000 poor people in 50 countries in their ‘Voices of the Poor’ study. CBOs are the organizations where the poor in rural communities seek help on issues relating to their livelihood challenges, and discuss common community issues; and a place where they feel safe to voice their grievances (Narayan-Parker, 2000). Similarly, CBO leaders not only need to build healthy relationships and develop mutual trust with their members, but also strengthen their influence with residents who are not members of the association. They also must expand their relationships with agencies outside their communities. Hence, CBO leaders are among the most influential individuals in these communities. They play a significant role in contributing to the well-being of their members and are potential agents of change in the communities. They are the primary focus of this research.

My research plans to achieve several outcomes. The first is to demonstrate that social capital responds well to interventions within a short period of three to six months. The second intended outcome is to investigate how CBO leaders’ purposefully developed social capital can accelerate collective action and improve access to informal and formal financial resources to implement common tools and technologies. With better tools and technologies, the farmers and fishermen will be able to improve on productivity and utilization of their natural resources to improve household income. Third, this research aims to propose alternative policy recommendations on how farmers and fishermen can gain better access to formal and informal financial markets. As indicated earlier, past rural financial policies to alleviate rural poverty implemented during the last 50 years had not worked. Finally, a practical

approach to assess and implement future social impact initiatives in impoverished communities is recommended.

Chapter Two:

Literature Review: Social Network and Social Capital

2.0 Introduction

Chapter One touched on social capital as a critical component of household assets in the sustainable livelihood framework (SLA) and The World Bank's focus in adopting social capital as a core pillar in its poverty reduction strategy. It reviewed past policy failures in poverty alleviation in the rural Philippines during the past 50 years. It also described the social and political structure and the economic conditions of rural communities and my journey to Northern Samar in the Philippines to set up the case-study sites for this study. Based on household surveys data collected for this research, almost all farmers and fishermen are unable to meet their basic food and non-food needs. The main reason why the farmers and fishermen are poor is that they do not have the necessary farming and fishing tools due to the lack of access to credit and capital. It explored how social capital can be purposefully developed, and how it impacts the adoption of essential common tools and technologies in these impoverished communities.

Adler and Kwon (2002) in their first review of social capital stated that 'social capital has become increasingly popular in a wide range of social science disciplines.' The popularity of social capital has increased even more dramatically during the 10-year period after their review. Social capital is multidisciplinary and has expanded in many other fields during the last 20 years. Some of these fields include families and youth behaviour problems, crime and violence, schooling and education, community life, public health, work and organizations, management of common-pool resources, economic development, democracy and governance (Woolcock, 2010).

Despite its popularity and wide range of applications, social capital has also become one of the 'essentially contested concepts' in social sciences (Woolcock, 2010). Many agreed that one of the confusing aspect of social capital, and the cause of many debates, has been the lack of consensus on

its definition. The confusion was the result of how social capital has been conceptualized. Fulkerson and Thompson (2008) conducted a meta-analysis that traces the contested meaning and use of social capital from 1988-2006 and posited that social capital scholarship can be divided into two competing camps, a 'social cohesion' camp and a 'resource' camp.

Similarly, research on social networks has also expanded rapidly in the same period based on similar research trends in articles published with the term 'social networks' in the title, abstracts, or keywords (Moody and Paxton, 2009). In addition to its influence across the field of social sciences, the research on social networks has also expanded into new frontiers of social psychology and physical sciences (Borgatti et al., 2009; Burt et al., 2013). For example, Westaby et al., (2014) and Westaby and Shon (2017) explored how dynamic social networks influenced goal achievement, performance, and targeted behaviours. Ferguson et al., (2017) extended social network studies to explore social structure, content analysis, and meaning in social network processes. However, based on finding by Moody and Paxton (2009), past research on social networks and social capital were treated as distinct fields, with only '4.5% of abstracts of articles for social networks mention social capital, and 2% of social capital research explicitly mentioning social networks'. There are strong justifications for linking social capital and social networks research. Social capital researchers can benefit from the rigorous theoretical and conceptual development of social networks while research on social networks can benefit from a focus on a 'thin model' of dyadic network to a 'richer model of relational content' such as connections of friendship, trust, support, and others (Moody and Paxton, 2009). Burt (1992) provided compelling empirical evidence demonstrating that social capital is created from brokerage across 'separate non-redundant sources of information' or structure holes. Research and theory hold more promise to focus on the 'network mechanisms responsible for social capital effects' (Burt, 2000).

This chapter will review the social network and social capital literature related to the two research questions. It will discuss and clarify those contested concepts relevant to this research. The review attempts to identify relevant theories to support the experimental interventions and the proposed

hypotheses to purposefully develop the social capital of CBO leaders within a three to six month period and CBO leaders' actions from their expanded social networks and capital. The review will cover the following topics:

1. Social Capital and Rural Community Development.
2. Cognitive Networks.
3. Definitions of Social Capital.
4. Forms and Dimensions of Social Capital.
5. Level of Analysis.
6. 'Dark Side' of Social Capital
7. Criticism of Social Capital.
8. Summary and Implications for Research.

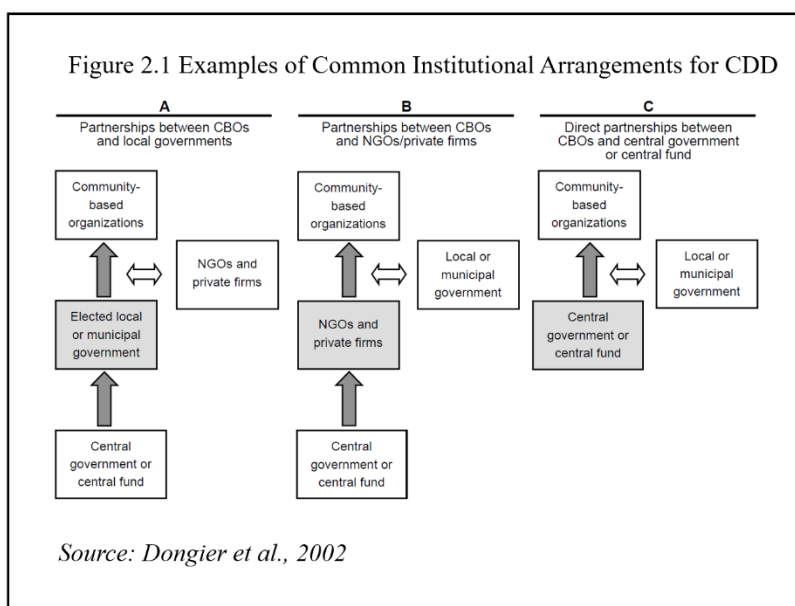
2.1 Social Capital and Rural Community Development

There is an enormous volume of literature relating to social capital and community development and how it contributes to community well-being. This review focuses on a subset of literature on the contribution of social capital in community development from The World Bank and The Department for International Development (DfID) of the United Kingdom since these two agencies play critical roles in influencing developmental activities in many developing economies globally. According to Wallis et al., (1998), Putnam's work on '*Bowling Alone*' was instrumental in generating public discussion on the concept of social capital and the decline of civic participation in American life when the *Time magazine* and the *Atlantic Monthly* published articles relating to his writing. These discussions were instrumental in influencing more scholars, advocates, donors, and practitioners to adopt social capital to address issues of poverty and develop policy tools for community development (Wallis et al., 1998).

Inspired by Putnam’s (1994) book ‘*Making Democracy Work: Civic Traditions in Modern Italy*’, The World Bank embarked on extensive studies to get insight into the social relations between households, associations and communities of the poor and the ‘causes, manifestations and consequences’ of poverty (Woolcock, 1998; Woolcock and Narayan, 2000), and to develop the tools to gather quantitative data on the different dimensions of social capital (Narayan and Cassidy, 2001; Grootaert et al. 2003). The World Bank focused on these two questions: (1) How does social capital affect economic development, and (2) What are the implications for development theory and policy? (Woolcock and Narayan, 2000). Social capital was the ‘missing link’ in global economic development to many people in The World Bank (Harris and de Renzio, 1997).

The Community-Driven Development (CDD) initiative was a major poverty reduction program from The World Bank in the early 2000s. It is designed to give control of development decisions and resources to rural poor communities. The Bank believes that when control over decisions and resources are given to the communities, they have more opportunities to work together to build trust, expand the depth and range of networks, and accelerate collective actions to develop social capital (Dongier et al., 2002).

The Bank works closely with many stakeholders in implementation of CDD initiatives. Figure 2.1 shows the three broad delivery models in each of the proposed model. Among all the stakeholders, the CBOs play significant role to support CDD initiatives at the local level to improve the efficiency and effectiveness of CDD programs



(Dongier et al., 2002). This research agrees that leaders of CBOs play a significant role in rural development and hence they are the main focus of this research.

The Department for International Development (DfID) of the United Kingdom adopted a sustainable livelihood approach (SLA) based on the ideas from Chamber and Conway (1992) which defined sustainable livelihood as:

A livelihood comprises the capabilities, assets (including both material and social resources) and activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resources.

Drawing from Chamber and Conway (1992) influential work, additional elements were incorporated to the SLA framework by Scoones (1998), Carney (1998, 2003) and Ashley and Carney (1999) and others to develop a holistic and multifaceted framework on factors that influenced livelihood outcomes. The center of the framework is household assets consisting of human capital, social capital, physical capital, financial capital and natural capital to determine the well-being of individuals and households, with community-level institutions and processes as the core feature of SLA (Ashley and Carney, 1999). Bebbington (1999) expanded the framework to investigate firstly, how household assets were accessed, combined and transformed to improve the lives of the poor. Secondly, how the poor could further enhance their capabilities to 'making living more meaningful', and thirdly, to challenge the structure and rules in which these assets are controlled (Bebbington, 1999). Among the five household assets, social capital is the most critical to the poor to gain better access to resources and help needed to develop sustainable livelihood (Bebbington 1999).

SLA was widely used by many developmental agencies in the late 1990s with mixed success. A review by DfID concluded that SLA was more suitable for micro-level projects closely associated with rural developments in the local economy but less relevant to address macro-level economic issues (Clark

and Carney, 2008). Though SLA is no longer a focus for DfID and other development agencies, it has proven its relevance in micro-level projects closely associated with rural developments.

In many rural communities, due to the lack of well-developed institutions to support capital and labour markets, a poor physical infrastructure, lack of formal contracts and weak enforcement and property rights, most socio-economic activities are informal (London and Hart, 2004; Webb et al., 2009). These are the same conditions in the case-study sites for this research. In these environments, social capital can ‘increase the efficiency of social exchange’ (Fafchamps, 2006). The scope of this research is not about social capital and rural development, but a narrower focus on how purposefully developed social capital can ‘increase the efficiency of social exchange’ to improve rural communities’ access to informal and formal credit to acquire the tools they need to improve their livelihood. A deeper understanding of the theoretical background, past successes and failures (such as the World Bank and DfID), and learning from past case studies on social capital and rural development provide valuable insight for this research.

2.2 Cognitive Network

Cognitive networks which focus on ‘how individuals perceive and cognitively represent the networks of relationship around them’ are gaining more attention in social network research (Brands, 2013; Burt et al., 2013). Scholarship on social network analysis focuses on the actual physical connections or configuration surrounding individuals and ignore any mediation by the individual’s cognition (Brands, 2013; Kwon and Adler, 2014). Cognitive networks explain why individuals’ perceptions of their relationships are affected by their surrounding social networks (Krackhardt, 1987; Brands, 2013). Due to systematic biases in one’s social perception, individuals organize their social relationship from their perspectives and tend to perceive themselves to be more central in their social networks (Kumbasar et al., 1994; Burt et al., 2013).

Individuals' perception of their network can improve their 'ability to harness the social capital embedded in the network' and influence their 'decisions and behaviour' (Brands, 2013). This finding has implications on how social capital can be purposefully developed. Janicik and Larrick (2005) conducted multiple studies on 'incomplete networks' or networks with missing relationships among some of the members. They found that individuals who have schematic knowledge of their incomplete networks could learn from these incomplete networks and develop the appropriate relationships than those without the schema (Janicik and Larrick, 2005). Similarly, from an organizational perspective, knowing missing relations in a network can help build cohesive groups (Janicik and Larrick, 2005). Their finding implies that helping people to learn where their missing relations are located can have a significant impact on expanding their social network and social capital.

Balkundi and Kilduff (2006) extended these insights to leadership research and argued that a leader's accurate perception of informal networks can impact his or her effectiveness at the intra-organizational level. Burt and Ranchi (2007) showed that social capital skills could be taught based on their field experiment conducted as part of the senior business leadership development program at Raytheon Company. They also found that an individual's motivation matters in developing social capital.

Though past research found that external interventions to purposefully develop social capital was difficult in the short-run (Ostrom, 2000; Uphoff, 2000; Krishna, 2007), cognitive social networks provide the theoretical foundation to support the proposition that social capital can be purposefully developed within a short period. Chapter Four will provide the details on the proposed interventions to develop the social networks and capital of CBO leaders.

2.3 Defining Social Capital

Social capital is multidisciplinary, multifaceted, and means many things to many people. It covers a wide terrain, analyses at individual, family, neighbour, and national levels, and has generated more

than 1200 definitions (Putnam, 2001; Adler and Kwon, 2002; farhenrich 2005; Sampson and Graif, 2009; Villalonga-Olives and Kawachi, 2015). As a result, social capital has become one of the ‘essentially contested concepts’ in social science (Woolcock, 2010). Social capital has been conceptualized as the resources such as trust, norms and the exercise of sanctions that individuals in a social group can leverage, and is also referred to as the ‘social cohesion’ school of social capital (Kawachi et al., 2008; Fulkerson and Thompson, 2008). The other school of social capital is often referred to as ‘resource school’. For this school, social capital is conceptualized based on the resources that are embedded within an individual social network. These resources include social support, information and social credentials that can be accessed or mobilized through ties in the networks. The definitions from these two schools are broadly similar but have some significant nuances. The social cohesion approach conceptualized social network as a group attribute, or a property of the organization or the community, while the resource approach social capital as both an individual or group attribute (Kawachi et al., 2008).

The multiple definitions of social capital evolved from the literature of Bourdieu, Coleman and Putnam, three most influential scholars in this field. Bourdieu (1985) defined social capital as ‘...the sum of the actual or potential resources that are linked to the possession of a durable network’. Coleman (1988) defined social capital by its function and identifies three forms of social capital: (1) reciprocity which means ‘obligations will be repaid, and the actual extent of obligations held’; (2) information from social relations with ‘information providing a basis for action’, and (3) norms that are enforced by action. Putnam (1995) defined social capital as ‘features of social organizations such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions’.

Burt (1992) defined social capital as ‘friends, colleagues and more general contacts through whom you receive opportunities to use your financial and human capital.’ As highlighted in Chapter One, my personal grounding and experience on social capital was based on Burt’s proposition that ‘social

capital is a function of brokerage across structure holes' and 'individuals or groups can gain advantage because of their location in the social structure' (Burt 1992, 2000, 2005 and 2009). 'People do better because of they are better connected' (Burt, 2000).

Social capital is 'the sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit' (Nahapiet and Ghoshal, 1998). Their definition is well adopted in business and organizational studies. Recognizing that social skills play an important role, Baron and Markman (2000) defined social capital as the 'actual and potential resources individuals obtain from knowing others, being part of the social network with them, or merely from being known to them and having a good reputation'. Social capital was defined as 'resources embedded in ones' social networks, resources that can be accessed or mobilized through ties in the networks' (Lin, 2001). Ostrom and Ahn (2003) defined social capital as 'an attribute of individuals and of their relationships that enhance their ability to solve collective-action problems.' Putnam (2001) highlighted that the central idea of social capital is that 'networks and the associated norms of reciprocity have value.' Woolcock (2001) defined social capital as 'the norms and networks that facilitate collective action' (Woolcock, 2001).

Scholars agree that there is a need to define social capital based on the area of investigation before embarking on a research (Villalonga-Olives and Kawachi, 2015). This research follows the guidance from that social capital is network-based and investment in personal relationships leads to the achievement of individual or collective goals (Burt, 1992; Lin 2001). The definition of social capital is based on the definitions provided by Lin (2001) and Baron and Markman (2000) as: 'resources embedded in ones' social networks, resources that can be accessed from knowing others, being part of the social network with them, or merely from being known to them and having a good reputation'. This definition encompasses the key areas of investigation on how CBO leaders can purposefully develop their social capital by enhancing and expanding social ties among community members and external agencies and by developing their social skills for research Question One. It also captures how

they mobilize potential resources or goodwill from their expanded social capital to adopt common tools and technologies among community members for research Question Two.

2.4 Forms and Dimensions of Social Capital

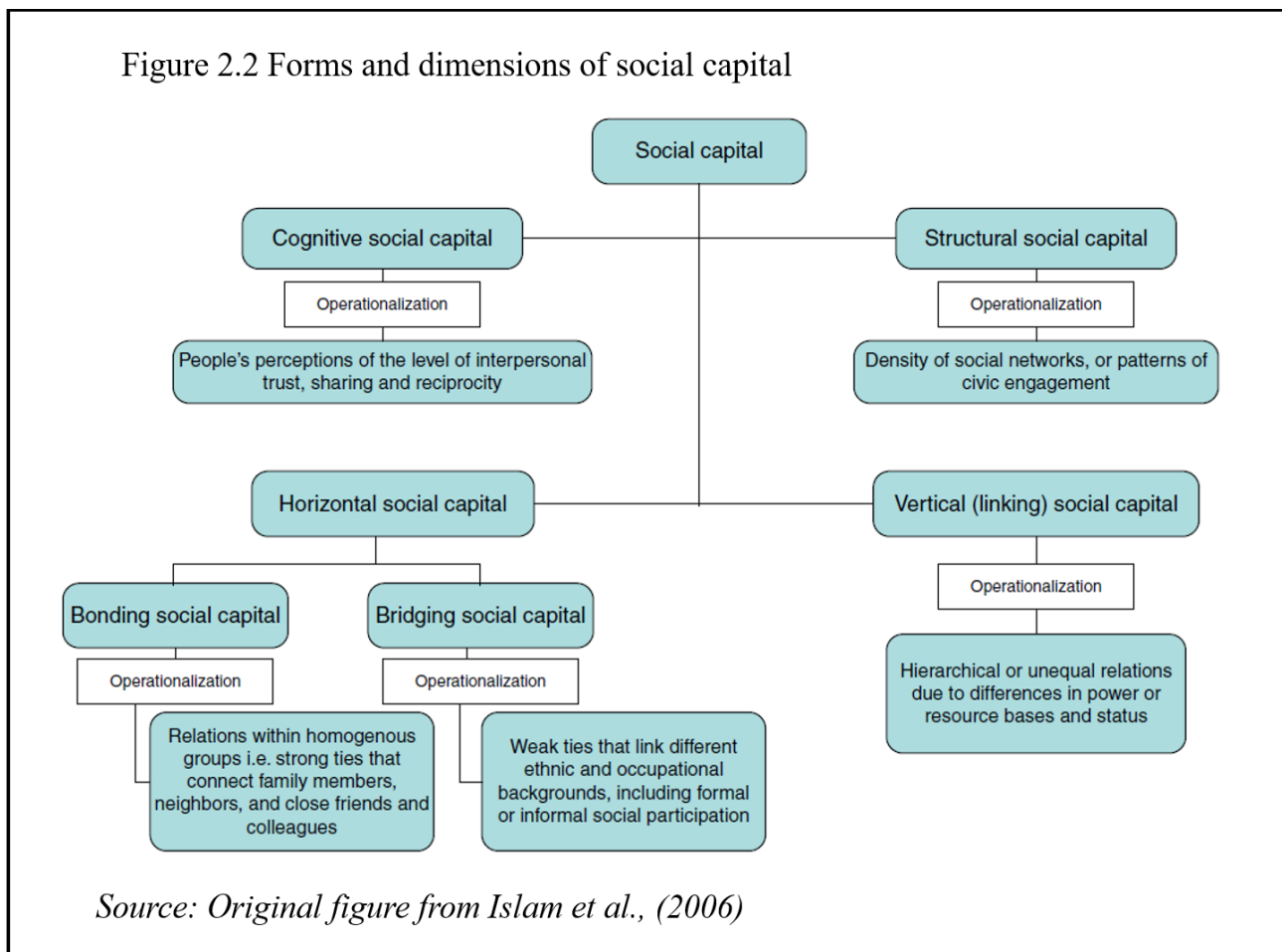


Figure 2.2, adopted from Islam et al., (2006) provides a pictorial view of the forms and dimensions of social capital and how they will be conceptualized and operationalized for this research.

Social capital can be broadly grouped into cognitive and structural components (Krishna and Uphoff, 1999; Grootaert and Bastelaer, 2001; Islam et al., 2006). The cognitive component of social capital includes norms, values, attitudes, and beliefs while the structural component refers to the properties of social systems such as density of social networks, or patterns of civic engagement (Grootaert and Bastelaer, 2001; Islam et al., 2006). Nahapiet and Ghoshal (1998) made a distinction between the structural dimension of social capital which refers to the overall pattern of relationship and the

relational dimension which relates to relationships that people developed through a history of interactions. Since these two dimensions are interrelated, the focus of this research will be mainly on the cognitive and structural components.

Scholars examining social capital from a social cohesion perspective divide social capital into three main categories: 'bonding', 'bridging' and 'linking' social capital (Woolcock, 1998, 2001). Bonding social capital consists of horizontal networks of people of similar demographics such as family, neighbours, colleagues or among people with the same interests or hobbies (Woolcock et al., 2004; Halpern, 2005). The shared identity of this group creates strong loyalty among members of the group. This strong social bond is the 'sociological superglue' that binds the group. However, strong social bonds among members of the group also tend to 'reinforce exclusive identities in homogenous groups' or 'withdrawal' when people who cannot identify with members of the group leave (Halpern, 2005).

Bridging social capital consists of 'horizontal networks that are different from each other' or ties that look outward across different demographics such as acquaintances, interest groups and outside communities (Halpern, 2005). These formal or informal networks encourage and foster 'broader identities and reciprocity' (Putnam, 2000). Bridging networks provide better dissemination of information and access to the resources of other networks, create 'reciprocity and trust' and facilitate co-operation between diverse groups or communities (Putnam, 2000; Stone 2003; Halpern 2005). Group conflict, gossip, hostility, and pre-judgments among local actors are potential risks attributed to a strong bridging network.

Linking social capital consists of vertical ties to people or organizations with power, social position or influence, provides access to external resources, creates reciprocity trust among local actors and formal public or private institutions (Halpern, 2005). Linking social capital can improve a person's prestige, his reputation in the community, his ability 'to get things done' and professional advancement (Woolcock and Sweetser, 2002).

Rural communities are built from social groups, and they determine the ‘attitudes, beliefs, identities and values and access to resources and opportunities’ (Narayan, 2002). They can develop strong bonding relationships within each group, but lack the bridging and linking relationships outside the group as well as access to people in formal institutions (Narayan, 1999; Woolcock and Sweetser, 2002). ‘Cross-cutting’ social ties between the groups will improve access to new business ideas, markets and resources, and in turn extend and broaden their bonding social capital (Narayan, 2002). The process of developing these bridging networks leads to the development of linking social capital which could be used to enhance the political leverage of the poor (Woolcock and Sweetset, 2002). Conceptualizing social capital into bonding, bridging and linking social capital provides opportunities to develop new theoretical models and advance developmental effort in poor communities (Ansari et al., 2012).

2.5 Levels of Analysis

Social capital can be analysed at micro-, meso-, and macro-level (Halpern, 2005). The earlier theoretical development by Loury (1977), Bourdieu (1980) and Coleman (1988, 1990) was based on individuals or small group as the level of analysis. Though Coleman was influential in his writing on the impact of social capital to community ties, his emphasis was how community ties are beneficial to individuals. Putnam (1993, 1995) broadened the concept of individual-level social capital to ‘stock’ of social capital possessed by communities, or even nations. Putnam has been criticised for the ‘circular reasoning’ of social capital that enhances networks, norms, and trust based on his definition of social capital (Edwards and Foley, 1997; Woolcock, 1998; Portes, 2000). His work, however, was influential to development agencies such as The World Bank. Other scholars focusing on social capital analysis at the national level include Fukushima (1995, 2001), Woolcock (1998), Woolcock and Narayan (2000).

Social capital as a macro-level concept to explain economic performance is still problematic with some studies suggesting that it is positively associated with economic growth (Knock and Keefer, 1997; Zak and Knack, 2001), while some meta-analyses were inconclusive when the level of analysis moved from ‘single actor to many anonymous actors’ (Westlund and Adam, 2010). Portes (2000) highlighted that the pitfalls of macro-level research on social capital were largely due to the lack of clarity on the causes and effects of social capital contributing to ‘circular reasoning’ and how social capital as a national resource is conceptualized. Despite these issues, further research on social capital at the macro-level is necessary to better understand its impact as a collective attribute (Glanville and Bienenstock, 2009).

The level of analysis in this research is primarily at the individual CBO leaders’ level, and how individual level social capital influences community level collective actions. More details on how social capital is analysed and measured for this research will be discussed in Chapter Four.

2.6 Dark Side of Social Capital

Most research on social capital focus more on the positive and neglect the negative aspect of social capital which might have detrimental effects or unintended consequences (Durlauf, 1999; Gargiulo and Benassi, 1999; Adler and Kwon, 2000; Sobel 2002; Van Deth and Zmerli, 2010). Scholars are now addressing the negative consequences of social capital. Adler and Kwon (2000) pointed out several risk factors for social capital: (1) investment in establishing and maintaining relationship carries some costs; (2) some information benefits may cancel out benefits based on how ties in the network evolve; and (3) strong solidarity with in-group members can lead to closure and reduce the flow of ideas to the group which can stifle innovation. Chantarat and Barrett (2008) demonstrated how social capital can both facilitate or impede the poor in breaking away from persistent poverty. Though social capital was credited with the success of micro-finance in contributing to rural

entrepreneurship, financial inclusivity and empowering the poor, particularly among women, it could also lead to the exclusion of the poorest or most disadvantaged (Mayoux, 2001). Social capital has been linked to corruption (Callahan 2005); organized crime (Lo, 2010) and many other adverse effects on society. Portes (2014) in his commentary on a recent publication by Levin et al., (2014) highlighted the negative consequences of social capital on not only members of groups but also an entire society.

There is a need to ensure that interventions to developing the social capital of CBO leaders do not come at the expense of the rest of the community members. There is also a need to highlight the consequences of the 'dark side' of social capital during the intervention process.

2.7 Criticism of Social Capital

A literature review on social capital is not complete without including those who are skeptical of, or those who even reject the concept. During a conference sponsored by The World Bank in 1997, Arrow (2000) urged the abandonment of the metaphor of 'capital' from social capital since it did not meet some of the economic concepts of physical capital: that it depreciates with use and is 'alienable,' where its ownership can be transferred. Solow (1999) was critical of the concept of social capital since it does not represent 'a stock of produced or natural factors of production' where its rate of return can be readily measured from past investments and depreciation. Robinson, et al., (2002) highlighted that the definitions of social capital are not limited to answering, 'what is social capital?', but include 'where does social capital reside?', to 'how can social capital be used or changed' and as such, result in different conceptualizations of social capital. However, they argued that social capital shares similar properties to physical capital if defined narrowly as a individual's or group's 'sympathy toward another person or group' that may produce a potential benefit, advantage, and preferential treatment for another person or group of persons' (Robinson, et al., 2002).

Sobel (2002) and Durlauf and Fafchamps (2004) challenged the lack of theoretical foundation of several core aspects of social capital such as its appreciating nature, specificity on how networks generate capital, and the intrinsic value of group membership. Sabatini (2006) pointed out shortcomings of the empirics of social capital, particularly at the macro level. These gaps are caused by the multiple and vague definitions of social capital resulting in a lack of a universal method of measurement in empirical research (Sabatini, 2006). Furthermore, the multidimensional nature of social capital which includes ‘culture, institutions, social norms and networks of interpersonal relationships’ makes it difficult to distinguish which dimension is contributing to a positive effect (Sabatini, 2006).

Bowles and Gintis (2000) went one step further to suggest dropping the term capital for the community since community shifts the attention to ‘what groups do rather than what people own’. However, their alternative framework emphasising ‘community governance’ supports the aggregate but downplays the individual perspective of social capital, is problematic.

Some scholars were particularly critical of The World Bank social capital initiatives as an economic development agenda. Mosse (2006), -based on his work as an anthropologist on collective action on the South Indian Tank Irrigation Systems project, argued that the concept of social capital ‘introduces unresolved problems’ instead of building bridges on collective action (Mosse, 2006). Fine (1999, 2001, 2003, 2007, 2010) went further in his criticism and argued that social capital is ‘all things to many people,’ a ‘totally chaotic’, and an ‘analytically selective’ concept. The reason for The World Bank’s enthusiastic adoption of social capital was its alignment with the Bank’s ‘post-Washington consensus’ agenda (Fine 2001) or its compatibility with ‘neo-liberal’ ideas at the Bank (Harriss, 2002). Fine further labelled social capital literature as the ‘McDonaldisation’ of literature which ‘degraded the social theory, instead of enhancing scholarly value’ and questioned its future conceptual value (Fine 2010). He concluded that ‘economists and non-economists need not enter the highly loaded analytical terrain being established around social capital’ (Fine, 2001).

Foley and Edwards (1999) in their literature were skeptical about the conceptualization of social capital on civic culture and its irrelevance on ‘generalized social trust’. However, instead of a total rejection of its concept, they provided a conceptualization of social capital that highlights: (1) the relationship that contributes to the ‘use value’ of resources available in each context; (2) the knowledge that these resources or ‘use value’ are present and the ability to access these resources; and (3) how these resources are utilized in specific situations (Foley and Edwards, 1999). Foley and Edwards’ conceptualization of social capital provides a possible theoretical foundation for this research in addressing how and when rural CBO leaders harness social capital on those specific situations that contribute to positive outcomes.

I do not agree with Fine’s calling on a total abandonment of the concept. However, I will proceed with caution and consider his and others criticisms to improve my overall research model, and design method to investigate how social capital can be purposefully developed and deployed to accelerate the adoption of essential tools and technologies in impoverished communities. Despite many criticisms and disagreements, the concept is still valuable on balance (Foley and Edwards 1999; Schuller et al., 2000; Robinson et al., 2002). Instead of discouraging further study on social capital, these criticisms should stimulate more debate and critical review of the limitations to develop new theoretical and empirical research where the concept is applicable (Sabatini 2006; Andriani and Christoforou, 2016). I agree with Van Deth (2003) that ‘the problems and challenges of modern societies are too important to neglect the potential contribution of social capitalists.’

2.8 Summary

This chapter reviews the relevant social capital literature to identify the theoretical foundations relating to the two research questions. Also, it highlighted issues, assumptions and past learnings that need to

be considered when investigating the two research questions. In summary, this research will consider the following:

1. Though social capital and social networks are researched widely, there are few direct connections between them. There is compelling evidence that the overlap between social capital and social networks holds more promise in practice and contribute to richer theory and predictions (Moody and Paxton, 2009; Burt, 2000). This research will leverage these overlaps to develop the intervention to purposefully develop the social networks and capital of CBO leaders.
2. This research built upon two main theoretical foundations. First, findings in cognitive social networks that individuals' perception of their network can improve their 'ability to harness the social capital embedded in the network' and influence their 'decisions and behaviour' (Janicik and Larrick, 2005; Brands, 2013). Second, Burt's (1992) 'structure holes' theory, or missing connections between people inhibits information flow, and the advantage of being network brokers to exploit opportunities from separate and non-redundant information in their networks (Burt 1992, 2000, 2005, 2009).
3. Social capital is defined as 'resources embedded in ones social networks, resources that can be accessed from knowing others, being part of the social network with them, or merely from being known to them and having a good reputation'. The definition is adopted from from Lin (2001) and Baron and Markman (2000) definition of social capital. The proposed hypotheses, the research method and the measures to validate the hypotheses will be based on this definition.
4. Kawachi et al., (2008) and Woolcock (2010) concurred that social capital remains a 'contested concept' due to the criticisms in definition, measurement and the tendency to focus on the positive but downplaying the negative aspects. Other criticism includes researchers' tendency to map social capital across a diverse community without considering the social structure and

context of the community, ‘all things to many people’ and lack of clarity about the policy and interventions to build social capital (Kawachi, 2008, Fine, 2010). This research attempts to minimize these pitfalls with a systematic experimental design to understand how social capital is developed and deployed with multiple case-study sites.

5. This research will apply findings in cognitive networks to develop the experimental interventions to expand the bonding and bridging social capital of CBO leaders. Bonding social capital is the resources that are accessed across the horizontal networks of people of similar demographics. Bridging social capital refers to resources accessed by individuals or groups from horizontal networks that are different from each other’s or across their village boundaries and social identities.

The next chapter will integrate these ideas to identify the research gaps, develop the hypotheses and the support theories for these hypotheses.

Chapter Three

Research Gaps, Hypotheses and Supporting Theories

3.0 Introduction

Chapter Two reviewed the literature of social capital relevant to the two research questions and the social and cultural context of its investigation in impoverished rural communities. It highlighted that social capital remains a ‘contested concept’ due to the diversity of definitions, and the measurement challenges contributed by the different levels of analysis, and how it was operationalized based on the different forms and dimensions of social capital. Furthermore, it emphasized the need to consider these issues when developing the hypotheses, research method and interventions to investigate the two research questions. Though social capital and social network are widely researched in multiple disciplines, they are treated as distinct fields. This research will leverage the richer theoretical contributions from both fields to develop the hypotheses and experimental interventions.

The World Bank has been a strong advocate of social capital in its developmental agenda during the last few decades. The Bank initiated the CDD initiative as a major poverty reduction program globally. Despite the significant effect and investment, The Bank found no or mixed impacts on social capital development from past CDD implementations over the past 25 years from its own impact analysis (Wong, 2012).

The literature review also alluded that social capital can be explored in two related concepts. The first approach is largely based on the work of Burt, Lin and Portes that refers to resources that individuals can access from their relationships with other people, such as information, support, ideas, etc. which are ‘social’ in nature. As briefly discussed in Chapter One, individuals who occupy strategic positions in networks with ties that span across diverse groups can develop competitive advantages over others because they have access to more and better resources (Burt 1992, 2000, 2005, 2009).

The second approach is associated with the work from Putnam (2001) and Coleman (1988, 1990) that ‘networks and the associated norms of reciprocity have a value’. This approach suggests that an individual’s involvement in informal networks and formal civil organizations creates social capital. Grootaert et al., (2003) provided a similar conclusion in their work to develop an integrated quantitative measurement tool for social capital.

The scope of this research is not about social capital and rural development, but a focus on how social capital is developed and deployed for a group of highly influential individuals in rural communities, i.e. the leaders of the CBOs. This chapter will discuss the research gaps identified and develop recommendations that can bridge these gaps to advance current understandings of how social capital can be purposefully developed in impoverished communities. It will also explore the proposed hypotheses and the supporting theories for these hypotheses. Finally, it will leverage new development in cognitive networks to support the experimental interventions to purposefully develop the social network and capital of CBO leaders.

3.1 Research Gaps

3.1.1 Can Social Capital be Purposefully Developed?

There is no agreement on whether social capital can be purposefully developed nor consensus on what mechanisms create social capital over a short period of time. Likewise, systematic research to understand how social capital is developed, deployed and changed in settings with limited resources is still lacking (Krishna 2007; George et al., 2012).

Krishna (2007) identified four alternative hypotheses on how social capital grew in his seven years longitudinal analysis of 61 rural villages in Rajasthan, India. Social capital is a ‘dynamic property’ and is generated when communities form self-initiated organizations, develop their own rules and norms,

have capable leaders in these organizations, and lower economic inequalities among communities (Krishna, 2007). To further develop social capital, the communities must first be endowed with some levels of social capital. He also concluded that 'external agencies' cannot directly develop social capital (Krishna, 2007).

Ostrom (2000) examined the similarity between physical, human and social capital, the three categories of 'human-made' capital. She used a game-theory approach to study how farmers created rules to allocate the benefits and costs of building and operating an irrigation system, and the problem of creating social capital in this process (Ostrom, 2000). She concluded that social capital is hard to develop through external interventions in the short run as it is formed over time, and embedded in the shared norms or common understanding of communities (Ostrom 2000).

The Community-Driven Development (CDD) initiative was a major poverty reduction program from The World Bank in the late 1990s (World Bank, 1996; Dongier et al., 2002). It was designed to give control of development decisions and resources to rural poor communities. The Bank believed that when control over decisions and resources were given to the communities, they would have more opportunities to work together to build trust, expand the depth and range of networks, and accelerate collective actions to develop social capital (Dongier, et al., 2002). Mansuri and Rau (2013) estimated that The World Bank allocated close to US\$85 billion during the last decade, and at least a similar amount from other donor countries to participatory development projects, including CDD at the local level.

Wong (2012) conducted an extensive impact assessment of The World Bank CDD programs over the past 25 years in six key areas of interest, and one of which is whether CDD programs improve social capital. Wong (2012) used communities' memberships in networks and associations, local collective action, and improved trust as proxy measures for social capital in these assessments. She found none or at most mixed impacts on social capital development among these CDD projects. Wong (2012)

attributed that the limited impacts on social capital spillovers from CDD were due to ‘design issues’ where most projects were implemented by facilitators who ‘ring-fenced’ project activities to focus on making their operations work instead of the broader impact to the communities. The other weakness was the limited focus on the mechanisms which build community-level social capital (Wong, 2012).

Avdeenko and Gilligan (2012) conducted a ‘lab-in-the-field’ study in rural Sudan to measure the effects of CDD programs on pro-social preferences which led to denser social networks in recipient communities. They found no effect of the program based on these two measures from the experiment. However, results from a retrospective survey contradicted the ‘lab-in-the-field’ study due to possible biases from respondents in self-reported pro-social and social cohesion measures (Avdeenko and Gilligan, 2012). They also cited several studies related to CDD initiatives in Sierra Leone (Casey et al., 2012), Liberia (Fearon et al., 2009) and Congo (Humphrey et al., 2012) and found no evidence that CDD’s interventions contributed to the development of social capital.

Similarly, Mansuri and Rao (2013) conducted a comprehensive review of The World Bank’s participatory development projects which include CDD programs. One of the objectives of participatory development projects is to build social capital and give the poor a greater say in decisions that affected their lives (Mansuri and Rao, 2013). The review concluded that the assumption that communities have a ready ‘stock of social capital’ that can be harnessed for participatory development projects is unrealistic, and there is no evidence that participatory development projects build social capital (Mansuri and Rao, 2013). They pointed out that when participants were induced to take part in these programs to help them build their social networks, they did so to benefit from the cash incentives and other material payoffs from these projects. The effect diminished when these incentives were withdrawn (Mansuri and Rao, 2013).

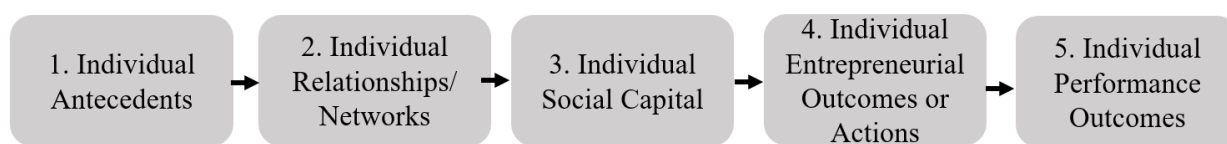
Despite the sizable investments from The World Bank and other international and local developmental agencies, program reviews and empirical studies which were reviewed by Wong (2012) and Mansuri

and Rao (2013) provide strong indications that it is difficult to build social capital in communities with external interventions. This is consistent with Ostrom's (2000) view that social capital is hard to develop through external interventions in the short run as it is formed over time, or the Uphoff (2000) analogy that it 'cannot be "seeded" as simply and directly as a forest can be planted.'

Krishna (2007) provided some evidence that social capital can be purposefully developed based on pane data collected over a seven-year study of villages in India. However, the evidence was not empirically tested. As noted by Krishna (2007), social capital is generated when communities form self-initiated organizations, develop their own rules and norms, have capable leaders, and remove economic inequalities among communities. However, new findings from Janicik and Larrick (2005) on cognitive social network and studies by Burt and Ronchi (2007) provided compelling evidence that teaching simple network training to a motivated individual on how to identify opportunities for brokerage can expand an individual's social capital.

3.1.2 Ambiguity of Antecedents that Promote and Expand Social Networks

Figure 3.1 Schematic Model of Social Capital and Entrepreneurship.



Source: Gedajlovic et al., 2012; (Entrepreneurial actions added by author)

From the literature review in Chapter Two, social networks, trust and reciprocity, and norms and resources are the main components of social capital. Similarly, there is also a common agreement that social capital refers to the resources derived from social relationships of individuals or social units from the literature review. However, there is limited research concerning how social capital is

developed, managed and changed (Krishna, 2007; George et al., 2012; Gedajlovic et al., 2013), and no consensus on the causal mechanisms that generate social capital (Glaeser et al., 2002; Hooghe and Stolle, 2003). Social capital research often ignores antecedent factors that lead to the development of social capital and assume it as ‘static, unchanging and without cost’ (Gedajlovic, et al., 2013).

Gedajlovic et al. (2013) developed a Social Capital Entrepreneurship (SC-E) schema to promote social capital as a ‘foundational theory’ of entrepreneurship (Figure 3.1). The SC-E schema provides clarity in addressing how social capital is conceptualized and operationalized (Gedajlovic et al., 2013). The SC-E schema resolves an ambiguity on the ‘antecedents that promote the development of relationships and networks that lead to social capital’ (Gedajlovic et al., 2013).

I will apply the SC-E model to set up the interventions to purposefully develop the social capital of CBO leaders. Firstly, relevant individual antecedents from the literature review in Chapter Two will be evaluated (box 1, figure 3.1) to identify antecedents that potentially influence individual relationships and networks. Secondly, interventions designed to improve and expand the relationships and networks of individual CBO leaders (box 2) will be introduced to CBO leaders in the treatment groups to assess how individual social capital can be purposely built (box 3). Since this research is on how social capital influences the CBO leaders’ actions from the purposefully developed social capital, the focus on outcomes (box 4) will be on the specific actions taken by the CBO leaders that contribute to community outcomes (box 5). More details on how the proposed interventions will be designed and tested for this research will be provided in Chapter Four.

3.2 Theory and Hypotheses: Purposefully Developing Social Capital

There is broad agreement that social capital is generated through four main factors: stability (time), interdependence, interactions, and closure (Ansari et al., 2012; Nahapiet and Ghoshal, 1998; Coleman, 1990; Bourdieu, 1985). Social capital is developed when there is stability and continuity in the

relationship (Cohen and Prusak, 2001). Nahapiet and Ghoshal (1998) posited that high levels of social capital are created in contexts characterized by high levels of mutual interdependence. On the other hand, social capital is eroded when people are less dependent on each other (Coleman, 1990). Frequent interactions are a precondition to developing social capital (Bourdieu, 1985; Putnam, 1993) and these interactions provide the opportunity for exchange to take place to develop social capital (Nahapiet and Ghoshal, 1998). Closure refers to the density and connectivity of different actors in a network (Lin 1999; Adler and Kwon, 2002). The cohesive ties or ‘network closure’ promote a ‘normative environment’ that facilitate cooperation (Coleman 1988). Hence, networks with high closure bring about a strong shared sense of identity among actors, develop common social norms and sanctions that facilitate ‘trust and cooperative exchanges (Gargiulo and Benassi, 2000).

As explained in Chapter Two, this research adopts the Lin (2001) and Baron and Markman (2000, 2003) definition of social capital as ‘resources embedded in one’s social networks, resources that can be accessed from knowing others, being part of the social network with them, or merely from being known to them and having a good reputation’. This definition serves a few purposes in developing the hypotheses for research Question One. Firstly, it focuses on how CBO leaders can expand their network ties among community members and external agencies to develop their structural social capital based on the organizational linkages and social context of a CBO in their communities (Figure 1.3). Several topologies of social network interventions have been proposed such as interventions to enhance existing social network and linkages, and develop new social network linkages (Cook, 2016; Heaney and Israel, 2008). To expand the social ties among community members, they need to proactively create new networks to address common issues in the community, enhance their relationship with members and non-members of their organizations, and improve the relationship with the barangay (village) officers.

The CBO leaders’ effort to strengthen the social ties among community members will lead to an increase in the intensity and density of their social network links. The intensity of links refers to the

strength of the relationship, while density refers to the number of actual links in the network (Tichy et al., 1979). The expanded social ties among community members will further strengthen their ‘bonding’ social capital that already exists in the community. As defined in Chapter Two, bonding social capital is the resources that are accessed across the horizontal networks of people of similar demographics, close friends and family members (Halpern, 2005; Islam et al., 2006).

Hypothesis 1: CBO leaders can purposefully deepen their bonding social capital by expanding inter-community linkages.

Secondly, based on the social capital surveys conducted for this research in July 2017 for the treatment group and in October 2017 for the control group, the majority of CBO leaders showed limited engagements with external agencies. They have developed strong bonding relationships within the communities, but lack relationships outside their communities as well as access to people in formal institutions. ‘Cross-cutting’ social ties between the groups will improve access to new business ideas, markets and resources, and in turn extend and broaden their bonding social capital (Narayan, 2002). Hence, developing network ties with external agencies that are absent from their existing network structure will expand the size of their social network. The size of the network refers to the numbers of individuals participating in the network (Tichy et al., 1979).

Consciously developing the structural social networks by expanding the contacts to external agencies will develop the bridging social capital that CBO leaders lack. Bridging social capital refers to resources accessed by individuals or groups from more distant networks that are different from each other’s or across their village boundaries and social identities (Halpern, 2005; Islam et al., 2006).

Hypothesis 2: CBO leaders can purposefully develop their bridging social capital by developing new contacts with external agencies and organizations.

In addition to focusing on social relationships, scholars are investigating the ‘characteristics of actors’ involved in the relationship (Kwon and Adler, 2014) and the role of ‘culture and meaning’ in social

network processes (Ferguson et al., 2017). One area that is relevant to this research is the social skills of CBO leaders. Fligstein (2001) made a convincing argument that social skills are needed to engage others in collective action. Based on this evidence, improving the social skills of CBO leaders will enable them to relate more empathetically to livelihood challenges and provide reasons for community members to cooperate (Fligstein, 2001; Fligstein and McAdam, 2012). Glaeser et al., (2002) developed an economic approach to social capital and defined individual social capital as ‘a person’s social characteristics – including social skills, charisma, and the size of his Rolodex’.

In entrepreneurship research, scholars have addressed additional antecedents beyond the four main factors described earlier. Baron and Markman (2000) explore the relationship of entrepreneurs’ social skills consisting of ‘social perception, impression management, persuasion and influence, and social adaptability’ with their level of entrepreneurial success. They developed a survey instrument to measure the four components of social skills and demonstrated high reliability in social perception, social adaptability, and expressiveness (Baron and Markman, 2003). Social perception is the ability to perceive the emotions of others. Social adaptability is the ability to adapt to a wide range of social situations. Expressiveness is the ability express feelings and reactions clearly and openly (Baron and Tong, 2009). Baron and Tang (2009) further confirmed these relationships with entrepreneurs in China.

Hypothesis 3a: Teaching social perception skills to CBO leaders can increase their social capital.

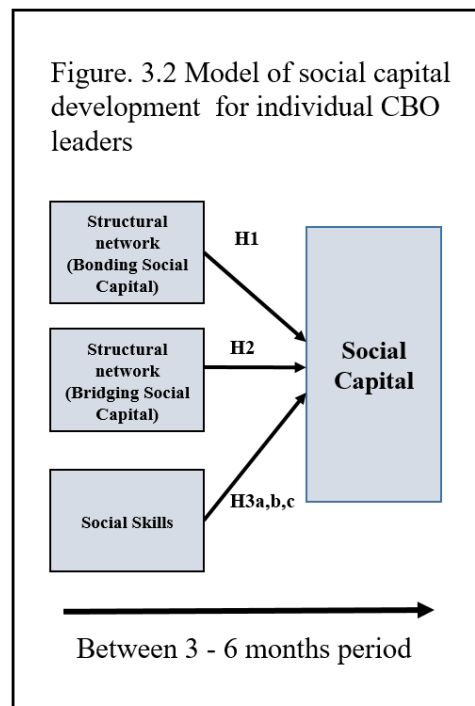
Hypothesis 3b: Teaching social adaptability skills to CBO leaders can increase their social capital.

Hypothesis 3c: Teaching expressiveness skills to CBO leaders can increase their social capital.

Figure 3.2 shows the overall model of social capital development for the individual CBO leaders in the treatment villages.

As discussed in Chapter Two, Janicik and Larrick (2005) conducted multiple studies on ‘incomplete networks’ or networks with missing relationships among some of the members. They found that individuals who have schematic knowledge of their incomplete networks could learn from these incomplete networks and develop the appropriate relationships than those without the schema (Janicik and

Larrick, 2005). Further, based on findings in cognitive research, individuals’ perception of their network can improve their ‘ability to harness the social capital embedded in the network’ and influence their ‘decisions and behaviour’ (Brands, 2013). Cognitive social network provides the theoretical foundation to support the proposition that social capital can be purposefully developed within a short period. The experimental interventions in the case-study sites provide the opportunity to validate if the social capital of CBO leaders in impoverished communities can be purposefully develop within a three to six month period.



3.3 Theory and Hypotheses: CBO Leaders’ Actions Arising from Purposefully Developed Social Capital

Recent entrepreneurship research is more concerned with action theory, where opportunities are exploited when entrepreneurs act despite environmental uncertainty through a process of discovery and evaluation (McMullen and Shepherd, 2006; Frese, 2007; George et al., 2014). ‘Action’ is defined as ‘doing something with a degree of intentionality or awareness’ (Berglund, 2005). Frese (2007)

further posited that most entrepreneurs take action not only to address environmental uncertainty, but change the environmental uncertainties as well. Peredo et al., (2006) developed the concept of community-based enterprise (CBE) and defined CBE as ‘a community acting corporately as both entrepreneur and enterprise’ pursuing a common good on behalf of its community members. Based on this conceptualization, the community acts as an entrepreneur when its members collaborate to create and respond to potential business needs in the community, and an enterprise when they work together to produce and deliver the goods and services from these needs (Peredo et al., 2006). The CBO and CBE share many similarities based on their missions, organizational structures and the environmental uncertainty of their operations. Hence, scholarship on entrepreneurial actions provides a compelling theoretical backdrop to develop the hypotheses for CBO leaders’ actions arising from their expanded social capital. This research will investigate three CBO actions that can lead to significant impacts on improving livelihoods in the case-study sites.

Limited access to formal credit and insufficient working capital are long-standing challenges faced by farmers and fishermen in the rural Philippines. Most depend on informal credit for short-term working capital. In the 2002 Small Farmer and Fishermen Credit Accessibility Survey conducted by the Agricultural Credit Policy Council (ACPC), 60.3% of respondents depended on informal credit as the main source of financing in 2001-2002 in the Philippines (Llanto, 2004). A household survey conducted for this research, and a subsequent follow-up survey on trader-linked financing provided additional transactional level details and the mechanisms on how informal credit are conducted in the farming case-study sites. In summary, 86% of farmers and 92% of fishermen in the case-study sites depend on informal credit. The two major sources of credit are from the village traders and relatives and friends (See Table 1.4 in Chapter One on sources of informal credit). Greater than 80% are short-term loans of less than PHP 2000 (US\$40) and most borrow multiple times in a year. Almost all loans from traders are non-cash in the form of household food items such as rice, sugar, canned foods and condiments. Farmers pay back their loans from their harvest of copra (dried coconut kernel), abaca

(leaf fiber) and palay (rice before husking). The traders typically charge a percentage of ‘shrinkage’ on the farmers’ produce as interest. The estimated interest rate based on a shrinkage model varies significantly depending on the credit risk of the borrowers as determined by the traders. Extreme interest variability on trader financing was reported by several development economists (Banerjee 2001; Aleem 1990; Timberg and Aiyar 1984; Conning and Udry, 2007).

Informal loans from moneylenders such as traders are known to cause harm to farmers and fishermen because of their unscrupulous practices. These views are shared by policymakers and resulted in various interventions to minimize these harms (Gine, 2001). However, the traders are integral to the lives of rural communities, both as lenders and buyers of the farmers’ produce during harvest. These ‘non-contractual relationships’ (Macaulay, 1963) are, and will continue to be the engine of economic activities in many rural communities.

The theoretical literature on how trust can lower transaction costs is well developed (Barney and Hansen 1994; Uzzi 1997; Dyer, 1997). Can developing better trust between the borrowers and lenders reduce the transaction costs in trader-linked financing in the case-study communities? Would the farmers and traders both be ‘better off’ with improved relationship and trust? The CBO leaders are well positioned to strengthen the relationship between the traders and farmers with their expanded social capital.

Hypothesis 4a: CBO leaders’ purposefully developed social capital can promote better relationship and trust between village traders and farmers.

Hypothesis 4b: The improved relationship can lower the trader-linked financing costs.

The commercial reasons why the poor are excluded from the financial market have also been well established. They are considered high credit risk due to the lack of available information on borrower’s credit-worthiness, lack of collateral, lack of steady income stream and high default rate (Geron et al.,

2016; Conning and Udry, 2007; Claesens, 2006; Llanto, 2007; Adams and Vogel, 1986). A survey conducted in September 2017 as part of this research with eight MFIs having social missions in alleviating poverty in farming and fishing communities in Northern Samar provided additional evidence on why the farmers and fishermen are excluded from the local financial market. The main reasons cited are (1) farmers are risky borrowers; (2) agricultural lending incurs high financial costs to MFIs; (3) the vulnerability of agriculture to natural disasters; (4) lack of physical assets to offer as collateral; and (5) poorly developed transportation and communication infrastructure in rural areas. These situations are unlikely to change soon if the farmers and fishermen are not able to demonstrate to lenders that they can generate substantial improvement in their monthly household incomes.

Similarly, the role of social capital in financial development and the poor's access to credit is widely researched. Guiso et al., (2004) conducted extensive studies on the differences in social capital and trust across different parts of Italy, and identified a strong correlation between the level of social capital and financial contracts. The study also provided additional insight that social capital has a higher impact when legal enforcement is weak (Guiso et al., 2004). Heikkila et al., (2016) built on this study to investigate the impact of social capital on access to credit in a developing country setting (Uganda). His study confirmed that individual level social capital, measured by quantity and quality of social connections, improved access to credit (Heikkila et al., 2016). Van Bastelaer (2002) examined how 'social collateral' which built on a borrower's reputation and social network, could substitute 'traditional physical or financial collateral.' These studies provide compelling evidence of the link between social capital and the poor's access to formal credit.

According to Claessens (2006), the term 'access to credit' varies depending on the context and aspects of finance being considered. He defined financial access as 'the availability of a supply of reasonable quality financial services at reasonable costs' (Claessens, 2006). The definition was later expanded to include additional 'safeguards and regulation of firms supplying financial services, and consumer

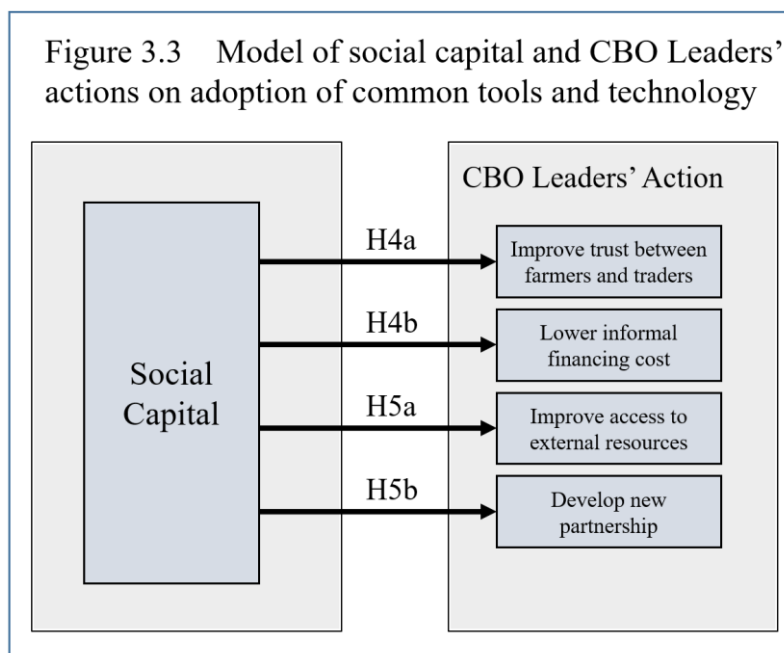
protection laws against inappropriate products, deceptive practices, and aggressive collection practices’ (Morgan and Yoshino, 2017).

Technology and equipment providers and NGOs can play major roles to facilitate the poor to bridge access to external financial resources for livelihood projects. Bridging access at the organizational level refers to the ‘processes that identify, locate, and create access to disenfranchised individuals and communities’ where new forms of partnerships and networks are created to connect the communities with opportunities (George et al., 2012). CBO leaders’ expanded social networks with technology and equipment vendors and NGOs provide the opportunity for the CBO to develop new partnerships and financing models to adopt common tools and technologies.

Hypothesis 5a: CBO leaders’ purposefully developed social capital improves access to external resources.

Hypothesis 5b: CBO leaders’ purposefully developed social capital enables new partnerships with outside parties.

Figure 3.3 shows the model of CBO leaders’ action on the adoption of common tools and technologies for this research.



3.4 Summary

Chapter Three highlights the research gaps and identifies areas for further research on how social capital can be purposefully developed. It also evaluates several CBO actions which resulted from their

purposefully developed social capital. This research adopts the SC-E schema (Gedajlovic et al., 2013) to investigate how social capital is conceptualized and operationalized to develop the proposed hypotheses for research Question One and Two. In addition to examining the four main social network factors, i.e. time, interdependence, interactions, and closure, it will also investigate the impact of social skills to purposefully develop the social network and capital of CBO leaders. Fligstein, 2001; Fligstein and McAdam, 2012) make a convincing argument that social skills are needed to engage others in collective action. Hence improving the social skills of CBO leaders will enable them to relate more empathetically to livelihood challenges and provide reasons for community members to collaborate. Finally, new developments in cognitive networks explain why individuals' perceptions of their relationships are affected by their surrounding social networks (Krackhardt, 1987; Brands, 2013). Janicik and Larrick, (2005) provide the theoretical evidence that providing simple network training can have a significant impact on expanding social network and capital.

The availability of essential tools identified by the farmers and fishermen from the household surveys (June and October 2017) is a prerequisite to improving the livelihoods of the communities in the case-study sites. The high start-up costs, their lack of access to formal credit, and insufficient working capital are the main challenges faced by the farmers and fishermen to acquire these essential tools and to adopt new technologies. Without these basic tools, the farmers and fishermen are unable to increase their monthly household incomes. The expanded social network and capital, and the high level of motivation for change enable the CBO leaders to take the necessary actions to accelerate individual learning and collective action to overcome past resistance to adopt common tools and technologies. Likewise, CBO leaders' expanded social capital can improve community members' access to informal and formal credit, which are the long-standing issues faced by the farmers and fishermen in the case-study sites.

Chapter Four

Research Methodology, Measures, Survey Tools, Interventions for Treatment and Control

Groups, and Reliability and Validity of Measures

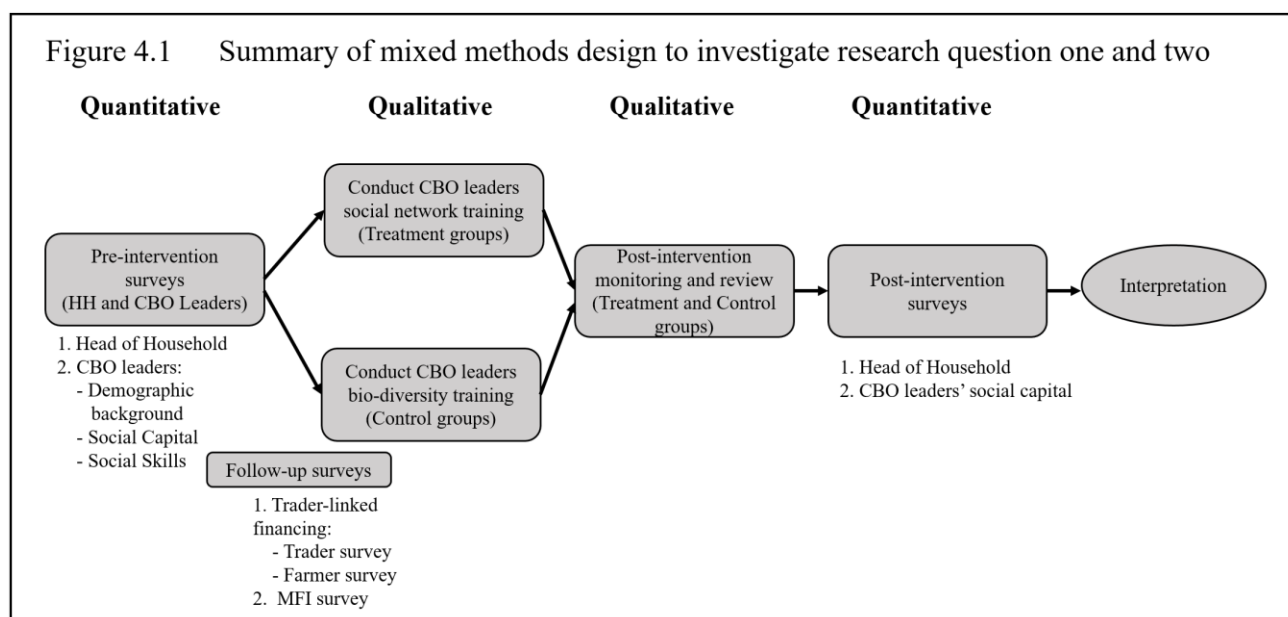
4.0 Introduction

Chapter Three reviewed the research gaps and identified areas for further research on how social capital can be purposefully developed and deployed, the proposed hypotheses and supporting theories for the two research questions. This Chapter will discuss these topics in greater detail:

1. The research method.
2. Measures, reliability and validity of measures.
3. Summary of the six CBOs selected for this research.
4. Pre- and post-intervention survey instruments for the households and CBO leaders.
5. Design and delivery of interventions for the treatment group.
6. Design and delivery of interventions for the control group.
7. Post-intervention review meetings with CBO leaders.

The proposed research methodology fills a gap in the lack of systematic ‘experimental designs’ to understand how social capital is developed, deployed and changed in ‘resource-limited’ rural settings (George et al., 2012). Since this research focuses on how social capital can be purposefully developed within a relatively short period of three to six months, there is a need to evaluate the relevant proxy measures to assess the pre- and post-intervention changes of social capital for all the CBO leaders in the treatment and control groups. The proposed hypotheses have face validity, hence careful consideration of the confounding factors, and the validity and reliability of these proxy measures are considered when designing the research method for this research.

4.1 Research Method



Jones and Woolcock (2007) reminded us that since the manifestations of social capital are ‘context-dependent, complex and rarely map into a single discipline or methodology,’ researchers are required to have a full understanding of how and why local social processes work when conducting social capital research. Social capital is both context-specific ‘depth’ and generalized ‘breadth’ and hence, would benefit from a ‘coherent combination of quantitative and qualitative research method (Jones and Woolcock, 2007). Similarly, Fuhse and Mutzel (2011) reviewed the role of qualitative methods, statistical analysis, and formal network analysis in sociological network research. They proposed that these techniques should be systematically integrated. The three different research methods address the different dimensions of networks. Generally, a formal network analysis provides an explanation of individual behaviour and connections based on ties linking social actors, while a qualitative method provides ‘understanding of meaning’ in networks such as an individual’s ‘orientations and motivations, the symbols, schemas, and scripts circulated in communication processes’ (Fuhse and Mutzel, 2011). Rossman and Wilson (1985, 1994) highlighted the benefit of combining qualitative and quantitative methods to better address research questions in social science and policy research. They (Rossman and

Wilson, 1994) provided these compelling reasons to deploy a mixed-method design. First, the mixed method allows researchers to triangulate findings from different methods to ‘test the consistency of findings from one method to another’. Second, the complementarity nature of the method provides a richer, detailed elaboration of analysis often missing when only one method is deployed. Third, the results generated by one method ‘shape subsequent instrument, samples or analysis strategies of the other method’. Fourth, it initiates new lines of thinking from uncovering surprises and paradoxes.

I agree that a combination of quantitative and qualitative research methods is particularly appropriate to investigate the proposed research questions for my dissertation. This research follows a mixed-method research methodology defined as the collection, analysis, and the integration of qualitative and quantitative data in a single study (Creswell and Plano Clark, 2011). More specifically, it follows the exploratory sequential mixed-methods study consisting of four separate but interrelated phases. Figure 4.1 provides a summary of the quantitative and qualitative aspects of the research design for research Questions One and Two.

The first phase of the study consists of pre-intervention face-to-face surveys to collect quantitative demographic, social and economic data of the head of households, the CBO leaders’ social capital and social skills for the treatment and control groups before implementing interventions. The surveys will cover 50% of households randomly selected from the case-study sites and 100% of all CBO leaders from all the selected CBOs for this research.

This is followed by a second qualitative phase involving experimental interventions in the form of two different training workshops and post-workshop reviews with participants, two and three months after the workshop. The interventions for the treatment group will focus on social network training and reviews while the focus on the control group will be on bio-diversity farming and fishing. More details on these experimental interventions are provided later in this chapter. These qualitative phases of the research provide the opportunities to collect additional information that cannot be captured from the

pre- and post-quantitative surveys. Kirkpatrick's four-level topology (1994, 1996) of evaluating training programs is used to assess the impact of training workshops. Kirkpatrick's topology provides the structure to assess participants' reactions (level-1), learning (level-2), behaviour changes (level-3) and results (level-4) from attending the intervention workshops.

The third phase of the design consists of post-intervention households and CBO leaders survey in all case-study sites to evaluate changes in the social capital of CBO leaders from interventions based on the proposed proxy measures for social capital for this research.

The research design provides flexibility to add follow-up surveys to improve the breadth and depth of data needed to support the proposed hypotheses.

4.2 Measures, Reliability and Validity of Measures

Scholars have applied different measurement techniques based on how social capital is operationalized. Most agreed that 'social capital is networked-based' and should be measured as such (Lin, 2005). Three survey methods namely 'Saturation Survey', 'Name Generator' and 'Position Generator' have been used to measure personal network data or ego networks (Lin, 1999). Each measurement technique has its advantages and disadvantages, and the choice of which method to use is dependent on how social capital is conceptualized (Lin, 1999). Lin and Dumin (1986) proposed a new technique called the 'Position Generator' to measure not just the strength of relationships, but the available social resources inferred by one's prestige from his occupation.

Other methods to measure social capital have been proposed. In the study on the link of social capital to health, two widely used methods were provided by Sampson et al., (1997) and Kawachi et al., (1997). Sampson et al., (1997) used 'collective efficacy', which measured 'social cohesion among neighbours' and 'informal social control'. The authors conducted a large-scale survey of 8782

residents in 343 neighbourhoods in Chicago and the results confirmed that collective efficacy could be measured reliably. In the Kawachi et al., (1997) study on '*Social Capital, Income Inequality, and Mortality*', they measured social capital based on: (1) Per capita membership in voluntary groups; (2) Inter-personal trust; and (3) Perceived norms of reciprocity. Krishna and Shrader (1999) developed the 'Social Capital Assessment Tool' (SCAT) to measure the cognitive and structural dimensions of social capital by integrating quantitative and qualitative methodologies in the assessment tool at the community, household, and institutional levels. SCAT or variants of the tools were widely adopted in developmental studies.

The World Bank was instrumental in applying social capital as a multidimensional tool for poverty reduction strategies in the emerging economies. A significant contribution was the development of an Integrated Questionnaire for the Measurement of Social Capital (SC-IQ) to capture quantitative data on various dimensions of social capital (Grootaert et al., 2003). The SC-IQ survey measures these six broad dimensions of social capital: (1) groups and networks; (2) trust and solidarity; (3) collective action and cooperation; (4) information and communication; (5) social cohesion and inclusion and (6) empowerment and political action (Grootaert, et al., 2003). The tool was developed from lessons learned from multiple studies in some emerging countries such as Tanzania, Ghana, Uganda, and Guatemala. The SC-IQ or similar survey instruments adopted from SC-IQ have been widely used to study social capital in economic development, social well-being and health issues (Mitchell and Bossert, 2006; Boateng, 2009).

The SC-IQ survey was chosen to measure the CBO leaders' baseline social capital prior to interventions and the subsequent changes after implementing the proposed interventions. Among the

Table 4.1 CBO leaders pre- and post-intervention social capital measures mapped to the SC-IQ surveys

1.0	Groups and Networks:
Q1	Membership in organizations
Q4	Interaction with people or groups outside the village?
Q7	If you suddenly needed to borrow small amount of money, are there people beyond your household and closed friends willing and able to provide this money?
2.0	Trust and Solidarity among CBO leaders
Q8	Would you say that people can be trusted?
Q9a	Most people in this village are willing to help if you need them
Q10b	Do you trust your local government officials?
Q11	If a community project does not benefit you but has benefits for many others in the village, would you contribute time or money to the project?
3.0	Collective Action and Cooperation
Q12	In the past 12 months, did you or anyone of you hh participate in any community activities w/c people came together to do some work beneficial for the community?

six dimensions of the S-IQ measures, extensive empirical research showed that the three robust proxy measures for measuring social capital with the SC-IQ instrument are: (1) groups and networks; (2) trust and solidarity; and (3) collective action (Grootaert, et al., 2003). Among these three proxy measures, the most relevant and sensitive short-term measure is groups and networks based on the theoretical foundation from cognitive social networks discussed in Chapter Two. In addition to the measure on groups and networks from the SC-IQ survey, this research includes the proxy measures on trust and solidarity and collective action to assess if CBO leaders respond well to interventions in anticipation of future research planned after the completion of this thesis.

The research method was designed to minimize face validity and to improve the reliability of the proxy social capital measures for this research. The construction of the proposed proxy measures for this research to address face validity, confounding factors and reliability of measures for social capital from interventions consists of three key building blocks:

Table 4.2 Areas of focus during intervention workshops and post-workshop reviews

1.0 Areas of focus during workshop

- 1.1 Observe how CBO leaders react to the social capital survey results
- 1.2 Observe how CBO leaders respond to the social skills results
- 1.2 Understand nature and extent of peoples' participation in social organisations
- 1.4 Understand CBO leaders definitions and expectation of trust in the community
- 1.5 Understand recent examples of collective actions. Who initiated the activities and how people were mobilised

2.0 Areas of focus during review

- 2.1 Participants share examples of their expanded social networks
- 2.2 Participants share results seen from their expanded social networks
- 2.3 Participants share changes in their personal behaviour towards community members
- 2.4 Participants share how they plan to acquire common tools and adopt new technologies

First, pre- and post-intervention CBO social capital surveys were conducted to collect quantitative data to assess changes of the three proxy social capital measures using the SC-IQ survey instrument (Table 4.1).

Second, qualitative information was collected during the intervention workshops and post-intervention review sessions to better understand the three dimensions of proxy social capital measures. Table 4.2 was developed to ensure consistency in collecting the qualitative data during the intervention workshops and post-intervention reviews. It was designed to observe how CBO leaders reacted to their social networks and social skills survey results, questions they discussed the most, and areas where they had to be prompted to discuss.

Third, post-intervention household surveys were conducted in all treatment sites (Table 4.3). The survey questionnaires for the post-household survey were designed based on the information collected during the post-intervention reviews. One area of investigation during the post-intervention reviews was to obtain evidence of CBO leaders' behaviour changes from treatment.

The ability to triangulate findings from different sets of data collected would increase the reliability of the measures. Similarly, findings from the control group (to be discussed in the next chapter) would address issues relating to confounding factors.

Table 4.3 Household surveys (Pre- and post-intervention)

1.0	Grouns and Networks ¹
1.1	Membership in CBOs
1.2	Happier as a member
1.3	Frequency of interactions with CBO leaders
2.0	Trust CBO leaders ²
3.0	Collective actions and cooperation ²
4.0	Observable behavioural changes of CBO leaders ¹
4.1	More friendly to me
4.2	More interactions with me
4.3	Discuss more openly in meetings
4.4	Listen to our input
4.5	More willing to help me
4.6	Care more about livelihood issues

¹ Post-intervention survey

² Pre- and post-intervention surveys

The rest of this chapter will provide a more detailed documentation of the proposed proxy measures, the CBOs selected for this research, the pre- and post-CBO leaders and household survey instruments, the design and implementation of intervention workshops and post-intervention reviews.

4.2.1 Groups and Networks

Social capital helps the ‘dissemination of information, reduces opportunistic behaviour, and facilitates collective decision-making’ (Grootaert et al., 2003; Jones and Woolcock, 2007). Memberships in local associations and networks facilitate the exchange of information, support and ideas, and enable individuals who occupy strategic positions in the networks to develop more social capital (Burt 1992, 2000, 2005, 2009). As indicated in figure 2.3 of Chapter Two, the structural dimension of social capital is operationalized based on ‘density of social networks, or patterns of civic engagement’ (Islam et al., 2006). The groups and networks dimension of the SC-IQ survey collects information relating to the density of membership, diversity of membership, and network characteristics, and is used as a proxy measure to assess changes in CBO leaders’ social capital from interventions.

4.2.2 Trust and Solidarity

Similarly, Figure 2.2 in Chapter Two operationalized the cognitive dimension of social capital based on ‘people’s perception of the level of interpersonal trust, sharing and reciprocity’ (Islam et al., 2006). However, trust is an abstract concept that means many things to different people (Grootaert et al., 2003; Jones and Woolcock, 2007). When CBO leaders were asked to explain trust, and provide examples of trust during the intervention and post-intervention workshops and reviews (details of how these workshops and reviews were conducted will be explained later in this chapter), most have different perspectives and understanding on the definition of trust. Their expectations of trust changed as well, as they developed more trusting relationships with others based on the feedback provided by CBO leaders during post-intervention reviews. Based on these observations, changes to trust and solidarity among the CBO leaders and the community members might not be significant in a relatively short period of three to six months.

The SC-IQ survey measures the cognitive dimension of social capital as conceptualized in this research around the themes of trust and solidarity based on generalised trust (the extent to which one trusts people overall) and on the extent of trust in specific types of people. It is also viewed in the context of specific transactions, such as lending and borrowing (Grootaert et al., 2003).

4.2.3 Collective Action

Ostrom and Ahn (2003) defined social capital as ‘an attribute of individuals and of their relationships that enhance their ability to solve collective-action problems.’ Scholars agreed that collective action is only possible when a community is endowed with a high level of social capital, except in totalitarian societies where the government can force people to work together (Putnam 1993; Grootaert et al.,

2003; Ostrom and Ahn, 2003). Collective action is embedded into the lives of rural communities and vary from participation in simple community-organized activities to larger infrastructural projects or common-pool resources.

SC-IQ collects three items to assess collective action: ‘the extent of collective action, the types of activities undertaken collectively, and an overall assessment of the extent of willingness to cooperate and participate in collection action’ (Grootaert et al., 2003).

4.3 Measures of CBO Leaders’ Action

As indicated in Chapter Three, recent entrepreneurship research is more concerned with action theory, where opportunities are exploited when entrepreneurs act despite environmental uncertainty through a process of discovery and evaluation (McMullen and Shepherd, 2006; Frese, 2007; George et al., 2014). Similarly, Peredo et al., (2006) developed the concept of community-based enterprise (CBE) and define CBE as ‘a community acting corporately as both entrepreneur and enterprise’ pursuing a common good on behalf of its community members. This research applies literature on entrepreneurial actions to develop the hypotheses for CBO leaders’ actions arising from their expanded social capital. For research Question Two, social capital is the independent variable and CBO leaders’ actions the dependent variables. The measures for CBO leaders’ actions will be evaluated based on the quantitative data collected from post-intervention reviews and from the supplementary survey added to SC-IQ to collect actual results reported by CBO leaders from their expanded social network and capital. The proposed proxy measures for CBO leader’s actions are (1) Access to external resources; (2) Collective action among members to adopt common tools and technologies; and (3) Forming new partnerships.

4.3.1 Access to External Resources

Local government agencies such as the Department of Agriculture (DA), Bureau of Fisheries and Aquatic Resources (BFAR), Department of Labour and Employment (DOLE) and the Philippines Rural Development provide various assistance such as rice seeds, fertilizers and fish fry (Juvenile fish) to the farmers and fishermen. Similarly, the NGOs in the region continue to play key roles in community-organized activities and funding for livelihood improvement projects. The expanded social network and capital of CBO leaders help them to gain access to these resources. Since funding is limited, the actions taken by the CBO leaders to proactively seek out these resources from their expanded social network allow them to gain better access to these resources than those who do not. The pre- and post-intervention changes of CBO leaders' social network with these agencies and the resources they received provide a good proxy measure for these CBO leaders' actions.

4.3.2 Form New Partnerships

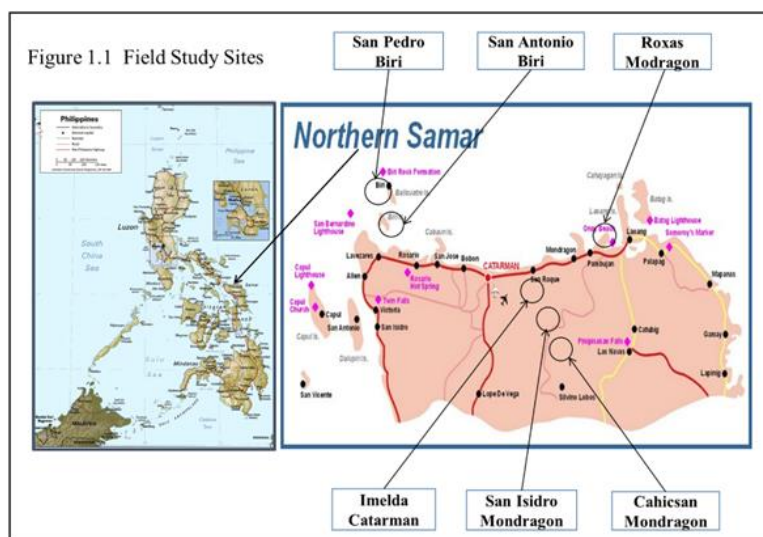
Technology and equipment providers and NGOs can play significant roles to facilitate the poor to bridge access to external financial resources for livelihood projects. Bridging access at the organizational level refers to the 'processes that identify, locate, and create access to disenfranchised individuals and communities' where new forms of partnerships and networks are created to connect the communities with opportunities (George et al., 2012). The CBO leaders' expanded social networks with technology and equipment vendors and NGOs provide the opportunity for the CBOs to develop new partnerships and financing models to adopt common tools and technologies.

These CBO leaders' actions will be investigated based on the qualitative data collected from the post-intervention reviews with each treatment case-study site on livelihood project proposals developed by the CBO leaders; and how potential partnerships and financial models can be developed and implemented for these projects.

After a brief overview of the case-study sites and the six CBOs selected for this research, the rest of the chapter will provide an in-depth documentation of each task in the field study following the sequence of research activities described in figure 4.1.

4.4 Case-study Sites

Figure 1.1 in Chapter One (reproduced here) shows the locations of the six remote communities in Northern Samar in the Philippines selected as case-study sites for this research. It also highlights the selection criteria for these case-study sites. In summary, the case-study sites consist of three



farming (Cahicsan, San Isidro, and Imelda) and three fishing villages (San Antonio, San Pedro and Roxas). One farming (Imelda) and one fishing village (Roxas) are set up as control sites, while the other four villages are treatment sites to purposefully develop the social capital of CBO leaders. Tables 1.1 to 1.4 in Chapter One summarized the demographic and economic background of Northern Samar and the six case-study communities.

4.5 Summary of CBOs in Case-study Sites

This section provides a summary of the six CBOs selected for this study. In some larger villages, there are multiple active CBOs focusing on specific areas of activities associated with their regional or national NGO sponsors. As discussed in Chapter One, NGOs in the Philippines have been active in developing CBOs as channels to deliver services and as advocates for the poor. In communities with multiple CBOs, the CBO with the largest membership is selected for this research. The names of the

officers for each CBO in the case-study sites are public information. There is no violation of the confidentiality protocol requirement for this research when some of the officers' names are mentioned in this report.

4.5.1 San Antonio Fisherfolks Association (SAFA), San Antonio

San Antonio is the largest island village in the municipality of Biri in Northern Samar. Though it has a large coastal marine area located in Samar's Northern rim, most of the shoreline have been damaged by waves from the Pacific Ocean, and from overfishing in these coastal areas since most fishermen do not have motorized boats to fish further offshore. The main source of livelihood for the community is fishing using lift nets, baited traps, drift gillnets, hooks and lines, and small pen enclosures.

There are several CBOs in San Antonio. They are:

1. The San Antonio Multipurpose Community Association (SAMCA)
2. Saint Antony Parent Fisherfolk Association (Saint An Pafas)
3. San Antonio Farmers Association
4. San Antonio Craftsmen Environmental Saver Association (SACESA/Lorna Group)
5. San Antonio Fisherfolks Association (SAFA)

The San Antonio Fisherfolks Association (SAFA) was organized in August 1996 and registered with the Department of Labour & Employment (DOLE). It was initially assisted and managed by the Samar Center for Rural Development, Inc. (SACRED). SAFA strives to maintain a close and trusting relationship with all members, and establish strong external linkages with various local government agencies, NGOs, and other CBOs to improve livelihood opportunities and household income. The second priority of SAFA is to promote bio-diversity conservation and protection of the coastal resources.

The current President of SAFA is Rommel Arco. He was elected president in 2016 and is a university graduate. He is very passionate about his role as the President of SAFA and is keen to learn new skills

to help members of SAFA to improve their livelihood. He is assisted by a deputy president who has been with the organisation since it was formed in 1996. SAFA had 136 members in November 2017.

4.5.2 Laksa at Pagkakaisa ng Assosasyon ng San Pedro (LAPAS), San Pedro

San Pedro is an island fishing community in the municipality of Biri, Northern Samar. Like San Antonio, the main source of livelihood for the community is fishing using the most basic tools. Since most fishermen do not own motorized boats, most fish near the shores resulting in overfishing and degradation of the marine resources in the coastal areas.

The CBOs in this community are:

1. San Pedro Community Organisation
2. San Pedro Fisherman and Farmers Association
3. Bagong Silang Anak Dagat Bukid Association
4. Isang Samahan Dapat Assahan Association
5. San Pedro Seaweeds Farmers Association
6. Lakas at Pagkakaisa ng Assosasyon ng San Pedro (LAPAS)

LAPAS is the largest CBO in San Pedro with 142 members in November 2017 and is selected as the CBO for this research. It was organized by CERD in 2007 to involve the community in managing the marine and coastal resources. Hence LAPAS' main activities are in the monitoring of illegal fishing, mangrove and seaweed cultivation, and coral management. The association was awarded a grant of PHP 1,027,000 (about US\$20,000) from the United Nations Development Program (UNDP) fund to plant mangroves in the coastal area.

The President of LAPAS is Rocky Gola. Members are encouraged to actively participate in various community activities such as community clean-up of the coastal areas and the monitoring of illegal fishing.

4.5.3 RUMPI, Roxas

Roxas is a coastal fishing community in the municipality of Mondragon, Northern Samar. There are several CBOs in this community and they are:

1. Tuna Fisherfolks Association
2. Lovely Fisherfolks Association
3. Roxas Farmers Association
4. Roxas Women Association
5. Roxas Uswag Manehar Pagpoytoy san Illegal (RUMPI).

RUMPI is chosen for this research as the control case-study site CBO for the fishing communities. RUMPI was organized by CERD in 2008 and registered as a People's Organisation with DOLE. The focus of RUMPI is on marine and coastal resource management such as illegal fishing, mangrove, seaweed and coral management surrounding the coastal areas of Roxas. RUMPI is working with CERD and the Bureau of Fisheries and Aquatic Resources (BFAR) in seaweed farming for marine management and to generate additional income for the community. Seaweeds also contribute to higher fisheries production in the coastal communities.

The President of RUMPI is Livy C Base. The association had 59 members in November 2017. Like LAPAS, members are encouraged to actively participate in various community activities such as community clean-up of the coastal areas and the monitoring of illegal fishing.

4.5.4 Cahicsan Farmers Association, Cahicsan

Cahicsan is an inland farming community in the municipality of Mondragon, Northern Samar. The main source of income is rice farming. Coconut and abaca provide alternative sources of income for

the community. The Cahicsan Farmers Association was initiated and organized by a local resident Bernabe Carduce in 2014 to address livelihood challenges in the community. With the sponsorship from the late Vice Mayor, Efren Morillo, it was registered with DOLE as a farmers' association in 2014. Bernabe Carduce is the president of the association since its inception. This is the only CBO in the community.

The association has a mission to help farmers to change their behaviour in adopting new technology for sustainable farming. The association receives assistance from NAC in community organizing and other assistance such as subsidies for seeds and fertilizers from the Department of Agriculture. In addition, the association works with HSSi, a solar-powered technology vendor to introduce home solar-powered solution to the community. The association is also supported by the Philippines Coconut Authority in the cultivation of coconut in the community.

The association had 42 members in November 2017, with six applicants pending approval. Members are encouraged to participate actively in community events.

4.5.5 San Isidro Farmers Association (SalFa), San Isidro

San Isidro is an inland farming community in the municipality of Mondragon, Northern Samar. Like Cahicsan, the main source of income is rice farming, with coconut and abaca providing additional sources of income for the farmers. SalFa is a new, and the only, CBO in San Isidro. It was established by the Department of Agriculture in early 2017. It currently has only 10 members and has not implemented any CBO projects in the community.

SalFa provides a good contrast to the other more well-established CBOs in this research relating to research Questions One and Two.

The President of SalFa is Christopher Abayan.

4.5.6 El Limbo Irrigators' Association, Imelda

Imelda is also an inland farming community in the municipality of Catarman. The main source of income is from rice farming. Unlike Cahicsan and San Isidro, it has better accessibility and infrastructure since there is a road connecting the village to a main highway in Northern Samar.

El Limbo Irrigators was organized by the National Irrigations Authority (NIA) in 1998 and is registered with the Security of Exchange Commission. NIA is a government-owned corporation responsible for the development and management of irrigation systems to improve agricultural productivity and increase farmers' income. In the past, the operations and maintenance of the irrigation systems was done solely by NIA. These activities are now operated and maintained jointly with Irrigators Associations in the communities.

The main activity of El Limbo Irrigators is to provide assistance to the provincial and local technicians in the monitoring, maintenance, and repair of irrigation canals in the community to raise agricultural productivity of the farmers in Imelda. The Department of Agriculture and fees collected from beneficiaries of irrigation projects fund the activities of El Limbo Irrigators. It currently has 24 members and is the only CBO in Imelda.

The President of El Limbo is Eduardo De Guia Sr.

4.6 Pre-intervention Survey Instruments

As shown in figure 4.1, four pre-intervention surveys were conducted for this research. The first survey focused on the heads of households and the other three surveys focused on the CBO leaders. Each survey was designed to collect a specific set of pre-intervention information to investigate the two research questions. These pre-intervention survey instruments were:

1. Household survey (Appendix 4.1)
2. CBO Leaders:
 - CBO survey to collect basic CBO leaders' demographic and behavioural related information and community challenges (Appendix 4.2)
 - CBO leaders' social capital survey (Appendix 4.3)
 - CBO leaders' social skills survey (Appendix 4.4)

All surveys were conducted face-to-face. The research design provided flexibility to add follow-up surveys after the preliminary analysis of the pre-intervention surveys. The follow-up surveys added were a MFI survey targeted at the microfinance institutions (MFI) in Northern Samar (Appendix 4.5) and a survey to collect detailed transactional level information for trader-linked financing in the farming villages (Appendix 4.6).

4.6.1 Household Survey

The questionnaires for the household survey were designed in consultation with a group of NGO leaders to capture three categories of information relevant to this research:

1. Demographic and social economic data such as sources of household income, ownership of household assets and sources of credit. The primary household data collected from the survey were calibrated with available secondary census data published by the PSA, and the economic planning data from NEDA to provide a more in-depth and accurate analysis of the current livelihood challenges faced by the farmers and fishermen in these rural communities.
2. Information relating to households' farming and fishing tools and their willingness to adopt and share common tools. It also collected information relating to the three proxy measures for social capital in this research from view of the community members in the case-study sites. These proxy measures are (1) participation in community-wide activities and membership in

community organisations and CBO; (2) level of trust for their CBO leaders; and (3) community's collective action and cooperation.

3. Sources of household lighting and willingness to switch to solar-powered lighting. These questions were included since the adoption of solar-powered lighting was initially proposed as the outcome measure for this research. The outcome measures were changed to focus on the adoption of essential tools and technologies since they were considered more critical to improving the livelihoods of the communities from the preliminary analysis of the survey. Hence, information on home solar lighting adoption collected could be used for further research.

The most up-to-date names and addresses of the heads of households of the six case-study sites were obtained from the Municipal Social Welfare and Development Office (MSWDO) of the Municipality of Mondragon, Biri, and Catarman. The survey targeted 50% of the heads of households randomly selected in each case-study site.

The household surveys were conducted in June and July 2017 for the treatment case-study sites (Cahicsan, San Isidro, San Antonio and San Pedro) while the control case-study sites (Imelda and Roxas) were conducted in November 2017.

4.6.2 CBO Leaders Survey

There were three separate surveys targeted at the CBO leaders. The first CBO leaders' survey was designed to collect the background information for the social network and capital intervention workshops for the treatment group. In addition to the basic demographic data, the survey collected CBO leaders' risk-aversion behaviour to adopting new tools and method, their willingness to learn new skills and their assessment of critical livelihood issues in their communities. Additional open-ended questions were included in the survey to get their input on how they could help their

communities to overcome livelihood challenges. The surveys were conducted face-to-face for 100% of CBO leaders in the case-study sites in July 2017 for the treatment group and in October 2017 for the control group.

4.6.3 CBO leaders' Social Capital Survey

The SC-IQ or similar survey instruments adopted from SC-IQ have been widely used to study social capital in economic development, social well-being and health issues (Mitchell and Bossert, 2006; Boateng, 2009). The survey was adopted to measure CBO leaders' social capital prior to intervention and the subsequent changes after implementing the proposed interventions. Extensive empirical research revealed the three robust proxy measures for measuring social capital with the SC-IQ instrument and they are: (1) memberships in local associations and networks; (2) trust and solidarity; and (3) collective action (Grootaert, et al., 2003). This research applied these three proxy measures to assess if CBO leaders responded to interventions to purposefully develop their social capital.

4.6.4 CBO leaders' Social Skills Survey

Baron and Markman (2003) developed and validated the measurement instrument to assess social skills by employing Riggio's (1986) 18 items Social Skills Inventory (SSI) measure and together with additional items to examine aspects of social skills not covered by SSI. The 'Baron and Markman survey' has been used widely by scholars to appraise social skills such as social perception, social adaptability, and expressiveness (Hoehn-Weiss, et al., 2004; Baron and Tang, 2008; Zhao et al., 2010). The pre-intervention social skills information was used to evaluate how CBO leaders could improve their social skills via simple action learning during the social network training workshop for the treatment group. Improving the social skills of CBO leaders would enable them to enhance their

reputation, expand their social network, and relate more empathetically with community members to engage them better in collective action (Fligstein and McAdam, 2012; Baron and Markman, 2000, 2003).

4.6.5 Additional Follow-up Surveys: MFI and Trader-linked Financing

Additional follow-up surveys were conducted following the preliminary analysis of the household and CBO leaders' surveys to collect additional information to investigate CBO leaders' actions on improving access to informal and formal credit. Two surveys were added and the first was a microfinance institutions (MFIs) survey targeted at those MFIs with a social mission in Northern Samar to collect information relating to their practices in the region. The second survey focused on collecting detailed trader-link financing transaction data in the farming villages to better understand how these informal non-contractual relationships were transacted. This additional data provided a more robust analysis of the informal credit market in the case-study communities.

4.7 Social Network Training for Treatment Group

Chapter Three explained the concept and theoretical background of cognitive networks and how individuals' perception of their network can improve their 'ability to harness the social capital embedded in the network' and influence their 'decisions and behaviour' (Brands, 2013).

As highlighted in Chapter One, the design of the social network training for the treatment group was based on a training seminar entitled 'Networking with a Purpose' to develop the social network and capital of the regional and country management teams of my organisations in the two companies that I worked for before I embarked on my Ph.D. program in 2015. The CBO leaders' social network

workshop materials were developed based on the same ideas that I used in executive training but simplified to a level where farmers and fishermen without much formal education could understand.

The CBO leaders' social network training workshop covered the following:

1. Explained what is social capital, types of social capital, brokerage and how social capital develops. Translated the theories of social capital into simple concepts and examples that farmers and fisherfolks could understand.
2. Shared and discussed summary results from CBO leaders' social capital and household surveys with the group. To comply with the confidentiality protocol, individual survey results were discussed in confidence. Explained to participants that they have developed bonding social capital in their communities and they are trusted by members of their organisation based on the survey findings.
3. Discussed gaps in their social network and how they could expand their social networks based on multiple dyadic relationships in the CBO (Figure 1.3 in Chapter One). Explained why they have been endowed with strong bonding social capital, but weak in bridging social capital.
4. Explained the concept of household assets based on the sustainable livelihood framework (Scoones, 1998; Bebbington 1999) and discussed the available household assets (e.g. land ownership) from the household survey. Positioning social capital as an important household asset helped the CBO leaders to understand the potential contribution of social capital to livelihood improvement.
5. Discussed how individual CBO leaders could expand their social network based on the social structure of their CBO (Figure 1.3 in Chapter One). CBO leaders brainstormed personal plans to expand their social networks in the following three months.
6. Shared summary and individual social skills results with the group and individually. Discussed the cultural context and the importance of social skills in improving their reputation and improving collective action among members.

7. Discussed nature and extent of communities' participation in social organisations and their definition and expectation of trust in the community.

The workshop format was participatory in nature following the 'Farmers Field School Methodology' (Khisa, 2004). Each workshop spanned two half-day sessions over two days to allow time for group discussions and for CBO leaders to brainstorm livelihood improvement ideas. The venue of the workshops was in a community hall of a local religious education center. At the end of the workshop, CBO leaders completed a post-workshop evaluation based on Kirkpatrick's four-level topology (1994, 1996) of evaluating training program. The emphasis of this evaluation was on Level 1 and 2 to assess how participants reacted to the workshop and to evaluate if participants learned new skills from participating in the workshop.

The goal of the workshop training, and the follow-up review sessions two and three months after the workshop was to supplement the additional qualitative information that could not be captured from the pre- and post-quantitative surveys on how CBO leaders purposefully develop their social network and capital from the interventions during the workshop. Since 'observation is central to qualitative research' (Marshall and Rossman, 2016), I paid close attention to how CBO leaders reacted to the following during the workshop sessions:

1. How did CBO leaders react to their social capital survey results?
2. How did they respond to the social skills survey results?
3. What were the topics they were most likely to discuss?
4. What were the areas that they needed to be pushed to discuss?
5. Who were the CBO leaders that participated actively in the workshop, and who did not?

All 100% of the CBO leaders from each treatment case-study sites were invited to attend in the workshop, and 40 out of the 42 CBO leaders invited attended the full workshop session. Each workshop session was dedicated to the CBO leaders from their own village. The intervention workshops were conducted in July and August 2017. Participants were paid a small stipend of PHP

400 (About US\$8.00) to compensate them for the loss of wages while attending the workshop. The workshop discussions were recorded by two research assistants in the local language and later translated into English.

4.8 Intervention Design for Control Group

A control group is the ‘untreated’ group with which the treatment case-study villages is contrasted (Lavrakas, 2008). The case-study sites for the control group were not randomly selected. They were added after the completion of the interventions for the treatment. The social-economic profiles of households from the farming control case-study site (Imelda) is similar to the treatment group for farming, while the fishing control site (Roxas) has similar social and economic profile as the treatment fishing villages. Several options were evaluated with the NGO leaders of NAC and CERD on the design of the workshops for the control group to minimize potential Hawthorne effect (Roethlisberger and Dickson, 1939) where CBO leaders respond differently just because they were being studied. In addition to minimizing this effect, the training for the control groups should provide valuable technical knowledge that CBO leaders could use to improve livelihoods in their communities.

The intervention workshop for the farming control group consisted of training on bio-diversity rice farming techniques developed by NAC. The training program introduced CBO leaders to environmental-friendly rice cultivation techniques consisting of certified seeds, new planting techniques, and the use of rice ducks for pest control in place of chemicals. The rice ducks also provide an additional income stream to farmers with duck eggs, egg products and meat.

The intervention workshop for the fishing control group was training on coastal resource management techniques developed by CERD. This training program introduced CBO leaders on issues relating to fisheries management, the need to conserve coastal marine resources such as seagrass, mangroves and

coral reefs, initiatives to manage these resources, and the implementation of fish sanctuaries in Northern Samar.

The format and set-up of the training workshops for the control group were similar to the treatment groups. However, the CBO leaders' social network and social skills survey results were not shared with participants during the workshop. They were not provided with social network training either. Facilitators in the workshops were also instructed to avoid any discussion relating to social network or capital. Similarly, each participant was asked to complete a survey to assess Kirkpatrick Level 1 and 2 post-training evaluations.

Similarly, I paid close attention to how participants reacted to the following during the workshop sessions:

1. How did the CBO leaders react to bio-diversity and sustainable farming and fishing?
2. What were the topics they were most likely to discuss?
3. What were the topics that they needed to be pushed to discuss?
4. Who were the CBO leaders that participate actively in the workshop, and who did not?

4.9 Post-intervention Reviews: Treatment Group

Two post-intervention reviews were conducted two and three months after the intervention workshop for the four-treatment case-study sites. The goals of these post-intervention reviews were firstly, to provide continuous learning for CBO leaders on the skills they developed during the workshop. Secondly, these review sessions allowed me to evaluate whether the CBO leaders were taking steps to expand their social network based on their individual plans developed during the workshop. Thirdly, it provided a forum for CBO leaders to discuss how they could accelerate collective action to acquire common tools and technologies in the CBOs.

The review was based on Kirkpatrick Level 3 and 4. Participants were assessed to what extent they changed their behaviour in their interactions with members and non-members (Kirkpatrick Level 3) and any measurable results (Level 4) from their expanded social network and capital. The format of the review workshop was based on group discussions with the core CBO leadership team at the same training facility where they attended the intervention workshop. The discussion was guided by a list of open-ended questions facilitated by an NGO leader and myself.

Similarly, the goal of the post-intervention review workshop was designed to collect additional quantitative information to strengthen the analysis of the proposed hypotheses. The post-intervention review covered the following:

1. Participants discussed steps taken to expand their social networks after the workshop:
 - With other CBO leaders
 - With the barangay officers
 - With members of the associations
 - With non-members of the associations
 - Recruit new members to the association
 - With external agencies (e.g. NGOs, Local Government Agencies)
2. Participants discussed examples of changes in their personal behaviour towards members and non-members of their associations.
3. Participants shared their plans and help needed to implement common tools and technologies.

These qualitative discussions starting from the training workshop and continuing through the post-intervention reviews provided a better ‘understanding of meaning’ in the social relationship of the CBO leaders with different stakeholders of their associations (Fuhse and Mutzel, 2011).

4.10 Post-intervention Reviews: Control Group

Instead of two post-intervention reviews with the control group, only one review was conducted two months after intervention with each of the case-study sites in the control group. Additional group meetings could inadvertently increase the interactions among the CBO leaders and potentially impact post-intervention proxy social capital measures for these two control case-study sites.

The review format with participants in the control group followed the same format as the treatment group. However, the focus of the review was related to how bio-diversity farming and marine coastal management could be implemented successfully in their communities and why these practices were important to the communities. The goal of these reviews was to minimize potential Hawthorne effect on the control group without inadvertently introducing other changes to the group dynamics of the CBO leaders.

4.11 Post-intervention surveys

Two post-intervention surveys to quantitatively measure changes to CBO leaders' social capital from interventions in the treatment and control groups four months after treatments were implemented. The post-intervention surveys for the treatment group were conducted in November 2017 and in February 2018 for the control group. They were:

1. CBO leaders' social capital survey
2. Household surveys

As indicated earlier, the combination of qualitative data collected during the workshop and post-workshop reviews, and the quantitative data from the pre- and post-intervention surveys allowed me to triangulate findings from different methods to test the consistency of the findings to increase the reliability of measures to validate the proposed hypotheses.

4.11.1 CBO leaders' Post-intervention Social Capital Survey

The same survey instrument used in the pre-intervention social capital survey was used for the post-intervention survey for both the treatment and control groups. A supplementary CBO leaders' post-intervention survey (Appendix 4.9) was included to collect more detail information relating to their expanded relationship with internal stakeholders of their CBOs and external agencies.

4.11.2 Post-intervention Household Survey

As explained earlier, the pre-intervention household survey was designed to capture three categories of quantitative information for households in the case-study sites. They were (1) demographic and social economic data; (2) sources of household lightings and their willingness to change to alternative sources; and (3) information related to the adoption of essential tools (the outcome measures for this research) and questions on groups and networks, trust and solidarity, and collective action and cooperation among communities. As discussed in the research method, one area of investigation during the post-intervention reviews was to obtain evidence of behaviour changes in participants from treatment groups (Kirkpatrick 1994, 1996). Additional questions were added in the post-household survey to collect observable behavioural changes of CBO leaders after their attendance in the intervention workshop. Since the focus of this research is on how CBO leaders' social capital can be purposefully developed, and how it impacts CBO leaders' actions, the post-intervention household survey only collected social capital-related measures in the survey. Changes to household incomes and other social-economic variables were not collected in this survey. However, this information can be collected for future research to assess the longer-term impact of CBO leaders' actions on livelihood improvement in the case-study sites. Detail of the the post-intervention household survey is provided in Appendix 4.8.

4.12 Summary

Chapter One highlighted the complexities of conducting experimental research involving multiple case-study sites in a ‘resource-limited’ rural setting. A considerable amount of effort was invested in obtaining the necessary endorsement from the local government agencies, developing the partnership with NGOs and technology partners, and recruiting and training research assistants to provide the operational support during the field study.

This chapter explained the choice of the research method based on literature review. A mixed-method research methodology (Creswell and Plano Clark, 2011) consisting of a combination of quantitative and qualitative methods was chosen to investigate the two proposed research questions. It explained the proxy measures used to validate the proposed hypotheses and the steps taken in the research method to improve the reliability of these measures. It also discussed the design of the pre- and post-survey instruments, the design of the interventions for the treatment and control groups and how these interventions were deployed and reviewed.

A summary of the CBOs selected for each case-study site provided readers an appreciation of the historical and social structure of community organisations and their role in improving livelihoods in rural communities. Since the CBO leaders are among the most influential individuals in their communities, purposefully developing their social network and capital can accelerate CBO actions to address some of the critical livelihood challenges in these rural communities.

The next chapter builds on the mixed-research design methodology to triangulate the quantitative and qualitative data sets collected to assess how CBO leaders in the treatment case-study sites responded to the interventions to purposefully develop their social network and capital. It will report the pre- and post-treatment changes from surveys on the three main proxy measures for social capital from the SC-IQ instrument. They are (1) memberships in local associations and networks; (2) trust and solidarity; and (3) collective action (Grootaert, et al., 2003). It will also incorporate the additional data from

household surveys to improve the reliability of these measures. Key highlights and emerging themes from the intervention workshops and post-intervention review sessions with CBO leaders will also be presented to complete the interpretation of quantitative and qualitative data collected.

Finally, it will also evaluate those CBO leaders' actions that lead to the adoption of common tools and technologies that contribute to sustainable livelihood improvements in their communities from the quantitative and qualitative information collected from post-intervention reviews and surveys.

Chapter Five

CBO leaders' Respond to Social Capital Intervention in the Treatment Group

5.0 Introduction

Chapter Four explained the research method, the proposed proxy measures and the approaches taken to increase the reliability of the measures used to investigate the two research questions. It provided documentation of the pre- and post-survey instruments, the design of the interventions for the treatment and control groups and described how these intervention workshops were conducted and reviewed. It also provided a summary of the CBOs selected for each case-study site. The research method deployed provided a comprehensive and coherent framework to collect 'convincing and accurate' sets of quantitative and qualitative information to validate the proposed hypotheses for this research (Creswell and Plano Clark, 2011 and Yin 2014).

This chapter will document the quantitative and qualitative data collected, and the interpretation of this data from the treatment group in the farming and fishing case-study sites. It will cover the following:

1. Summary statistics of the socio-economic background of households in the treatment case-study sites.
2. Summary statistics of the CBO leaders participating in the intervention workshops to purposefully develop their social networks and capital.
3. The intervention workshops and themes that emerged from these workshops.
4. The post-intervention review meetings and themes that emerged from these review sessions.
5. Paired variance analyses of CBO leaders' social capital proxy measures from the pre- and post-intervention CBO and household surveys.
6. Discussion of the validation of research Question One.
7. Surprises and paradoxes observed.

As discussed in previous chapters, social capital is multidimensional in nature and its creation is influenced by social, cultural, political and economic activities. As a result, the collection, documentation and interpretation of the data collected is complex. Chapter Four set forth the conceptual framework for the measurement of social capital and reviewed the proposed proxy measures for this research. Since this research is about how social capital can be purposefully developed in a relatively short period of three to six months, some of the commonly used measures in social capital literature, such as trust and solidarity and collective action and cooperation that take a longer time to develop, they might not show significant changes in a shorter period. Hence, additional qualitative and quantitative measures are needed to validate the hypotheses.

5.1 Summary Statistics: Heads of Households - Treatment Case-study Sites

Table 5.1 and 5.2 summarize the basic socio-economic and demographic background of the treatment case-study sites based on the household survey conducted in June 2017. The mean household income is PHP 4061 and the median income is PHP 3000. Except for a few retired government employees, all households' monthly income falls below the country's poverty line of PHP 9061. Many are unable to take care of their basic needs of food, clothing, shelter, health care and their children's school expenses from their regular household income. Some households described their lifestyle as "one day, one eat" (direct translation from Waray, the local dialect) at household interviews during the face-to-face survey.

The head of the household is a male in his mid-forties (mean and median age of 45 and 43 respectively) with most only having a primary level education. The average family size is six. Their homes are typically constructed using bamboo or wood from coconut trees with roofs of thatch or tin (Figure 5.1).

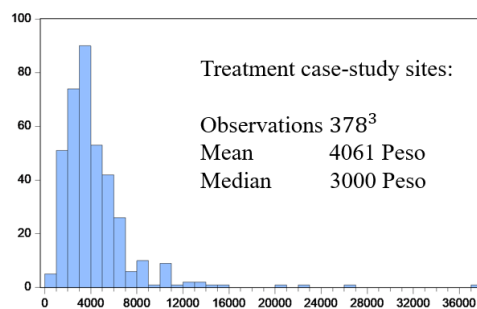
Despite their poverty, half of the households own or lease cultivable land of about 2-3 hectares. However, they are not able to get the most out of their cultivable land due to the lack of basic tools as shown in the household survey (Table 1.3 of Chapter One).

Table 5.1 Basic household socio-economics and demographics statistics - Treatment case-study sites

	Cahicsan		San Isidro		San Antonio		San Pedro		Treatment sites		
Total households	199		166		265		175		805		
Households Surveyed	101		104		111		78		394		
	No	%	No	%	No	%	No	%	No	%	
Gender											
Male	93	92	87	84	100	90	73	94	41	10	
Female	8	8	17	16	11	10	5	6	353	90	
Marital Status											
Married	1	1	3	3	99	89	1	1	354	90	
Single	91	90	91	88	2	2	73	94	7	2	
Widowed	9	9	10	10	10	9	4	5	33	8	
Age:											
19-31	22	22	23	22	15	14	15	19	75	19	Mean:45
32-44	35	35	38	37	40	36	31	40	144	36	Median:43
45-57	29	29	30	30	30	27	24	31	113	29	Max:89
58-70	11	11	9	9	22	20	6	8	48	12	Min:19
71-83	4	4	4	4	4	4	2	3	14	4	
Education Level											
None	21	21	12	12	4	4	4	5	41	11	
Elementary	60	59	66	66	53	48	42	54	222	51	
Secondary	17	17	24	23	37	33	30	38	101	27	
College	3	3	2	2	17	15	2	3	24	6	
Number of Children											
1-3	41	42	46	46	33	31	36	48	156	40	Mean:4
4-6	29	30	41	41	49	46	23	31	142	36	Median:4
7-9	17	18	12	12	19	18	13	17	61	15	Max:12
10-12	10	10	0	0	5	5	3	4	18	5	Min:0
Primary Income Source											
Farming	90	86	100	91	7	6	0	0	209	50	
Fishing	0	0	0	0	86	75	68	85	154	36	
Shop-owner	2	2	3	3	0	0	0	0	5	1	
Labourer	0	0	0	0	12	10	7	9	19	5	
Others	13	12	7	6	10	9	5	6	35	9	
Land Ownership											
Yes	46	46	65	63	41	37	18	23	170	43	
None	55	54	39	38	70	63	60	77	224	53	
Tools Ownership											
Basic farming equipment											
Yes	16	15	30	19					54	24	
None	92	85	80	81					172	76	
Fishing (Boat)											
Yes					23	14	12	13	35	13	
No					34	21	57	35	226	87	

Table 5.2 Monthly household income in treatment case-study sites

Case-study Sites:	No HH ¹ May 2017	HH Surveyed	% below PHP 4000	% below PHP 10000	% Poverty Incidence
Cahicsan ²	199	101	78	97	97
San Isidro ²	166	104	83	96	96
San Antonio ²	265	111	69	100	100
San Pedro ²	175	78	67	96	96
Total	805	394			



1. HH information provided by the municipality of Mondragon, Biri and Catarman in May 2017
2. Face-to-face HH survey: June 2017 (Treatment case-study sites)
3. Out of the 394 HH surveyed, 16 HH were not able to provide monthly HH income

Figure 5.1: Homes in farming and fishing villages in case-study sites



Source: Author

Most households (97% or 384 out of 394) participated actively in community activities during the last 12 months with 87% indicating that they participated often or very often in these activities. Hence, collective action is strongly embedded into their lives. However, their lives mostly evolve within the community, with 58% of the residents having seldom or never travelled out of their village over the last 12 months. They also have significant trust for their community leaders, with 62% and 28% indicating that they trust or trust very much respectively.

The survey provided evidence that these communities are endowed with strong bonding but are lacking in bridging social capital. All showed a strong desire to learn new skills and adopt new tools and technologies. With the right leadership and sponsorship, the communities can build on the strength

that already exists in their villages to engage collectively to overcome the high initial start-up costs to implement common livelihood improvement projects.

5.2 Summary Statistics: CBO Leaders - Treatment Case-study Sites

CBO leaders surveyed	Cahicsan		San Isidro		San Antonio		San Pedro		Treatment site		
	No	%	No	%	No	%	No	%	No	%	
Gender											
Male	6	55	7	58	8	67	4	55	27	64	
Female	5	45	5	42	4	33	3	45	15	36	
Marital Status											
Married	9	82	11	92	12	100	6	86	38	90	
Single	2	18	0	0	0	0	0	0	2	5	
Widowed	0	0	1	8	0	0	1	14	2	5	
Age:											
23-33	1	9	1	8	1	6	2	29	5	12	Mean:46
34-43	6	55	4	33	2	17	1	14	13	31	Median:46
44-53	3	27	4	33	4	33	2	29	13	31	Min:24
54-63	1	9	2	17	1	8	2	29	6	14	Max:71
64-73	0	0	1	8	4	33	0	0	5	12	
Education Level											
None	0	0	0	0	0	0	0	0	0	0	
Elementary	2	18	0	0	2	17	2	29	6	14	
Secondary	8	55	12	100	1	8	3	43	22	52	
College	3	27	0	0	9	75	2	29	14	33	
Number of children											
None	2	18	0	0	1	8	2	18	3	7	Mean:4
1-3	6	54	5	42	2	17	6	82	15	36	Median:4
4-6	2	18	5	42	5	42	2	17	16	38	
7-9	0	0	2	17	4	33	0	0	6	14	
10-12	1	9	0	0	0	0	1	1	2	5	
Primary source of income											
Farming	11	92	12	100	1	7	11	92	25	54	
Fishing	0	0	0	0	11	79	0	0	18	39	
Other	1	8	0	0	2	14	1	8	3	7	
Willing to learn new skills											
Yes	11	100	12	100	7	100	11	92	41	98	
None	0	0	0	0	0	0	1	8	1	2	
Willing to adopt new tools/tech											
Yes	11	100	12	100	7	100	11	92	41	98	
None	0	0	0	0	0	0	1	8	1	2	

There are 48 CBO leaders in the four CBOs identified. All were invited to participate in this research.

Forty-two participated in all the three face-to-face pre-intervention surveys in July 2017. All 48 CBO

leaders were invited and 44 accepted the invitation to attend the intervention workshop. The core CBO leadership team selected by their respective presidents attended the post-intervention reviews two and three months after they attended the training sessions. Finally, 40 CBO leaders completed the post-intervention surveys. Overall participation rate of CBO leaders throughout the field study period was very high.

The CBO leaders have higher socio-economic status than the heads of households in their communities. Most have higher educational levels, with 85% of CBO leaders having completed either secondary or college level education (vs. about 62% of heads of households with no formal education or having completed only elementary level education). Their median age is 44. Most are married with an average of four children. Women are well-represented in the leadership team, where 15 out of the 44 CBO leaders are women. All CBO leaders indicated a strong desire to learn new skills and adopt new tools and technologies to improve their livelihoods. They also believed that the members of their association are not averse to change and are willing to adopt common tools. They strongly believed that their members expected and trusted them to address challenges in their communities. The top three community issues highlighted were financial in nature: (1) The community had no capital to acquire their individual or common tools; (2) they lacked access to external funding to acquire these tools; and (3) the lack of assistance from the government to improve livelihoods in the communities.

Similarly, all CBO leaders have strong relationships with their community members and earned their trust as well, based on the household survey. They are also among the most influential people in their respective communities. Most are very happy with their lives and feel strongly that they have the power to make important decisions that can change the course of their lives and the lives of the people in their communities.

5.3 Intervention Workshops and Emerging Themes from Intervention

The following intervention workshops were conducted:

1. July 18 – 19, 2017: Cahicsan Farmers Association (12 CBO leaders attended).
2. July 20 – 21, 2017: San Antonio Fisherfolks Association (11 CBO leaders attended).
3. Aug 14 – 15, 2017: San Isidro Farmers Association (12 CBO leaders attended).
4. Aug 16 – 17, 2017: LAPAS of San Pedro (9 CBO leaders attended).

Each intervention workshop was conducted consistently based on the methodology provided in Chapter Four. I paid close attention to observe how each CBO leader reacted to these areas of investigation during the intervention workshop. They were:

1. Overall reactions from the intervention workshops.
2. How did they react to their social capital survey results?
3. How did they react to their social skills survey results?
4. What were the topics they discussed the most?
5. What were the topics they needed to be pushed to discuss?
6. What were the levels of participation among the CBO leaders?

5.3.1 General Observation from the Intervention Workshops

'The Farmer Field School (FFS) Methodology' (Khisa, 2004) developed by the Food and Agricultural Organisation (FAO) of The United Nations to help small-scale farmers learn new farming skills provided a useful framework to conduct the intervention workshops. The workshops were conducted based on the participatory and discovery-based learning approach of FFS where the farmers and fishermen were positioned as experts. They were encouraged to share their expertise with others based on their local field experiences and practices. Two NGO leaders who are currently providing community-organised activities in these villages helped me to facilitate the workshops. Participants were encouraged to discuss openly with their confidentiality protected. Since I had met every CBO

leader prior to the workshops during the face-to-face surveys, I was able to gain their trust to discuss their livelihood and personal challenges openly and actively throughout the training sessions.

I explained the purpose of my research and their contributions in participating in the research. I also explained the Institutional Review Board (IRB) research protocol to all participants. The NGO facilitators helped to clarify some questions raised in the IRB document. All participants signed the consent form and agreed to participate in the discussion openly and with all their comments documented. I asked participants to list down their expectations from the workshop and explained that I would share the survey data collected from the households and the three CBO leaders' surveys.

The first session of the workshop was to explain the theoretical background of social networks by relating the concept to their personal daily activities in their communities. I also explained how social capital could be generated from their social relationships with members and non-members of their CBOs and why being a broker in their organisations and communities helped them gain some advantages. Participants were asked to provide examples of their personal relationships with the key stakeholders of their CBOs based on their organisational models (Figure 1.2 of Chapter One). Participants provided some insightful examples of their personal experiences of what social capital meant to them. Finally, participants were asked to discuss their personal household assets and the assets of their community members and how they used these assets to generate household income. Most agreed that they have valuable natural assets (their cultivable land and areas to fish) but were constrained by the lack of financial and physical assets. The discussions provided the opportunities to link social capital as an important component of household assets and how these assets were accessed, combined and transformed to improve the livelihoods of their communities.

The overall observation from this session across the four-treatment case-study sites were:

1. All CBO leaders confirmed their strong desire to learn new skills and adopt new tools to improve livelihoods in the communities. They were not averse to change. This was consistent with the pre-intervention CBO leaders' survey (Table 5.3).
2. CBO leaders intuitively understood the basic concept of social network based on their relationship with family, friends and community members.
3. They understood why improving social relationships helped them gain more advantage from examples provided during the workshops: (1) helped them to develop more trust with their members and the barangay (village) officers; (2) helped them to develop better 'unity' among the community members; (3) helped them to improve the exchange of ideas among members of their associations; (4) helped them gain access to resources from NGOs and local government agencies.
4. They understood the concept of brokerage and why brokerage gave them an advantage in their relationships with other people in the network.
5. Linking social capital to available household assets helped them to appreciate the importance of purposefully developing their social networks to increase their personal stock of social capital.
6. They understood why purposefully expanding their social networks could help them gain access to external resources from the NGO and local government agencies.
7. Consistent with my past experiences teaching senior executives on social networks training, and Burt and Ronchi (2007) experiment, farmers and fishermen with little or no formal education background intuitively understood the importance of expanding their social network and why brokerage could help them gain better advantage in their relationships with others. Teaching simple network training during the intervention workshops helped them to confirm these intuitions.

5.3.2 CBO Leaders' Reaction to Social Capital Survey

The literature review in Chapter Two provided the theoretical foundation of cognitive networks and how individuals' perceptions of their networks can improve the 'ability to harness the social capital embedded in the network' and influence their 'decisions and behaviour' (Brands, 2013). Janicik and Larrick (2005) confirmed that individuals who have schematic knowledge of their incomplete networks could learn from these network schemas and develop new relationships than those without.

After the basic social network training, I shared the summary survey results from the household survey and the social capital survey based on the SC-IQ instrument with all the participants, and their own survey results individually, to comply with the IRB's confidentiality requirement.

I observed the following when the social capital survey results were shared with the participants:

1. All reacted favourably from the knowledge that their communities trusted them or trusted them very much (94% indicating that they trust or trust their officers very much). They were very encouraged by the high level of trust conferred to them by the residents. Most could see why developing better relationships with community members could help them gain more trust in the future.
2. When they were made aware of their social network from the SC-IQ survey and discussed gaps in their social network structure, most asked how they could broaden their network to acquire more social capital. Subsequent individual discussions on their reaction to the social capital survey confirmed that all demonstrated a strong desire to expand their social network to encompass more social capital. These phenomena could be attributed to firstly, per cognitive network theory and findings from Janicik and Larrick (2005), teaching people to see gaps in their network increased their desire to expand their social networks and develop more social capital. Secondly, since the CBO leaders are among the most influential individuals in their communities, are better educated and have more social advantages as compared to their community members (Table 5.2 and 5.3), their desire to acquire more social capital could be

attributed to the Matthew effect (Merton, 1968), where ‘social advantages lead to further advantages or disadvantages to further disadvantages’ (Rigney, 2010). This could result in the CBO leaders acquiring more advantages at the expense of the less advantaged and lower status community members.

3. Most understood and could relate to the potential implication of the ‘Matthew effect’ when the phenomenon was explained to them on the idea that ‘the rich get richer and the poor get poorer’ (Merton, 1968). CBO leaders were reminded to expand their social network and capital to create more advantages for themselves and their community members.

As highlighted by Rossman and Wilson (1985, 1994) on the benefits of the mixed-method research, these emerging themes from observing how CBO leaders reacted to the social networks training and survey provided ‘new lines of thinking’ to explain how social capital can be purposefully developed.

5.3.3 CBO Leaders’ Reaction to Social Skills Survey

Chapter Three explored how social skills could broaden CBO leaders’ social networks, enhance their reputation, and increase their social capital. This research defined social capital as ‘resources embedded in one’s social networks, resources that can be accessed from knowing others, being part of the social network with them, and from being known to them and having a good reputation’ and took into consideration the importance of social skills in the development of social capital for this research. It also provided the supporting theories on the importance of social skills in engaging others in collective action. Hence, improving the social skills of CBO leaders would help them enhance their reputation, broaden their social network and encompass more social capital (Baron and Markman, 2003). Baron and Markman (2003) identified four specific social skills that are most relevant to entrepreneurs’ success; and they are social perception, impression management, persuasion and influence, and social adaptability. Among these four factors, items designed to measure social

perception, social adaptability and expressiveness demonstrated high reliability while impression management did not (Baron and Tang, 2009). These three factors were incorporated in the CBO leaders' social skills survey to appraise their social skills and identify areas for improvement.

Table 5.4 shows the results of the CBO leaders' social skills survey conducted face-to-face in July 2017. The data was based on the 40 CBO leaders who participated in the pre- and post-intervention surveys. In the survey (Appendix 4.4), CBO leaders were asked to respond to five questions pertaining to the measure for social perception, five questions for social adaptability and three questions for expressiveness. The total score for each question indicated in Table 5.4 was calculated by the number of CBO leaders who responded to each question multiplied by the five-level Likert scale. The survey showed that all CBO leaders demonstrated high social adaptability skills. They could adapt to or felt comfortable, in a wide range of social situations in their communities. Similarly, the survey also indicated their ability to express their feelings and reactions clearly and openly. Most however, scored low in several areas in social perception, the ability to perceive accurately the emotions, traits, motives, and intentions of others.

When the aggregated social skills survey results were shown to each group (Table 5.4), it generated an intense discussion among the CBO leaders. The discussion provided an insightful interpretation of the social skills survey results, and more importantly, the follow-up activities to improve the social skills of the CBO leaders.

These were the summary observations from the discussion:

1. Social adaptability: All agreed that being socially adaptable was “a way of life in the communities”, and a skill that “came naturally” to everyone in the barangay (village). Some expressed strongly that “being socially adaptable helped them to cope with the livelihood challenges in the communities”.

2. Social perception: The topic on social perception generated spirited discussions among participants from the four communities. All agreed that it was considered “rude to judge other people” or “pre-judge anybody” in a relationship, and “try to read other peoples emotions or feelings”.
3. Most understood how good social skills could help them improve their reputation in the communities and enhance their social relationships with others.

Table 5.4 CBO leaders' social skills survey: Pre-intervention

Do you agree with the following statements? Scoring: Strongly agree (4); Mostly agree (3); Barely agree (2); Do not agree (1); Strongly disagree	Total Score ¹
Social Perception	
I am a good judge of other people	37
I can usually recognize others' traits accurately by observing their behaviours	123
I can usually read others well - Tell how they are feeling in a given situation	63
I can tell why people have acted they way they have in most situations	59
I generally know when it is the right time to ask someone for a favour	121
Overall Mean Score	81
Social Adaptability	
I can easily adjust to any social situation	154
I can be comfortable with all types of people - young or old, people from the same or different background as myself	151
I can talk to anybody about almost anything	130
People tell me that I am sensitive and understanding	125
I have no problems introducing myself to strangers	146
Overall Mean Score	141
Expressiveness	
People can always read my emotions even if I try to cover them up	85
Whatever emotion I feel on the inside tends to show up on the outside	139
Other people can usually tell pretty much about how I feel at a given time	95
Overall Mean Score	106
1. Total Score = No of CBO leaders' responses X Score	

Baron and Tang (2009) cited numerous research findings in social science, organizational behaviour, human resource management and other fields that suggest a strong relationship between social skills to outcomes in many situations such as increased social capital, job performance, business performance and entrepreneurship. Similarly, Baron and Markman (2003), Frese (2007), Zhao et al., (2010)

emphasized the importance of social skills training to entrepreneurial success. However, based on the feedback from the CBO leaders during all intervention workshops, it is essential to consider the social and cultural context of participants when considering interventions to develop their social skills. Though improving the social skills of CBO leaders was one of the proposed hypothesis to purposefully developed their social capital, further intervention to develop the social skills of CBO leaders is no longer applicable for this research based on this feedback and observations. Social skills intervention without considering the social and cultural context of participants could be counter-productive.

5.4 Observations from Post-Intervention Workshops

Chapter Four discussed the format, review process and the intended goals of the post-intervention review meetings with the CBO leaders from the treatment case-study sites. Each review session was attended by four or five members of the core CBO leadership team selected by their presidents. These reviews were set up to observe to what extent CBO leaders changed their behaviour in their interactions with members and non-members of their associations (Kirkpatrick Level 3), and measurable results from their actions because of their expanded social network and capital (Kirkpatrick Level 4). The reviews collected qualitative information relating to these discussions:

1. What were the steps taken by CBO leaders to expand their social network after the intervention workshops?
2. What were examples of observable behavioural changes highlighted during the reviews?
3. What were the observable results from CBO leaders' actions?

These reviews were conducted in:

1. Cahicsan Farmers Association: September 30, 2017; November 10, 2017.
2. San Isidro Farmers Association: September 27, 2017; November 11, 2017.

3. San Antonio Fisherfolks Association: September 29, 2017; November 10, 2017.

4. LAPAS of San Pedro: September 28, 2017; November 11, 2017.

The reviews were conducted in the same facility where the intervention workshops were conducted.

Each review session lasted about three hours.

A large volume of qualitative information was collected from these reviews. The following captures the discussions and observations most relevant to this research:

1. *“We appreciated the opportunity given to the officers of our associations to learn the concept of social network and capital”. “I had been a member and officer of my association for 37 years and this was the first time I learned the importance of expanding my social network to develop more social capital for myself and my association”. “The workshop helped us to understand the importance of developing more social capital”.*
2. *“It was important to build linkages with external agencies like local government agencies and NGOs. In the past, we waited for officers from the Department of Agriculture to visit us but due to the remoteness of our villages, they seldom came”. “Instead of waiting for them to visit us, we visited the officers last month. Our requests for assistance were approved. We were provided with 10 sacks of certified rice seeds and two sacks of corn seeds to be distributed to the members of the associations”. “We also decided to distribute these seeds to non-members and they were very appreciative of our gesture”.*
3. *“We reached out to CERD to request for 10,000 fingerlings (fish stock) to expand fish farming in our communities. Our request was approved”.* CERD is an NGO in marine and coastal resources management in the Philippines.
4. *“We went to meet DENR (the Department of Environment and Natural Resources) to ask for assistance in bamboo cultivation on lands not suitable for other crops. We wanted to support the community to start bamboo cultivation”.*

5. *“Our associations held more regular meetings with our members. We were also more active to recruit new members. We wanted our association to be stronger”.*
6. *“We had more meetings with the barangay officers during the last two to three months. The barangay officers could provide more support to our associations if we developed better relationship with them”.*
7. *“We interacted more often with other CBOs in our barangays. We tried to develop better relationship with them. Hopefully, some members from these associations might join our associations in the future”.*
8. *“Because of what I learned from the workshop on social capital, I am now more responsible to the members of my associations. Before, I was strict and impatient. I got angry easily with members who were not listening to me. I am now more patient. I changed my approach to deal with these situations. Our members now participated more actively during meetings and we were more unified as an association.”*
9. *“I changed my attitude towards other members and non-members. I realized it was important to understand one another and be unified”.*
10. *“Before, our association was more selfish and inward looking. We were selective on members who wanted to join our association. Now anyone could join. None was excluded from joining”.*
11. *“Before our members were not cooperative. Today, we encouraged everyone to cooperate”.*
12. *“We noticed that the agencies who have been working with us trusted us more. Last month, the Department of Labour and Employment (DOLE) visited our organization and was surprised to see our members actively participating in the meeting. DOLE checked our attendance sheets of past meetings during the last three months and asked a lot of questions when they noticed that our meetings were attended by more members compared to their last visit”.*
13. *“Before when we had meetings with the barangay officers, they were full of doubt about our officers. Now they respect us and believe in our associations”.*

14. *“I am very happy that we developed more trust with our members during the last three months”. “My expectation for trust changed as well. Before we did not think too much about trust. Now we take trust seriously”.*
15. *“I am a lot more confident of myself. I am now more demanding when I attend external meetings with other government agencies and NGOs. I want to make my voice heard to secure more assistance from these agencies”.*
16. *“We are optimistic that we can get members to agree and work collectively to implement our livelihood improvement projects”.*
17. *“We helped our members open bank accounts to facilitate the direct transfer of funds from local government and aid agencies”.*
18. *“We started seeking help from a local Community Saving and Loan Association (COSLA) to provide basic financial education to our members. We wanted our members to understand the importance of saving even though we are very poor”.*

Several themes emerged from these discussions and observations from the post-intervention reviews. Firstly, CBO leaders were proactively taking steps to expand their social networks within their communities and with external agencies. More new network links were established with external groups such as local government agencies, NGOs and other CBOs. Likewise, there were concerted efforts to expand their existing network links with members, non-members of their associations and with the barangay officers in their communities. Secondly, there were visible behavioural changes among many members of the group as well. Many expressed that they were more responsible, patient and listened more to members of their association. They expressed more confidence in themselves and took a more inclusive approach in membership recruitment. To validate that these observations were consistent with their behavioural changes seen in their communities, the post-intervention household survey was modified to collect information relating to observable behaviour changes and how these

changes impacted them personally. Thirdly, CBO leaders provided several visible short-term results from their actions. These were some examples cited by some CBO leaders:

1. A more inclusive membership selection process resulted in more new members joining the associations.
2. Better support and respect from the barangay officers from the improved relationship.
3. Access to more resources from various local government agencies. For example, rice and corn seeds from the Department of Agriculture, fish stocks from CERD and DENR for bamboo cultivation. Since these resources were limited, their actions showed that they could gain access to external resources from their expanded social networks and capital.
4. Helping members to open bank accounts to facilitate direct deposit of financial assistance from aid agencies for future projects.
5. Initiating support from a local community savings and loan association (COSLA) to provide basic financial education to community members.

The CBOs were also actively working with their members to accelerate collective action among members to implement community-wide projects. They were also seeking help with their NGO sponsors and technology vendors to develop new partnerships and financing models to implement livelihood projects already initiated by the CBO leaders. More details on these CBO actions will be discussed in the next chapter.

5.5 Pre- and Post-intervention CBO and Household Surveys

Since the qualitative interpretations of the observations described in Section 5.3 and 5.4 have face validity, these interpretations need to be triangulated with additional quantitative data collected from pre- and post-intervention surveys from the CBO leaders and household surveys to validate the proposed hypotheses. Finally, the results from the treatment group will also be calibrated with the

control group to improve the overall reliability of the measures. The report on the control group's findings will be discussed in Chapter Six.

Chapter Four argued that since social capital is multidimensional it should be measured as such based on how it was defined and operationalised. This research applied The World Bank SC-IQ survey instrument to measure social capital. The SC-IQ survey measures these six broad dimensions of social capital: (1) groups and networks; (2) trust and solidarity; (3) collective action and cooperation; (4) information and communication; (5) social cohesion and inclusion and (6) empowerment and political action (Grootaert, et al., 2003). Among these six dimensions of the SC-IQ, extensive empirical research showed that the three robust proxy measures for measuring social capital with the SC-IQ instrument are: (1) groups and networks; (2) trust and solidarity; and (3) collective action (Grootaert, et al., 2003).

This section will discuss these pre- and post-intervention survey results:

1. The pre- and post-intervention CBO social capital survey results using the SC-IQ survey.
2. Household surveys to measure changes in the three proxy measures and observable CBO leaders' behavioural changes experienced by the heads of households in their communities.

5.5.1 Pre- and Post-intervention Proxy Measures for Social Capital: Basic Statistics and Mean Variance Analyses

The pre- and post-intervention CBO social capital surveys measured all six dimensions of social capital. Only the three proposed proxy measures are documented and analysed. Of the 44 CBO leaders identified for this research, 42 participated in the pre-intervention survey in July 2017. However, only 40 CBO leaders participated in the post-intervention survey since one from San Isidro passed away before the post-intervention survey was conducted and one from Cahicsan was not available when the survey was conducted in November 2017. Hence, only 40 samples were used for the pre- and post-intervention analyses. Table 5.5 provides the summary survey questions for the three proxy measures

and CBO leaders' responses to these questions from the pre- and post-intervention surveys with SC-IQ.

5.5.2 Paired Variance Analyses

Paired t-tests for the three proxy social capital from the pre- and post-interventions survey data were analysed using SPSS to investigate if the interventions to purposefully develop the social capital of CBO leaders were effective and statistically significant. These paired t-tests were:

1. Paired variance analyses for Groups and Networks (Table 5.6).
2. Paired variance analyses for Trusts and Solidarity (Table 5.7).
3. Variances for Collective Action and Cooperation.
4. Paired variances for Groups and Networks by case-study sites (Table 5.8).

5.5.3 Paired Variance Analyses: Proxy Measure #1 (Groups and Networks)

As discussed in Chapter Two, the structural dimension of social capital was operationalised based on the 'density of social network, or patterns of civic engagement' for this research (Islam et al.,2006). Table 5.6 summarizes the paired variance analyses for all the CBO leaders from the four treatment case-study sites for the selected survey questions related to groups and networks, a proxy measure for the structural dimension of social capital. The pre-intervention survey was conducted face-to-face in July 2017, while the post-intervention survey was conducted in November 2017. The three SC-IQ questions selected as the most representative proxy measure for groups and networks were analyzed individually.

Q1 of the SC-IQ survey asked respondents to list all organizations or groups that they or their household was a part of. Though the survey collected data on membership in different types of

Table 5.5 CBO leaders' pre- and post-intervention proxy measures of social capital with the SC-IQ survey^{1,2}

		Cahicsan		San Isidro		San Antonio		San Pedro		All Treatment	
		Pre-	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
SC-10 ³	CBO leaders surveyed	11	10	12	11	12	12	7	7	42	40
Proxy social capital measure											
A Groups and Networks:											
Q-1	Type of organization of groups										
	Religious organization	1	6	1	4	1	12	0	0	2	26
	School-based organization	5	5	0	3	0	8	1	4	7	20
	Neighbourhood Association	0	0	0	1	0	1	1	0	1	1
	Livelihood organization	15	17	12	11	12	12	8	12	47	54
	Cause-oriented organization	2	5	0	0	0	0	2	0	6	6
	Total	23	33	13	19	13	33	12	16	61	101
Q-4	Do you interact with people or groups outside the										
	Yes	8	10	9	10	8	12	5	7	30	39
	No	3	0	3	1	4	0	2	0	12	1
Q-5	How often?										
	Frequently	1	3	6	1	5	1	1	1	13	6
	Occasionally	4	4	1	1	1	5	4	4	10	14
	Rarely	3	3	2	8	2	6	0	2	11	19
Q-7	If you suddenly needed to borrow small amount										
	Definitely	3	8	6	8	6	8	1	6	14	30
	Probably	0	1	1	2	3	4	0	1	4	8
	Unsure	1	1	0	1	0	0	0	0	1	1
	Probably not	0	0	0	0	1	0	0	0	1	1
	Definitely not	7	0	5	0	2	0	6	0	20	0
B Trust and Solidarity											
Q-8	Would you say that people can be trusted?										
	Yes	5	4	3	3	6	5	6	2	20	14
	No	6	6	9	8	6	7	1	5	22	26
Q-9a	Most people in this village are willing to help if										
	Strongly disagree	0	0	0	0	0	0	0	0	0	0
	Don't agree	1	2	1	0	0	1	0	0	2	2
	Barely agree	2	3	1	1	1	11	0	1	4	16
	Mostly agree	1	3	0	3	1	0	0	3	2	9
	Strongly agree	7	2	10	7	10	0	7	3	34	12
Q-10b	Do you trust your local government officials?										
	I never trust them	2	1	1	1	3	0	1	0	7	2
	Somewhat trust them	6	3	1	4	8	7	3	1	18	15
	I trust them	2	3	8	6	1	4	2	4	13	17
	I trust them very much	1	3	2	0	0	1	1	2	4	6
Q-11	If a community project does not benefit you but										
a	Yes, I will contribute time	10	10	12	11	12	12	7	7	40	40
	No, I will not contribute time	1	0	0	0	0	0	0	0	2	0
b	Yes, I will contribute money	9	10	10	10	12	11	5	7	36	39
	No, I will not contribute money	2	0	2	1	0	1	2	0	6	1
C Collective Action and Cooperation											
In the past 12 months, did you or anyone of your											
hh participate in any community activities w/c											
people came together to do some work beneficial											
for the community?											
Q-12	Yes	10	10	11	11	12	12	7	7	40	40
	No	1	0	1	0	0	0	0	0	2	0
Q-13	If YES, how often did you participate in the past										
	Very often	3	3	2	2	1	1	3	0	9	6
	Often	4	6	8	6	5	10	4	6	21	28
	Seldom	3	1	1	3	6	1	0	1	10	6

¹ Pre-intervention survey, June 2017

² Post-intervention survey, Nov 2017

³ Mapped to SC-IQ Survey question number

organizations and the importance of these organizations to the CBO leaders, they were treated equally in the paired variance analysis. At the household level, CBO leaders' network density could be measured by the average number of memberships of each household in existing organizations. The average density was 2.65 post-intervention and 1.45 pre-intervention for the 40 samples. A one-tailed

paired sample t-test revealed that there was a statistically significant difference in the density of membership from CBO leaders about four months after the social network intervention workshop (M = 2.65, SD = 1.001) and before intervention (M = 1.45, SD = 0.714), $t(39) = 7.113$, $p < 0.05$ and a large Cohen's $d = 1.124$.

Q1 SC-IQ All groups and networks (Network Density)		Mean	N	Std. Deviation	Std. Error Mean				
Pair 1	Post-Treatment (Networks)	2.65	40	1.001	0.158				
	Pre-Treatment (Networks)	1.45	40	0.714	0.113				
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Post-Treatment (Networks) - Pre-Treatment (Networks)	1.200	1.067	0.169	0.859	1.541	7.113	39	0.000
Q4 SC-IQ Do you interact with people or groups outside of your village		Mean	N	Std. Deviation	Std. Error Mean				
Pair 1	Interaction outside of group Q4(Post)	1.95	40	0.221	0.035				
	Interaction outside of group Q4 (Pre)	1.73	40	0.452	0.071				
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Interaction outside of group Q4(Post) - Interaction outside of group Q4	0.225	0.480	0.076	0.072	0.378	2.966	39	0.005
Q7 SC-IQ If you suddenly needed to borrow a small amount of money, are there people beyond your immediate households and close friends willing and able to provide the money?		Mean	N	Std. Deviation	Std. Error Mean				
Pair 1	Q7 of SC-IQ (Post)	3.65	40	0.770	0.122				
	Q7 of SC-IQ (pre)	1.88	40	1.897	0.300				
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Q7 of SC-IQ (Post) - Q7 of SC-IQ (pre)	1.775	1.847	0.292	1.184	2.366	6.080	39	0.000

The survey also asked CBO leaders to provide the number of 'close friends' to estimate the size of their network. However, since most indicated that they have many friends but were unable to provide the exact number, the pre- and post-intervention on network size could not be determined accurately.

Paired variance analyses were analyzed for additional questions in the groups and networks section of the SC-IQ survey. Q4 of SC-IQ asked CBO leaders if they interacted with people of groups outside the village or neighborhood and their frequency of interactions (Q5). These two questions provided some indications of changes to CBO leaders' bridging social capital from intervention. A one-tailed paired sample t-test revealed that there was a statistically significant difference on interactions outside of their village or neighbourhood post-intervention ($M = 1.95$, $SD = 0.221$) and before intervention ($M = 1.73$, $SD = 0.452$), $t(39) = 2.966$, $p < 0.05$ and a moderate Cohen's $d = 0.47$.

Q7 in the SC-IQ survey measures the extent to which one feels at ease with, can talk to about private matters, or call upon for help as a proxy measure on the 'usefulness' of the network and the ability to access resources from the network (Grootaert, 2003). Similarly, a one-tailed paired sample t-test showed that there was a statistically significant difference on this question post-intervention ($M = 3.65$, $SD = 0.770$) and before intervention ($M = 1.88$, $SD = 1.897$), $t(39) = 6.98$, $p < 0.05$ and a large Cohen's effect size $d = 0.96$.

The paired variance analyses of related survey questions in the groups and networks dimension of the SC-IQ survey correlated with the qualitative data collected from the post-intervention review meetings. They provided compelling evidence that CBO leaders were able to expand their social networks to develop their bonding and bridging social capital in a relatively short period from the social network intervention workshop.

5.5.4 Paired Variance Analyses: Proxy Measure #2 (Trust and Solidarity)

The cognitive dimension of social capital was operationalized based on 'people's perception of the level of interpersonal trust, sharing and reciprocity (Islam et al., 2006). Trust is an abstract concept that means many things to different people (Grootaert et al., 2003). As such, the SC-IQ survey measures trust and solidarity in three specific areas: (1) Generalized trust based on the extent to which

one trusts people overall (Q8 of SC-IQ); (2) the extent of trust for specific people (e.g. national or local officials, Q10 of SC-IQ); and (3) in the context of specific transactions (Q9 of SC-IQ)

The literature on interpersonal trust conceives that it is a multidimensional construct which has cognitive and affective foundations (Lewis and Weigert, 1985). Trust is cognition-based when ‘we choose whom we will trust in which respect and under which circumstances’ and we ‘base the choice on what we take to be good reasons’ (Lewis and Weigert, 1985). The emotional bonds between individuals form the affective foundations of trust (Lewis and Weigert, 1985). Studies have shown that trust developed and changed over time from on-going interactions and evolved from a more straightforward acceptance of trust to the ‘attribution of interpersonal motives’ (Rempel et al., 1985). This was a consistent theme emerging from the post-intervention review meetings when CBO leaders related their experiences on trust from the expanded interactions with the communities and external agencies. “My expectation for trust changed as we interacted more frequently with each other”; and “before we did not think too much about trust, now we took trust seriously” were comments made repeatedly from CBO leaders during the post-intervention review meetings.

Table 5.7 shows the pre- and post-interventions paired variance analyses of trust and solidarity measures relating to the three specific areas of the SC-IQ survey; i.e. (1) generalized trust based on the extent to which one trusts people overall (Q8 of SC-IQ); (2) the extent of trust for local government officers Q10 of SC-IQ); and (3) in the context of specific transactions (Q9 of SC-IQ). The one-tailed paired sample t-tests revealed that post-intervention means were consistently lower than pre-intervention. The one one-tailed paired sample t-tests were as follows:

1. There was a statistically significant difference on interactions for Q9a (willing to help if you need it) post-intervention ($M = 2.75$, $SD = 0.850$) and before intervention ($M = 3.60$, $SD = 0.871$), $t(39) = -5.512$, $p < 0.05$.

2. There was a statistically significant difference on Q10b (trust local government officers) post-intervention (M = 2.00, SD = 0.784) and before intervention (M = 2.28, SD = 0.716), $t(39) = -2.054$, $p < 0.05$.
3. Though it was not statistically significant at 95% confidence level, it was statistically significant at a slightly higher level of confidence. Generalized trust – the extent to which one trusts people overall, Q8 of SC-IQ) post-intervention was (M = 0.35 SD = 0.483) and before intervention was (M = 0.50, SD = 0.506), $t(39) = -1.525$, $p < 0.0675$.

Table 5.7 Paired variance analysis: Pre- and post-Interventions for social capital proxy measure #2

Paired Samples Statistics - Treatment case-study sites										
Q8: Would you say that most people can be trusted?		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Q8 of SC-IQ (Post)	0.35	40	0.483	0.076					
	Q8 of SC-IQ (pre)	0.50	40	0.506	0.080					
		Paired Differences								
					95% Confidence Interval of the Difference				Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df		
Pair 1	Q8 of SC-IQ (Post) - Q8 of SC-IQ	-0.150	0.622	0.098	-0.349	0.049	-1.525	39	0.135	
Q9a: Most people in this village are willing to help if you need it.		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Q9a SC-IQ (Post)	2.75	40	0.981	0.155					
	Q9a SC-IQ (Pre)	3.60	40	0.871	0.138					
		Paired Differences								
					95% Confidence Interval of the Difference				Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df		
Pair 1	Q9a SC-IQ (Post) - Q9a SC-IQ (Pre)	-0.850	0.975	0.154	-1.162	-0.538	-5.512	39	0.000	
Q10b: How much do you trust the local government officials?		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	SC-IQ Q10b (Post)	2.00	40	0.784	0.124					
	SC-IQ Q10b (Pre)	2.28	40	0.716	0.113					
		Paired Differences								
					95% Confidence Interval of the Difference				Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df		
Pair 1	SC-IQ Q10b (Post) - SC-IQ Q10b	-0.275	0.847	0.134	-0.546	-0.004	-2.054	39	0.047	

These three paired variance analyses relating to the specific areas of trust and solidarity, and the quantitative data collected from post-intervention reviews, suggested that CBO leaders' expectation of

trust evolved from a straightforward acceptance of trust to a higher level of ‘interpersonal motives’ as they developed better relationships and interacted more frequently with the CBO leadership team (Rampel et al., 1985). Hence, post- and pre-intervention means for these three were negative.

5.5.5 Proxy Measure #3 (Collective Action)

Collective action is the third proxy indicator for measuring social capital in SC-IQ. The theoretical foundation for this measure (discussed in Chapter Four) assumed that collective action is only possible when a community is endowed with a significant level of social capital (Grootaert et al., 2003).

The SC-IQ survey collected this information to measure collective action: (1) the extent of collective action; (2) the types of activities undertaken collectively; and (3) an overall assessment of the extent of willingness to cooperate and participate in collective action. All CBO leaders participated in community activities during the past 12 months and the majority (>85%) indicated that they participated regularly (often or very often) before and after interventions. Though the proxy measure for collective action and solidarity from the SC-IQ surveys was not conclusive as a measure to assess CBO leaders pre- and post-intervention social capital, qualitative information collected from post-intervention reviews and CBO social capital surveys indicated that the CBO leaders were willing and well-positioned to generate more collective action to implement common tools and technologies.

5.6 Paired Variance Analyses for Groups and Networks by Treatment Case-study Sites

Table 5.8 shows the paired variance analyses of the CBO leaders for each case-study site. Paired variance analyses showed that Cahicsan, San Isidro and San Antonio were statistically significant in the post- and pre-intervention changes to the CBO leaders’ network density with $p < 0.05$ with large Cohen effect size of 1.00 for Cahicsan, 0.92 for San Isidro; 3.07 for San Antonio. San Pedro was

statistically significant with $p < 0.1$ due to the smaller sample size and a moderate Cohen's $d = 0.645$.

The robustness of these results provided compelling evidence that the intervention to purposefully develop the social networks of CBO leaders was effective across all treatment case-study sites.

Table 5.8 Paired variance analysis: Pre- and post-Interventions for social capital by case-study sites										
Paired Samples Statistics - Treatment case-study sites										
Cahicsan Farmers Association		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Cahicsan Groups and Networks (Post)	3.30	10	0.823	0.260					
	Cahicsan Groups and Networks (Pre)	2.00	10	0.943	0.298					
		Paired Differences								
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
					Lower	Upper				
9	Cahicsan Groups and Networks (Post) - Cahicsan Groups and Networks (Pre)	1.300	1.160	0.367	0.471	2.129	3.546	9	0.006	
San Isidro Farmers Association		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Post-Treatment (Networks)	1.82	11	0.751	0.226					
	Pre-Treatment (Networks)	1.09	11	0.302	0.091					
		Paired Differences								
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
					Lower	Upper				
Pair 1	Post-Treatment (Networks) - Pre-Treatment (Networks)	0.727	0.786	0.237	0.199	1.255	3.068	10	0.012	
San Antonio Fisherfolks Associations		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	San Antonio Groups and Networks (Post)	2.75	12	0.622	0.179					
	San Antonio Groups and Networks (Pre)	1.17	12	0.389	0.112					
		Paired Differences								
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
					Lower	Upper				
Pair 1	San Antonio Groups and Networks (Post) - San Antonio Groups and Networks (Pre)	1.583	0.515	0.149	1.256	1.911	10.652	11	0.000	
LAPAS of San Pedro		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	San Pedro Groups and Networks (Post)	2.86	7	1.345	0.508					
	San Pedro Groups and Networks (Pre)	1.71	7	0.756	0.286					
		Paired Differences								
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
					Lower	Upper				
Pair 1	San Pedro Groups and Networks (Post) - San Pedro Groups and Networks (Pre)	1.143	1.773	0.670	-0.497	2.782	1.706	6	0.139	

5.7 Pre- and Post-Intervention Household Surveys

Our CBO leaders are:		No Change		Small Change		Big Change		Not sure	
		No	%	No	%	No	%	Not sure	%
1.1	More friendly to me	81	22	120	33	139	38	25	7
1.2	Discussing more openly with us	79	22	90	25	145	40	51	14
1.3	Listening to our inputs and suggestions during meetings	69	19	98	27	147	40	51	14
1.4	More willing to help me when I have problems	67	18	85	23	161	44	52	14
1.5	Making more effort to recruit new members	104	28	56	15	150	41	55	15
1.6	Developing better relationship with the barangay officers	65	18	90	25	151	41	59	16
1.7	Caring more about our livelihood issues	62	17	95	26	155	42	53	15
Overall Means from observed CBO leaders' behavioural changes		75	21	91	25	150	41	49	14
2.1 Are you happier as a member of the association? ²		Happier		No Change		Less happy		Not sure	
		166	90	11	6	5	3	2	1
2.2 More likely to join the association if you are not a member ³		More likely		Will not join		Not sure			
		120	66	16	9	45	25		
1. Post-intervention HH survey, November 2017. 365 HH were surveyed in the four treatment case-study sites									
2. From 184 HH who are members of their respective CBOs									
3. From 181 HH who are not members of any CBOs									

Trust CBO Leaders	N	Mean	Std. Deviation	Std. Error Mean	t-test for Equality of Means								
					F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Post-intervention	184	2.28	0.486	0.036								Lower	Upper
Pre-intervention	211	2.20	0.517	0.036									
Equal variances assumed		0.574	0.449	1.553	393	0.121	0.079	0.051	-0.021	0.179			
Equal variances not assumed				1.559	390.773	0.120	0.079	0.051	-0.021	0.178			

1. Pre-treatment household survey: June 2017. Post-treatment survey: November 2017. 184 HH are members of CBOs in their villages.

Table 5.9 and 5.10 provide the measures relating to observable behavioural changes experienced by the households in the treatment case-study sites from CBO leaders' purposefully developed social capital. Chapter Four (Table 4.3) summarized the steps taken to increase the validity and reliability of the proposed measures for this research. In addition to the CBO leaders pre- and post-intervention surveys and the qualitative data collected from the intervention workshops and post-intervention

reviews, additional pre- and post-intervention household surveys were included to validate observable CBO leaders behavioural changes and how these changes were perceived by their community members.

Many CBO leaders shared their behavioural changes from their expanded social networks and improved relationships with their community members, the barangay officers and external agencies. Their feedback was summarised in Section 5.4. To validate these behavioural changes, additional questions were added to the household survey to collect information relating to these behavioural changes during the post-intervention household survey. The survey was conducted face-to-face in November 2017 on the same group of households who had participated in the pre-intervention survey in June 2017. While 394 heads of households (50% of total households) were surveyed in June 2017, only 365 were surveyed in November 2017; the 29 heads of households from the earlier survey were not contactable as some had moved to other villages or passed away during the four-month period.

There were three areas of investigation in the post-intervention household survey:

1. Groups and Networks:

One of the indicators was CBO leaders' efforts to recruit new members to their association. In June 2017, Cahicsan Farmers Association had 39 members. It had 42 members in November 2017. San Isidro was a new CBO with 12 members in June. Membership increased to 25 in November 2017. San Antonio Fisherfolks Association, the most matured association among the four CBOs, had 120 members in June. Membership increased to 136 in November 2017. Membership for LAPAS of San Pedro remained the same at 142.

When survey participants who were not currently members of any associations were asked if they are likely to join in the future, 120 out of 181 heads of household indicated that they were more likely to join the association (Table 5.9).

For those households who were currently members of the CBOs, an overwhelming majority (90%) indicated that they were happier as a member as compared to three months earlier (Table 5.9).

2. Trust their CBO leaders:

An independent samples test to assess the pre- and post-intervention changes on the level of households' trust for the CBO leaders was carried out based on the pre- and post-intervention household surveys conducted in June and November 2017. SPSS test results (Table 5.10) of the independent samples t-test showed a slight increase in mean trust (from 2.20 to 2.28) but this was not statistically significant ($p=0.449$). As discussed earlier, trust as a proxy measure might not be an appropriate measure for this research since one's expectation of trust could evolve gradually and would be statistically insignificant in a shorter period (the household test for trust), or evolve from a straightforward acceptance of trust to deeper interpersonal motives as seen from the qualitative and quantitative analyses of changes in trust among the CBO leaders.

3. Collective action and cooperation:

Similar questions from the SC-IQ survey were included in the pre- and post-intervention household surveys to collect information relating to: (1) the extent of collective action; (2) the frequency of participation in community activities. Results indicated that 97% (384 out of 394) of households surveyed in June 2017 participated in community activities in the past 12 months; most participated regularly and more than 80% participated often or very often. The participation rate in the November 2017 survey was 98% (358 out of 365), and more than 80% participated often and very often. Since households were already actively engaged in community activities, there was no significant difference for the pre- and post-intervention survey results.

4. Finally, significant changes were seen during the post-intervention reviews on the CBO leaders' willingness to change their personal behaviour to better engage with key stakeholders of their associations as they expanded their social networks and encompassed more social capital. The heads of households were one of the most important stakeholders that CBO leaders engaged with.

The household survey was modified to collect additional quantitative data relating to the most frequently discussed behavioural changes during the post-intervention review meetings. These changes were listed in questions 1.1 to 1.7 of Table 5.9. In November 2017, 365 heads of households from the treatment case-study sites were surveyed. Of these 365 heads of households, 184 are members of their respective CBOs and had interacted with their leaders between June and November 2017.

The overall mean from observed CBO leaders' behavioural changes was calculated based on the aggregate score from survey questions 1.1 to 1.7 (Table 5.9) from all households. Post-intervention surveys confirmed that 41% (150 out of 365) of households observed and experienced positive behavioural changes in their interactions with the CBO leaders.

5.8 Validation of Hypotheses for Research Question One

Chapter Four discussed the rationale for adopting an exploratory sequential mixed-method design consisting of three distinct phases for this research (Figure 4.1). In summary, the first phase of the study involved face-to-face surveys to collect pre-intervention households and CBO leaders' quantitative data for this research. This was followed by conducting social network training workshops and post-workshop reviews two and three months after the workshops for the treatment case-study sites. Training workshops relating to bio-diversity farming and sustainability fishing techniques and subsequent follow-up reviews were implemented for the control case-study sites. Finally, post-intervention CBO leaders and household surveys were carried out to assess changes to CBO leaders'

social capital based on the proposed proxy measures. The results collected from each phase of the research confirmed the benefits highlighted by Rossman and Wilson (1985, 1994) on combining qualitative and quantitative methods to investigate the research questions. In addition to improving the reliability of the findings, ‘new surprises and paradoxes’ were uncovered during the qualitative phase of the research.

5.8.1 Validation of Hypothesis 1

As documented in Section 5.4, the qualitative data collected from the post-intervention review meetings provided strong evidences that all CBO leaders were proactively taking steps to expand both the density and the intensity of their social networks. The density of the networks refers to the actual links in the network while the intensity of the links refers to the strength of the relationship (Tichy et al., 1979).

These observations were confirmed quantitatively based on the pre- and post-intervention data collected from the CBO leaders’ social capital surveys on network density and intensity from these two paired variance analyses:

1. The pre-intervention average network density at the household level for the CBO leader was 1.45 and 2.65 four months after intervention. A one-tailed paired sample t-test revealed that there was a statistically significant difference in the density of membership from CBO leaders with post-intervention ($M = 2.65$, $SD = 1.001$) and pre-intervention ($M = 1.45$, $SD = 0.714$), $t(39) = 7.113$, $p < 0.05$.
2. Q7 in the SC-IQ survey measured the ‘usefulness’ of the network and the ability to access resources from the network, and is a relevant measure for the intensity of the network (Grootaert, 2003). Similarly, a one-tailed paired sample t-test showed that there was a

statistically significant difference on this question post-intervention ($M = 3.65$, $SD = 0.770$) and before intervention ($M = 1.88$, $SD = 1.897$), $t(39) = 6.98$, $p < 0.05$.

3. Paired variance analyses by treatment case-study sites showed that Cahicsan, San Isidro and San Antonio were statistically significant in the post- and pre-intervention changes to the CBO leaders' network density with $p < 0.05$. San Pedro was statistically significant with $p < 0.1$ due to the smaller sample size.

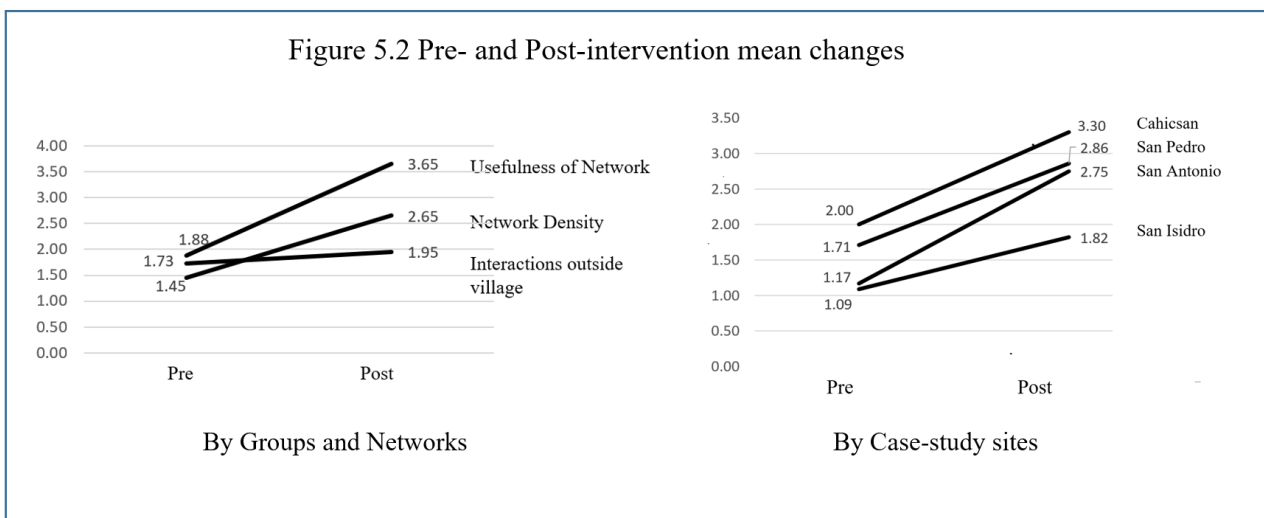


Figure 5.2 summarizes the mean changes for the three components relating to groups and networks and the mean changes by treatment case-study CBOs on network density.

The triangulation of the quantitative and qualitative data from the CBO leaders as a group from all treatment sites and CBO leaders by treatment sites, and further validation of findings with additional pre- and post-intervention household surveys provided reliable evidence to validate hypothesis 1 in this research. CBO leaders could purposefully develop their bonding social capital in a relatively short period with simple social network training.

5.8.2 Validation of Hypothesis 2

Based on CBO leaders' pre-intervention social capital survey, most of their interactions were within the boundaries of their own communities. They had developed strong bonding social capital, but were weak in the relationships outside of the communities. When these network gaps were shared with the CBO leaders during the intervention workshops, all agreed that they would take steps to expand their social network outside of their communities such as the local government agencies and NGOs. They also reported their progress in developing these relationships and the assistance they received from these agencies during the post-intervention meetings.

Question 4 in the SC-IQ survey asked CBO leaders if they interacted with people or groups outside of their village. A one-tailed paired sample t-test revealed that there was a statistically significant difference on interactions outside of their village or neighborhood post-intervention ($M = 1.95$, $SD = 0.221$) and before intervention ($M = 1.73$, $SD = 0.452$), $t(39) = 2.966$, $p < 0.05$.

Similarly, the triangulation of this data validated Hypothesis 2. CBO leaders could purposefully develop their bridging social capital in a relatively short period with simple social network training.

5.9 Surprises and Paradoxes Observed

The qualitative portion of this research uncovered some surprises during the social networks intervention workshop and post-intervention reviews. These observations were highlighted in Section 5.3 and 5.4. These 'surprises and paradoxes' are outside the scope of the current thesis but provide opportunities for future research.

CBO Leaders' Reaction to Social Capital Survey

When CBO leaders were made aware of their social capital survey results and shown gaps in their social network, most asked how they could broaden their network and were anxious to encompass more social capital. This was a consistent theme across the treatment case-study sites. Since the CBO

leaders are more influential, better educated and more connected in their communities than the rest of the community members, the observed phenomena could be explained based on the Matthew effect (Merton, 1968). As a result, they would benefit more from the network effects than their lower-status community members. Similarly, Smith et al., (2012) demonstrated under conditions of job threat, people with higher status spontaneously activate a larger section of their networks in response to the threat than do lower status people. Were the spontaneous responses from the CBO leaders when they were made aware of the social networks due to conditions of extreme poverty in their communities?

DiMaggio and Garip (2012) inform us that such responses could aggravate intergroup inequality in their communities. Though CBO leaders understood that the potential implication of the phenomenon to the rest of the community members with lower status than them and indicated that they would create more advantages for themselves and their community members when they purposefully developed their social networks and capital, further study is necessary to mitigate these risks.

CBO Leaders' Reaction to Social Skills Survey

When the social skills survey results were shared with the CBO leaders, they provided valuable feedback relating to the social and cultural context of the survey. Most deemed it inappropriate to 'judge others', 'read other people's feelings', or 'tell people why they acted the way they have'.

These three questions received the lowest score in the CBO leaders' social skills survey (Table 5.4).

Table 5.11 CBO leaders' social skills survey: Pre- and Post-intervention

Do you agree with the following statements? Scoring: Strongly agree (4); Mostly agree (3); Barely agree (2); Do not agree (1); Strongly disagree	Total Score: (Pre) ¹	Total Score: (Post) ¹
Social Perception		
I am a good judge of other people	37	84
I can usually recognize others' traits accurately by observing their behaviours	123	106
I can usually read others well - Tell how they are feeling in a given situation	59	78
I can tell why people have acted they way they have in most situations	121	65
I generally know when it is the right time to ask someone for a favour	81	113
Overall Mean Score	81	89
Social Adaptability		
I can easily adjust to any social situation	154	126
I can be comfortable with all types of people - young or old, people from the same or different background as myself	151	137
I can talk to anybody about almost anything	130	110
People tell me that I am sensitive and understanding	125	113
I have no problems introducing myself to strangers	146	112
Overall Mean Score	141	120
Expressiveness		
People can always read my emotions even if I try to cover them up	85	100
Whatever emotion I feel on the inside tends to show up on the outside	139	114
Other people can usually tell pretty much about how I feel at a given time	95	90
Overall Mean Score	106	101

1. Total Score = No of CBO leaders' responses X Score

Though the proposed intervention to develop the social skills of CBO leaders was not implemented based on this feedback, the social skills survey was included with the rest of the post-intervention surveys. With no intervention, the post-intervention social skill survey showed an overall increase of about 10% in the mean score for social perception while social adaptability dropped by 15% and expressiveness dropped by 4.7% (Table 5.11). All the lowest three items in the social skills survey showed improvement, with two of the three items statistically significant (Table 5.12). A one-tailed paired sample t-test revealed that Q1 of the survey (I am a good judge of other people) has a post-intervention (M = 1.715, SD = 1.152) and before intervention (M = 0.93, SD = 1.071), $t(39) = 6.45$,

$p < 0.05$. The third lowest scored item (Q3 of the survey: I can usually read others well/tell how they are feeling in a given situation) was statistically significant at $p < 0.1$ ($p < .052$).

Table 5.12 Pre- and Post-intervention CBO Social Skills - Treatment case-study sites¹

Paired Samples Statistics										
Q1: Social Perception: I am a good judge of other people.		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Q1 (Post)	2.10	40	1.081	0.171					
	Q1 (Pre)	0.93	40	1.071	0.169					
Q1: Social Perception: I am a good judge of other people.		Paired Differences								
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Sig. (2-tailed)	
		Mean			Lower	Upper	t	df		
Pair 1	Q1 (Post) - Q1 (Pre)	1.175	1.152	0.182	0.807	1.543	6.450	39	0.000	
Q4 Social Perception: I can tell why people have acted they way they have in most situations.		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Q4 (Post)	1.63	40	1.353	0.214					
	Q4 (Pre)	1.48	40	1.176	0.186					
Q4 Social Perception: I can tell why people have acted they way they have in most situations.		Paired Differences								
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Sig. (2-tailed)	
		Mean			Lower	Upper	t	df		
Pair 1	Q4 (Post) - Q4 (Pre)	0.150	1.292	0.204	-0.263	0.563	0.734	39	0.467	
Q3 Social Perception: I can usually read others well - Tell how they are feeling in a given situation.		Mean	N	Std. Deviation	Std. Error Mean					
Pair 1	Q3 Post	1.95	40	1.300	0.206					
	Q3 Pre	1.58	40	1.318	0.208					
Q3 Social Perception: I can usually read others well - Tell how they are feeling in a given situation.		Paired Differences								
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Sig. (2-tailed)	
		Mean			Lower	Upper	t	df		
Pair 1	Q3 Post - Q3 Pre	0.375	1.427	0.226	-0.081	0.831	1.662	39	0.104	
1. The top three lowest scored items in pre-treatment CBO social skills survey										

The interpretation of the qualitative information collected from the intervention workshops and quantitative data from the pre- and post-intervention surveys suggested that improvement in social networks and capital could lead to changes in social competency skills as well. The endogeneity of social skills and social capital could be an area for further investigation.

CBO Leaders' Social Capital and Behaviour Changes

Another consistent theme emerging from the post-intervention review meetings with the CBO leaders was the changes they described to their personal behaviour as they expanded their social networks and deepened their relationships with the stakeholders of their associations. These behavioural changes were described in Section 5.4 and validated by the post-intervention household survey. They are more confident of themselves, more optimistic that their communities will support them to implement common tools and technologies, and more hopeful that they can help their communities to improve their income.

Luthans et al., (2004) suggested that organizations should go beyond investments in human capital and social capital to ‘positive psychological capital’; and highlighted the four dimensions of positive psychological capital encompassing confidence, hope, optimism, and resilience. Luthans and Youssef (2004) provided some recommendations on how organizations can develop and harness positive psychological capital, and how such transformation could contribute to developing world-class organizations.

The CBO leaders are more confident and optimistic of themselves from the interventions to develop their social networks and capital within a short period of four months. They are more hopeful to influence changes among their members to adopt common tools and technologies to improve livelihoods in their communities. Based on the compelling evidence collected from this research, I believe that purposefully developing the social networks and capital of CBO leaders would strengthen their positive psychological capital and in turn improve their resilience to cope with livelihood challenges in their communities.

5.10 Summary

This chapter documents the qualitative and quantitative data collected based on a well-thought-out and coherent research method to collect ‘convincing and accurate’ data to validate the proposed hypotheses

(Creswell and Plano Clark, 2011 and Yin, 2014). The ability to triangulate data collected from the different phases of the research and calibrate with both the CBO leaders and heads of household in the communities, improved the reliability of the measures. The triangulation of these evidences conclusively validated Hypotheses 1 and 2 of research Question One. Hypothesis 3 was aborted from this research due to feedback provided by the CBO leaders during the intervention workshops that it was not culturally appropriate to change their social perception skills. However, aborting Hypothesis 3 did not impact the overall outcome of this research. Further, new surprises and paradoxes were uncovered based on how CBO leaders responded or reacted to specific situations or discussions. These surprises and paradoxes that were uncovered can provide opportunities for future research.

The next chapter will follow the same format to document the qualitative and quantitative data collected to triangulate the outcomes from the control group.

Chapter Six

Intervention and Findings from the Control Group CBOs

6.0 Introduction

The previous chapter analysed the pre- and post-intervention qualitative and quantitative data collected from treatment case-study sites. The triangulation of these analyses confirmed that CBO leaders could purposefully develop their social capital from simple social network training within a relatively short period of four months. These analyses validated Hypothesis 1 and 2. Hypothesis 3 was aborted based on the feedback from the CBO leaders that it was socially and culturally inappropriate to change those items in social skills relating to social perception. However, aborting Hypothesis 3 did not affect the overall outcome of the intervention. Additional surprises and paradoxes were observed and validated from the treatment sites and they provide opportunities for future research.

The control group was set up to assess potential Hawthorne effect in the treatment group (Roethlisberger and Dickson, 1939), where CBO leaders respond differently just because they were being studied. Two CBOs, one from a farming village (Imelda) and another from a fishing village (Roxas) were set up as control groups for this research. Instead of social network training, the CBO leaders from the farming control group attended a bio-diversity workshop while their counterparts from the fishing control group attended a sustainable fishing workshop. Section 4.8 of Chapter Four provided details of how these interventions were designed and implemented.

Pre-intervention CBO leaders and heads of household surveys were conducted in late October and completed in November 2017. There were 202 households in Imelda and 235 in Roxas based on household data provided by the Municipality of Catarman and Mondragon in October 2017. Fifty percent of these households were selected randomly to participate in the household survey. Subsequently, 101 heads of households from Imelda and 104 from Roxas were surveyed face-to-face. Six CBO leaders from RUMPI, the largest CBO in Roxas, and nine from the El Limbo Irrigators

Association in Imelda representing 100% of the officers of these two CBOs were invited to participate in the research. All took part in the pre-intervention survey, intervention workshops and post-workshop reviews. Instead of two post-intervention reviews, only one session was conducted for each CBO two months after the intervention workshops to avoid inadvertently increasing the interactions of the CBO leaders not related to this research. The intervention workshop for Imelda was conducted on November 8, 2017, and Roxas on November 9, 2017. The post-intervention reviews were conducted on Jan 15, 2018 for Imelda and Jan 16, 2018 for Roxas. Finally, the post-intervention CBO leaders and household surveys were conducted on the second week of February 2018, four months after they attended the workshops.

The bio-diversity farming workshop was well received by all. This program has been implemented in several villages in Northern Samar by NAC. The training taught CBO leaders how to reduce undesirable environment impact associated with the use of fertilizers and chemical pesticides and how to improve rice yields with bio-diversity farming techniques. The workshop also covered the use of rice ducks to replace chemical-based pesticides. The eggs from these ducks provide an additional source of income for the farmers.

Overfishing resulting in the decline in fish populations is the biggest risk to fishermen from many coastal fishing communities in the Philippines. The CBO leaders from Roxas were introduced to sustainable fishing techniques and coastal resources conservation during the intervention workshop. Some of the techniques discussed include using the right fishing equipment, setting areas as fish sanctuaries, monitoring illegal fishing and cultivating mangrove and seaweed.

Valuable qualitative information was collected from the intervention workshops and post-intervention reviews relating to how bio-diversity farming and sustainability fishing could be implemented in rural communities. However, since the purpose of the interventions administered to the control group was to contrast changes in the CBO leaders' pre- and post-intervention social capital between the 'treated'

and ‘untreated’ groups, only the pre- and post-intervention CBO leaders and household quantitative results were reported for this thesis. The qualitative data collected from the CBO leaders’ reaction to the interventions during the intervention workshops and post-workshop reviews will not be reported. The qualitative data collected could be useful for future research on how social capital can accelerate sustainability practices to improve the overall well-being of rural communities.

This chapter will cover the following topics:

1. Socio-economic and demographic background of the households and CBO leaders.
2. Paired variance analyses of the groups and networks proxy social capital measures for the control CBOs.
3. Comparison of the pre- and post-intervention changes to selected survey items for groups and networks between the treatment and control groups.
4. Comparison of the pre- and post-intervention changes to the CBO leaders’ behavioural changes from their interactions with community members between the treatment and control groups.

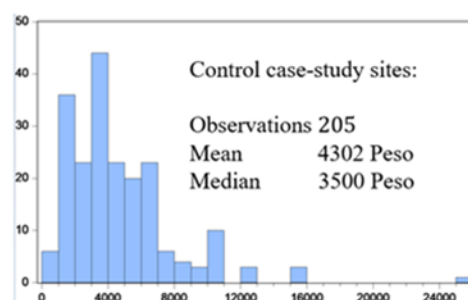
6.1 Summary Statistics: Heads of Households – Control Case-study Sites

Table 6.1 and 6.2 summarize the socio-economic and demographic background of the control case-study sites based on household surveys conducted in early November 2017. The profile of a head of household in the control case-study sites is similar to those from the treatment sites. The mean and median household incomes were PHP 4302 and 3500 per month, marginally higher than the treatment sites. Similarly, except for a few retired government employees, almost all household monthly incomes were below the official Philippines poverty line. Despite better infrastructure and accessibility compared to the villages from the treatment sites, most residents (73%) from these two villages seldom travel outside of their communities. All households participated actively and regularly in community

activities. Similarly, most trusted or trusted very much their CBO leaders and expected their leaders to address livelihood issues in their communities. The communities are endowed with strong bonding, but weak bridging social capital.

Table 6.1 Monthly household income in control case-study sites

Case-study Sites:	No HH ¹ May 2017	HH Surveyed	% below PHP 4000	% below PHP 10000	% Poverty Incidence
Imelda ²	202	101	68	99	99
Roxas ²	235	104	59	93	93
Total	437	205			



1. HH information provided by the municipality of Mondragon and Catarman in October 2017
2. Face-to-face HH survey: Nov 2017 (Control case-study sites)

6.2 Summary Statistics: CBO Leaders – Control Case-study Sites

Table 6.3 summarizes the socio-economic and demographic background of the CBO leaders from the control case-study sites. The profile of a CBO leader is similar to those from the treatment sites. The median age is 46 and the majority are married with a median of four children. Most have completed secondary education while two have completed college education. All CBO leaders indicated a strong desire to learn new skills and adopt new tools and technologies to improve the livelihoods in their communities. Women were well represented in the CBO leadership teams. The leaders have developed strong relationships with the communities and are highly respected by them. Unlike the residents of these two villages, most travel outside of their communities regularly.

They are also among the most influential people in their communities. Like their counterparts in the treatment case-study sites, though they are poor, most are very happy with their lives and feel strongly

that they can make important decisions that can change their lives and the lives of the people in their communities.

Table 6.2 Basic household socio-economics and demographics information
Control case-study sites

	Imelda		Roxas		Control Sites		
	No	%	No	%	No	%	
Total households	202		235		437		
Households Surveyed	101		104		205		
Gender							
Male	76	75	57	55	133	65	
Female	25	25	47	45	72	35	
Marital Status							
Married	83	81	82	79	165	80	
Single	11	11	7	7	8	8	
Widowed	7	7	15	14	22	12	
Age:							
19-31	12	12	16	15	28	14	Mean:47
32-44	41	41	26	25	67	33	Median:46
45-57	26	26	37	36	63	31	Max:89
58-70	15	15	18	17	33	16	Min:23
71-83	7	7	7	7	14	7	
Education Level							
None	2	2	1	1	3	1	
Elementary	68	68	54	52	122	60	
Secondary	23	23	37	36	60	30	
College	8	8	12	12	20	10	
Number of Children							
None	7	7	8	8	15	7	
1-3	40	40	36	35	76	37	Mean:4
4-6	33	33	38	36	71	35	Median:4
7-9	20	20	20	19	40	20	Max:16
10-12	1	1	2	2	3	1	Min:0
Primary Income Source							
Farming	56	56	15	12	71	35	
Fishing	0	0	51	41	51	25	
Shop-owner	16	16	15	12	31	15	
Labourer	29	29	16	13	45	22	
Others	0	0	26	21	26	13	
Land Ownership							
Yes	48	48	18	17	66	32	
None	53	53	86	83	139	68	
Tools Ownership							
Basic farming equipment							
Yes	28	28			28		
None	73	73			73		
Fishing (Boat)							
Yes			11	11	11		
No			93	89	93		

Table 6.3 CBO leaders socio-economics and demographics background

Control case-study sites

CBO leaders surveyed	Imelda		Roxas		Control sites		
	No	%	No	%	No	%	
Gender							
Male	5	83	3	33	8	53	
Female	1	17	6	67	7	47	
Marital Status							
Married	5	83	8	89	13	87	
Single	1	17	0	0	1	7	
Separated	0	0	1	11	1	7	
Age:							
34-43	2	33	3	33	5	33	Mean:48
44-53	3	50	3	33	6	40	Median:49
54-63	1	17	3	33	4	27	
Education Level							
None	0	0	0	0	0	0	
Elementary	3	50	2	22	5	33	
Secondary	3	50	5	56	8	53	
College	0	0	2	22	2	13	
Number of children							
None	0	0	0	0	0	0	Mean:5
1-3	0	0	1	11	1	6	Median:5
4-6	2	33	7	77	9	60	Max:9
7-9	4	67	1	11	5	33	
10-12	0	0	0	0	0	0	
Primary source of income							
Farming	6	100	2	22	8	53	
Fishing	0	0	6	62	6	40	
Others	0	0	1	12	1	7	
Willing to learn new skills							
Yes	6	100	9	100	15	100	
No	0	0	0	0	0	0	
Willing to adopt new tools							
Yes	6	100	9	100	15	100	
No	0	0	0	0	0	0	

6.3 Pre- and Post-Intervention Paired Variance Analyses for Proxy Social Capital Measures

The same SC-IQ survey instrument was used to measure the pre- and post-intervention social capital of the CBO leaders in the control group. All the six dimensions of social capital measures were collected from the surveys. However, only the three most relevant proxy measures will be reported.

Table 6.4 summarizes the relevant SC-IQ survey responses relating to the groups and networks proxy measures while Table 6.5 documents the paired variance analyses from SPSS for these questions. Figure 6.1 shows the comparison of the pre- and post-intervention mean changes for the treatment and control groups related to the groups and networks proxy measures. The following summarizes the survey results from these two groups:

1. The pre- and post-intervention paired variance analyses for network density (Q1 of SC-IQ for all memberships) did not change in the control group while the treatment group showed an 80% change and was statistically significant at $p < 0.01$.
2. There was also no change in the responses to Q4 on SC-IQ relating to interaction outside of their villages. This could be due to the already high frequency of interactions outside of their communities before intervention as compared to the treatment group. The treatment group showed a 13% mean change and was statistically significant at $P < 0.01$.
3. Similarly, Q7, which measured the ‘usefulness’ and the ability to access resources from the network, had a marginally negative change while the treatment group showed a 94% mean change and statistically significant at $p < 0.01$.

The lack of statistically significant change in network density, usefulness of network and interactions with people outside or groups outside of the village in the control group strengthen the case that improvement in social capital noted in the treatment group was attributed to the specific social network training provided rather than a result of other events resulting in the ‘Hawthorne effect’.

Table 6.4 CBO leaders' pre- and post-intervention proxy measures of social capital with SC-IQ survey^{1,2}

		Control Group					
		Imelda		Roxas		All Control	
		Pre-	Post	Pre	Post	Pre	Post
SC-IO ³	CBO leaders surveyed	6	6	9	9	15	15
Proxy social capital measure							
A	Groups and Networks:						
O-1	Type of organization of groups						
	Religious organization	1	1	1	1	2	2
	School-based organization	2	1	3	2	5	3
	Neighbourhood Association	0	1	0	0	0	1
	Livelihood organization	6	6	9	13	15	19
	Cause-oriented organization (lobby with government)	0	0	0	0	0	0
	Total	9	9	13	16	22	25
Q-4	Do you interact with people or groups outside the village?						
	Yes	6	6	9	8	15	14
	No	0	0	0	1	0	1
Q-5	How often?						
	Frequently	3	0	0	3	3	3
	Occasionally	3	5	3	3	6	8
	Rarely	0	1	6	3	6	4
Q-7	If you suddenly needed to borrow small amount of money, are there people beyond your household and closed friends willing and able to provide this money?						
	Definitely	4	6	9	4	13	10
	Probably	2	0	0	3	2	3
	Unsure	0	0	0	0	0	0
	Probably not	0	0	0	0	0	0
	Definitely not	0	0	0	2	0	2
B	Trust and Solidarity						
Q-8	Would you say that people can be trusted?						
	Yes	5	6	9	0	14	6
	No	1	0	0	9	1	10
Q-9a	Most people in this village are willing to help if you need them						
	Strongly disagree	0	0	0	0	0	0
	Don't agree	0	0	1	0	1	0
	Barely agree	1	2	5	0	6	2
	Mostly agree	0	2	2	1	2	3
	Strongly agree	5	2	1	8	6	10
Q-10b	Do you trust your local government officials?						
	I never trust them	1	0	0	1	1	1
	Somewhat trust them	2	2	2	2	4	4
	I trust them	3	3	6	4	9	7
	I trust them very much	0	1	1	2	1	3
Q-11	If a community project does not benefit you but has benefits for many others in the village, would you contribute time or money to the project?						
a	Yes, I will contribute time	6	6	9	8	15	14
	No, I will not contribute time	0	0	0	1	0	1
b	Yes, I will contribute money	5	5	7	5	12	10
	No, I will not contribute money	1	1	2	4	3	5
C	Collective Action and Cooperation						
Q-12	In the past 12 months, did you or anyone of you hh participate in any community activities w/c people came						
	Yes	6	6	9	9	15	15
	No	0	0	0	0	0	0
Q-13	If YES, how often did you participate in the past 12 months?						
	Very often	1	0	5	1	6	1
	Often	4	5	3	5	7	10
	Seldom	1	1	1	3	2	4

¹ Pre-intervention survey, Nov 2017² Post-intervention survey, Feb 2018³ Mapped to SC-IQ Survey question number

Table 6.5 Paired Variance Analysis: Pre- and post-Interventions for social capital proxy measure #1
Paired Samples Statistics (Network Density) - Control case-study sites

Q1 SC-IQ All groups and networks (Network Density)		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Post-Treatment (Networks)	1.67	15	0.976	0.252
	Pre-Treatment (Networks)	1.67	15	0.724	0.187

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Post-Treatment (Networks) - Pre-Treatment (Networks)	0.000	0.756	0.195	-0.419	0.419	0.000	14	1.000

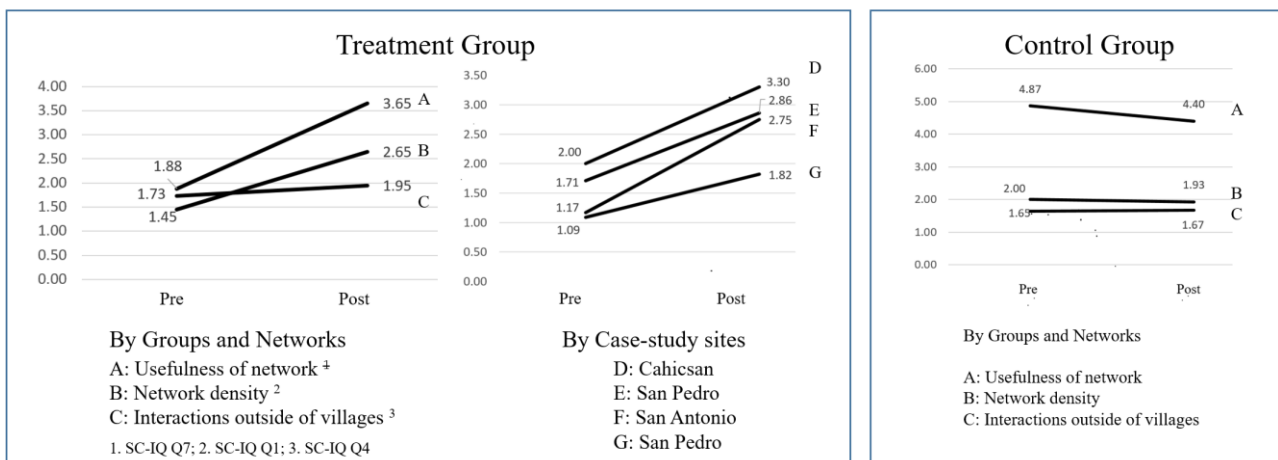
Q4 SC-IQ Do you interact with people or groups outside of your village		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Interaction outside of group Q4(Post)	1.93	15	0.258	0.067
	Interaction outside of group Q4 (Pre)	2.00	15	0.000	0.000

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Interaction outside of group Q4(Post) - Interaction outside of group Q4 (Pre)	-0.067	0.258	0.067	-0.210	0.076	-1.000	14	0.334

Q7 SC-IQ If you suddenly needed to borrow a small amount of money, are there people beyond your immediate households and close friends willing and able to provide the money?		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Q7 of SC-IQ (Post)	4.40	15	1.056	0.273
	Q7 of SC-IQ (pre)	4.87	15	0.352	0.091

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Q7 of SC-IQ (Post) - Q7 of SC-IQ (pre)	-0.467	1.187	0.307	-1.124	0.191	-1.522	14	0.150

Figure 6.1 Pre- and post-intervention mean changes: Treatment and Control groups



6.4 CBO Leaders Behavioural Changes in Control Case-study Sites

Table 6.6 Post-intervention household survey - Control case-study sites¹

Our CBO leaders are:	No Change		Small Change		Big Change		Not sure	
	No	%	No	%	No	%	Not sure	%
1.1 More friendly to me	102	53	75	39	6	3	11	6
1.2 Discussing more openly with us	84	43	86	44	1	1	23	12
1.3 Listening to our inputs and suggestions during meetings	76	39	92	47	0	0	26	13
1.4 More willing to help me when I have problems	68	35	71	37	3	2	52	27
1.5 Making more effort to recruit new members	85	44	50	26	3	2	56	29
1.6 Developing better relationship with the barangay officers	90	46	78	40	5	3	21	11
1.7 Caring more about our livelihood issues	99	51	60	31	2	1	33	17
Overall Means from observed CBO leaders' behavioural changes	86	44	73	37	3	1	32	16
			Happier		No Change		Less happy	
2.1 Are you happier as a member of the association? ²	59	75	6	8	6	8	8	10
			More likely		Will not join		Not sure	
2.2 More likely to join the association if you are not a member ³	92	80	11	10	12	10		

1. Post-intervention HH survey, February 2016. 194 HH were surveyed in the two control case-study sites
2. From 79 HH who are members of their respective CBOs
3. From 115 HH who are not members of any CBOs

Observable positive behavioural change among the CBO leaders from the treatment group was one of the consistent themes emerging from the discussions with CBO leaders during the post-intervention reviews as they expanded their social networks and deepened their relationship with community members and external agencies. Additional questions were included in the post-intervention household survey to access these changes from the heads of households.

Post-intervention household survey indicated that 41% of heads of households (150 out of the 365 surveyed) experienced big behavioural changes in their interactions with the CBO leaders during the four-month period after they attended the social network training. In contrast, only 1% of heads of households (3 out of the 194 surveyed) indicated they experienced a big change in the control group. Summary results relating to CBO leaders' behavioural changes for CBO leaders from the treatment group was provided in Table 5.9 while Table 6.6 provides the summary results for the control group.

Most residents who were then not members of any CBOs in their communities indicated that they were more likely to join these associations in both the treatment and control groups. The treatment group showed an increase in membership during the four-month period (3 in Cahicsan, 13 in San Isidro and 12 in San Antonio) while no new members joined the two CBOs in the control group during the four-month period after their intervention.

6.5 Summary

As discussed in the previous chapters, social capital is multidimensional, context-dependent, complex and remains a ‘contested concept’. This research paid close attention to these complexities when developing the experimental design to investigate the proposed research questions. The ability to compare the results from the intervention and the control groups based on the sequential mixed-method design increased the reliability of measures used to validate the proposed hypotheses for this research.

The analyses of the pre- and post-intervention CBO leaders and household surveys confirmed that:

1. CBO leaders can purposefully develop their social capital from simple social network training in a relatively short period of four months. The positive change in the CBO leaders’ social capital can be attributed to the social network training rather than because they were being studied or any other interventions not related to the social network training.
2. CBO leaders’ expanded social networks and capital led to observable positive behavioural changes. This was one of the surprise findings from this research. Forty-one percent of the heads of households in the treatment case-study sites experienced positive behavioural changes in their interactions with the CBO leaders in the treatment case-study sites while only 1% had the same experience from the control case-study sites.

The next chapter will further triangulate the qualitative and quantitative data collected and additional follow-up surveys to validate the hypotheses relating to how CBO leaders' purposefully developed social capital influenced the adoption of common tools and technologies in the farming and fishing treatment case-study sites.

Chapter Seven

CBO Leaders' Actions from their Purposefully Developed Social Capital

7.0 Introduction

Chapter Five highlighted a consistent theme emerging from the intervention workshops for the treatment group. When CBO leaders were made aware of their social network structure and shown gaps from the social capital survey, most asked how they could broaden their network to acquire more social capital. The observed phenomenon was explained based on the Matthew effect (Merton, 1968). DiMaggio and Garip (2012) confirmed that these spontaneous responses from the CBO leaders could aggravate intergroup inequality in their communities. Based on the households and CBO leaders' surveys conducted for this research, the CBO leaders are the elites in their communities. Similarly, as highlighted in Chapter Three, most of The World Bank's CDD projects were 'dominated by elites' instead of targeting and benefiting the poor based on the review by Mansuri and Rao (2013). CBO leaders were reminded of the potential implications of the 'Matthew effect' as they encompass more social capital and that their actions should not aggravate more inequality at the expense of the less privileged members of their communities.

This research reviewed the literature of social capital and its contribution to rural economic development. It considered those contested issues relating to social capital's contribution to improving livelihoods in rural communities. However, research Question Two takes a narrow focus on how CBO leaders' purposefully developed social capital can improve their access to informal and formal resources to acquire essential common tools and technologies to improve their livelihoods. Based on household data collected for this research, the lack of the most basic farming and fishing tools was the main cause of poverty in all the six case-study sites (Table 1.3). The farmers and fishermen were unable to acquire the tools they desperately needed due to the lack of capital and access to credit based on the household survey. The Philippines National Development Authority confirmed that these were

long-standing issues faced by farmers and fishermen and were the main causes of rural poverty (NEDA 2011, NEDA 2017). Likewise, due to the lack of access to formal credit, most depended on informal sources from village traders, friends and relatives (Table 1.4).

The analysis from the treatment groups provided compelling evidence that CBO leaders could purposefully develop their social capital from simple network training within a short period. The intervention to purposefully develop social capital of CBO leaders also led to changes in their personal behaviour and improvement in their social competency skills. The CBO leaders believed that they are in a better position to address livelihood issues in their communities because of their expanded social networks and capital.

The mission and the organizational model of the six CBOs selected for this research have many similarities based on Pedro et al., (2006) conceptualization of a community-based enterprise (CBE) where a CBE acts both as an entrepreneur and enterprise in the pursuit of a common good on behalf of its community members. This research draws on this conceptualization of CBEs and on the action theory of entrepreneurship research where entrepreneurs take action to exploit opportunities despite the environment uncertainty through a process of discovery and evaluation (McMullen and Shepherd, 2006; Frese, 2007; George et al., 2014).

This chapter will triangulate the qualitative data collected from the intervention workshops and post-intervention reviews and additional follow-up surveys to validate the proposed hypotheses for research Question Two. It will cover the following:

1. CBO leaders' actions to promote better relationship and trust between the farmers and village traders; and whether the improved relationships could reduce trader-linked financing costs for the farmers.
2. CBO leaders' actions to improve access to external resources and enable new partnerships with outside parties.

The proposed CBO leaders' actions were initiated from their discussion relating to issues highlighted by their communities from the household survey during the intervention workshops and post-intervention review meeting. These issues are highlighted in Table 7.1. Improving their livelihoods, better access to capital, help to acquire farming and fishing tools were the three top priorities highlighted in the household survey. When these community issues were discussed, all CBO leaders demonstrated a strong desire to take the necessary action to address these issues despite the challenges they faced in their communities. They were also more optimistic that they could influence their members to change to address these community issues as a result of their expanded social networks and capital.

Table 7.1 Help needed from CBO leaders in treatment case-study sites¹

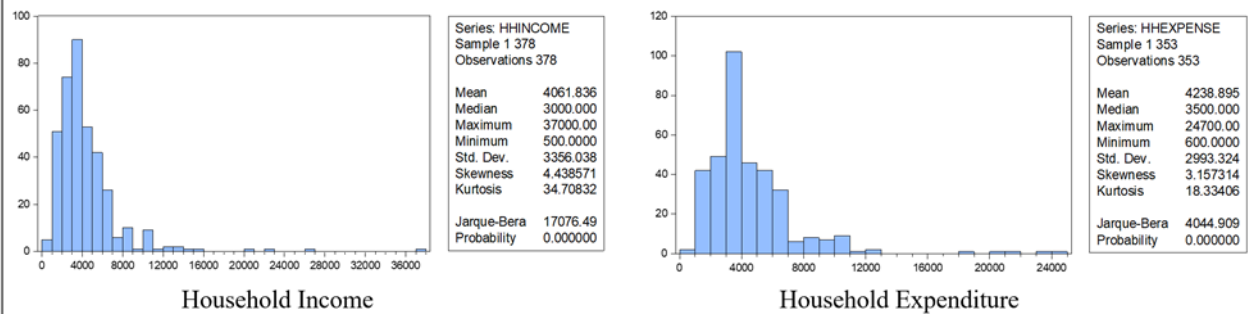
	No	%
Improve livelihoods	47	23%
Access to capital	39	19%
Acquire Fishing/farming equipment	38	18%
Training to improve our livelihoods	28	14%
Improve basic infrastructure in our village	12	6%
Find buyers for crops (seaweeds & others)	10	5%
Health facilities	8	4%
Improve irrigation	9	4%
Prevent illegal fishing	9	4%
Additional school buildings	7	3%

1. Household survey, June 2017. Helps needed from the CBO leaders requested by 207 heads of households

7.1 Informal Financing

Chapter One and Five provided information relating to the socio-economic background of the households in the case-study sites. Table 7.2 summarizes the monthly household income and expenditure in these communities. The mean and median monthly household income were PHP 4061 and PHP 3000 while the mean and median monthly expenditure were PHP 4238 and PHP 3500.

Table 7.2: Household income and expenditure – Treatment case-study sites



Out of 394 HH surveyed, 16 HH were unable to provide monthly HH income and 41 not able to provide monthly HH expenditure

Except for a few retired government employees, 83% (341 out of 394) of households depended on short-term borrowing from the traders, relatives and friends to overcome their income-expenditure gap (Table 7.3). Most of the loans were less than PHP 2000. Only 10% of the loans were used to acquire farming and fishing tools and the rest were primarily used to smoothen short-term consumption shortfalls (Table 7.4).

Table 7.3 Sources of credit: Treatment case-study sites¹

	No	%
Traders	146	43%
Relatives and friends	132	39%
MFIs	33	10%
Cooperatives	4	1%
Banks	3	1%
Others	23	7%
TOTAL	341	100%

1. Household survey, June 2017

Trader-linked finance, where the farmers obtained short-term loans from the village traders with a pledge to sell their produce to them after harvest is the largest source of credit in the treatment case-study sites (Table 7.3). The percentage of trader-linked financing was even more prevalent in the

Table 7.4 Usage of Loans¹

	No of HH	%
To buy household basic needs	251	52%
To pay school expenses	87	18%
To start/additional capital for business	49	10%
To pay household emergencies/celebrations	42	9%
To buy farming/fishing equipment/tools	25	5%
To pay off existing loan	13	3%
Others	13	3%

1. Household survey, June 2017. Out of 394 HH, 83% of HH borrowed during the last 12 months

farming communities with 70% of households from Cahicsan and 40% San Isidro dependent on the traders for financing. This informal ‘trader as lender’ financing model is known to cause harm due to the high-interest rates and unscrupulous practices (Esguerra et al., 1993; Hendriks, 1994; Sagrario Floro and Ray, 1997; Provido, 2012; Kürschner et al., 2016). However, despite their exploitative practices, the traders are well entrenched and will continue to be the primary source of financing in these rural farming communities. The CBO leaders acknowledged these realities and one of the themes emerging from the intervention workshops was to use their expanded social networks and capital to facilitate more interactions and dialog between the farmers and traders. Most agreed that developing better trust would help to reduce the risks of defaults from the farmers, and this would translate into cheaper interest charges for their loans. Hypotheses 4a and 4b were proposed based on this feedback and the quantitative data collected from the household survey.

7.2 CBO Leaders’ Actions: Improve Trader-linked Financing

The exploratory sequential research method adopted provided flexibility to add follow-up surveys to investigate new requirements building on the prior exploratory results (Creswell and Plano Clark, 2011). Two additional surveys were conducted face-to-face in September 2017 to collect information relating to the trader-linked financing to investigate Hypotheses 4a and 4b. The first survey was

targeted at all the farmers from the farming communities (Cahicsan and San Isidro) who obtained a loan from the traders within the last 12 months. The goals of this survey were first, to understand how loans from the traders were structured, and if the terms were explained to the farmers and if the farmers understood these terms. Second, to assess if the farmers felt exploited by the traders, and the trader-farmer relationships. The second survey was targeted at all the traders operating in Cahicsan and San Isidro to understand how informal credit from the traders was made available to the farmers, how interest rates were determined and the relationship between the traders and farmers.

These two surveys provided additional information on the challenges faced by farmers on trader-linked financing and how CBO leaders can contribute to improving trader-linked financing between the farmers and traders to validate the proposed Hypotheses 4a and 4b.

7.2.1 Demand Side Survey: Trader-linked Financing

In the household survey conducted in June 2017, 69 farmers in Cahicsan and 40 in San Isidro indicated that they had obtained at least one loan from the traders during the last 12 months. Among this group, 60 farmers from Cahicsan and all the 40 farmers from San Isidro agreed to participate in this survey. Table 7.5, 7.6 and 7.7 provide summary information from the survey.

Loan amount (in PHP)		Types of loan		Uses of loan		Household goods from loan	
	%		%		%		%
< 1,000	53	HH Goods	42	Food	82	Sugar	16
1,000 - 2,000	28	Cash	38	Education	14	Noodle	16
2,000 - 5,000	14	Both	20	Capital	4	Rice	15
> 5000	5					Soap	15
						Condiments	13
						Canned Goods	13
						Viand	4
						Others	3

1. 100 farmers with loans from traders surveyed in September 2017

Table 7.6 Understand T&C, mode of payment and default rate

Explained T&C?		Understood T&C		Interest Charged	Mode of payment	Defaulted last 12 months?		
%		%				%		
Yes	96	Yes	95	1. 40-50% cut in prices	Sell produce to traders	64	Yes	27
No	4	No	5	2. 20% per month	Pay lump sum after harvest	22	No	73
				3. % shrinkage from:	Pay instalment every harvest	6		
				- 14 to 20% per kilo for copra	Others	8		
				- 5% for abaca				

Table 7.7 Relationship with traders

Traders taking advantage		Do you trust the traders?		Traders trust you to pay back?		Always used the same trader	
Yes	No	Yes	No	Yes	No	Yes	No
82	18	98	2	100	0	93	7

7.2.2 Supply Side Survey: Trader-linked Financing

There were 13 traders, eight from Cahicsan and five from San Isidro. The CBO leaders facilitated the face-to-face survey and meetings with all the traders in September 2017. Table 7.8, 7.9 and 7.10 summarize the information collected from the survey. There are three categories of informal creditors in the village: sari-sari store owners; moneylenders; and traders. The village-level traders deal with abaca, copra and palay (rice) trading activities which are operated by the larger municipal or regional traders. Most loans were small and they could be in cash, cash and goods and goods only. Payment terms varied from weekly, monthly or payment after harvest. Farmers with payment terms after harvest were required to sell their crops to the traders who provided the loans.

Multiple interest options were applied depending on the types of loans (Table 7.9). A cash loan carried a 20% monthly interest rate while a loan to buy basic food items would incur a 10% monthly interest rate since the traders already marked up the prices of these food items. For farmers who could only afford to pay after harvest, the traders applied two methods to calculate the interest rate. The first was to purchase their crops at 40-50% below market price. The second was based on a 'shrinkage model'

where the traders applied a 15% shrinkage per kilo for copra and 5% shrinkage for abaca. A kilo of copra was between PHP 50-54 in February 2018 while the average price per kilo for abaca was about PHP 90 in 2017. The effective interest rate based on the shrinkage model was the highest among the three options and subjected to abuse. Data collected from the trader survey confirmed past findings on extreme interest variability in trader financing (Timberg and Aiyar 1984; Aleen 1990; Banerjee 2001; Conning and Udry, 2007).

The relationships between the traders and farmers and the CBO leaders were tenuous at best. This was a consistent feedback when the CBO leaders discussed their livelihood improvement proposals during the post-intervention review meetings. However, all traders indicated that they trusted the CBO leaders and believed that they could help to improve their business. They also believed that they trusted the farmers to repay their loans, even for those who have defaulted (Table 7.10).

Table 7.8 Profile of informal creditors¹

Business Activities	No	Length of operations	No	Loan type	No	Require farmers to sell produce	
1. Sari-sari stores	11	1. Less than one year	3	1. Only cash loan	2	Yes	8
2. Abaca traders	6	2. 1 - 3 years	5	2. Cash and goods	4	No	5
3. Palay (Rice) traders	0	3. 4 - 6 years	1	3. Only goods	7		
4. Copra traders	4	4. Over 6 years	4				
5. Money lenders	1						

1. 13 traders, 8 from Cahicsa and 5 from San Isidro surveyed in September, 2017

Table 7.9 Payment terms and multiple options of interest applied to loans

Loan Amoun	No	Payment Frequency	No	Not required to sell produce	Interest charged	
					No	Required to sell produce
< 1000	9	1. Weekly	2	10% monthly for food	1	Pay with produce at 40-50% below market price
> 1000	4	2. Monthly	6	20% for cash loan	1	15% shrinkage of total kilo for Copra ¹
		3. Quarterly	6	Pay with produce at 40-50%	6	5% shrinkage of the total kilo for abaca ²
		4. After harvest	6	below market price		

1. Price per kilo for copra was 50-54 Peso in Feb 2018

2. Average Price per kilo for abaca was 90 Peso in 2017

Table 7.10 Relationship between farmers and CBO leaders

Trust farmers to repay loan		Do you trust the CBO leaders?		Can CBOs leaders help you to improve business?	
Yes	No Sure	Yes	No	Yes	No
12	1	13	0	13	0

7.2.3 CBO Leaders' Actions: Improve Trader-linked Financing

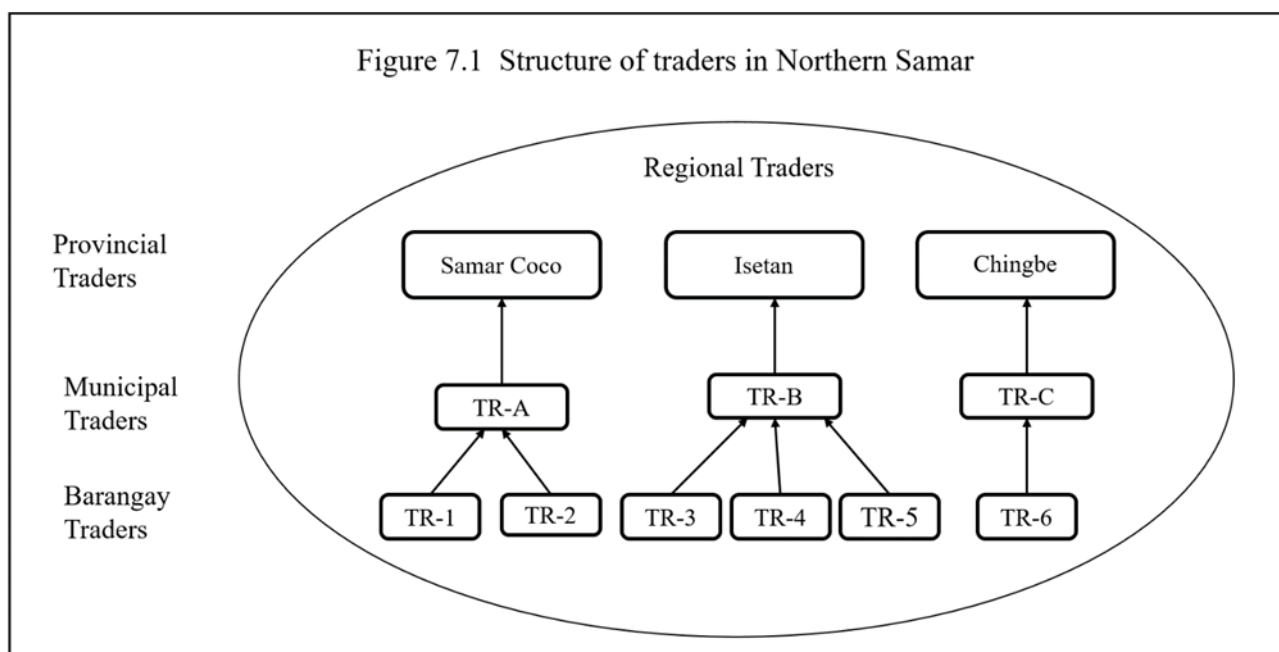
The CBO leaders discussed various options during the review meetings on how they could help to improve trust between the farmers and traders based on their expanded social networks and capital. Though the issues from the trader-linked financing were complex and difficult to resolve, the CBO leaders believed that developing better trust between the farmers and traders could lead to lower interest charges and reduce the default rate from farmers. The current default rate was 27% based on the demand side survey.

The CBO leaders from Cahicsan agreed to organize regular dialogue sessions between the traders and farmers during their association meetings to discuss issues or disputes between the traders and farmers. Since the San Isidro Farmers Association is still new, they confirmed that they were not able to facilitate such dialogue sessions.

There were two areas of investigations for Hypotheses 4a and 4b. The first was to assess if the CBO leaders' action to promote more dialogues and interaction between the traders and farmers could promote better relationship and trust among themselves. The second was to assess if improvement in the trust between the traders and farmers would lead to a reduction in the default rate from farmers and more favourable shrinkage charges for trader-linked loans.

The CBO leaders' action to negotiate better terms on trader-linked loans with the traders turned out to be a lot more challenging due to the complex structure of trader network in the region (Figure 7.1). The six main traders in Cahicsan are part of a complex network of traders operating at the barangay, municipal, provincial and national levels. At the provincial level, the palay (rice) and copra trade is

monopolised by two main traders, Samar Coco and Isetan; and the abaca trade by Chingbe. The buying prices of copra, palay and abaca at the barangay level were determined by these three main traders. The traders at the municipal level set the buying prices for the barangay traders after subtracting their own margin. There were also many rules and practices set by the big traders to make it difficult or impossible for the farmers to negotiate better buying prices and shrinkage rates.



The following comment from a key officer of the Cahicsan Farmers Association summarized the current predicament on trader-linked financing:

“The traders have strong social networks too. These big traders control the rest of the municipal and barangay traders. Farmers either leave or accept the prices and shrinkage rates determined by the traders because they have no other choices when the farmers borrowed money from the traders. This is a monopoly controlled by the rich traders. The farmers can only break away from the manipulations by the traders if they are able to earn enough income for food and household expenses and avoid borrowing money from the traders”.

The follow-up survey to assess if CBO leaders' actions to improve the relationships and trust between the traders and farmers has not commenced yet. However, qualitative evidence based on the discussions with CBO leaders during the review meetings suggested that the traders were encouraged by more dialogues with the farmers. They were confident this would lead to improvement in the level of trust between the farmers and traders, and improvement in the farmer's default rate. This could eventually lead to a reduction in interest charges for loans from the sari-sari store. However, they were unable to influence the buying prices or shrinkage rates for loans where the farmers must sell their produce to the traders.

The literature on how trust can lower transaction costs is well developed (Barney and Hansen 1994; Uzzi 1997; Dyer 1997). In informal trader-linked financing where several large traders dominate the rural agricultural sector, early qualitative evidence suggested that interventions at a local village level would not work. The CBO leaders' well-intended actions to develop better relationships and trust among the traders and farmers from their expanded social capital would not lead to a reduction in the financing costs for the farmers.

Rural farmers and fishermen need access to finance at a reasonable cost to bridge the short-term income deficits and capital to acquire the tools they need to improve their livelihoods and break away from the cycle of manipulations by the traders. This was the repeated theme in all the meetings with the community leaders and NGOs in the case-study sites. Hence, the second CBO leaders' action was designed to investigate if their expanded social networks and capital could improve their access to external resources and to develop new partnerships with outside parties on livelihood- improvement initiatives.

7.3 CBO Leaders' Actions: Improve Access to External Resources (Hypothesis 5a)

Despite the growth of MFI providers and borrowers in the Philippines, the participation rate of MFI financing in all case-study sites was extremely low at 10% (Table 7.4). They have also completely avoided the farming communities. Household surveys from the treatment and control case-study sites showed only five MFI loans were approved for Roxas. Multiple studies also confirmed that most MFIs

Table 7.11 MFIs Participated in survey ¹	
MFI participated in survey	Requirement to increase flow of credit
<ul style="list-style-type: none"> Aksyon Kalinga para sa Masa, Inc. Association for Social Advancement Center for Agricultural and Rural Development Foundation Grameen Filipinas, Inc. N Samar Development Workers Community Cooperative Samar Center for Rural Education and Development Samar Microcredit Cooperative 	<ul style="list-style-type: none"> Good on-time repayment performance Trainings on technology adoption Agrultural activities must be secured Existence of active farmer organization Good track record of the crops cultivated Must have viable income generating projects Create livelihood projects for farmers
<p><i>1. Only MFIs with social mission in alleviating rural poverty selected</i></p>	

in the Philippines were designed for the ‘less poor’ in urban areas with more predictable cash flow rather than the rural poor (Llanto, 2007; Micu, 2010; Agbola et al., 2016). To better understand why MFIs abandoned the farming and fishing communities, a focus group meeting with the NGOs and MFI providers and a follow-up survey with key MFI providers having social missions in alleviating poverty in the farming and fishing communities in Northern Samar was conducted in September 2017. Seven MFIs in this market segment were identified to collect additional information on their loan origination practices, why they avoided the farming and fishing communities and what needs to be done to increase the flow of credit to the farmers and fishermen (Table 7.11). Findings from the survey provided another source of information to help CBO leaders develop their proposal to gain access to formal external financing and other resources.

The CBO leaders’ surveys (Chapter Five) showed that most CBO leaders regularly interacted with external agencies such as NGOs, the aid and local government agencies. However, most of these interactions occurred in their villages when officers of these agencies visited their communities. Due to the remoteness of most villages, these visits were irregular and infrequent. When the CBO leaders

were made aware of these gaps in their social networks and the importance of expanding their relationship with these external agencies during the intervention workshop, most responded positively to the intervention.

CBO leaders tracked and reported their interactions with external agencies during the post-intervention review meetings. The post- and pre-intervention on the social network measure relating to their interactions outside of their villages was positive and statistically significant at $p < 0.005$ (Table 5.8 and Figure 5.2). More importantly, most could share and provide quantifiable evidences of the assistance they received from these interactions. Table 7.12 summarizes their interactions with external agencies and the assistance they received during the four-month period from the CBO leaders' post-interaction social capital survey.

Name of CBO	Local Government Units and NGOs visited	Results or assistance received
Cahicsan Farmers Association	1. Department of Agriculture	Provided seeds, fertilizers, vegetable seeds, cacao seedlings, and corn seeds
	2. CARITAS - Australian aid agency	Received funding for root crop production
	3. Municipal LGU of Mondragon	Provided farm equipment/root crops production
	4. Bureau of Fisheries and Aquatic Resources	Provided tilapia fingerlings
San Isidro Farmers Association	1. Department of Agriculture	Provided seeds, fertilizers, vegetable seeds, cacao seedlings, and corn seeds
San Antonio Fisherfolks Association	1. Department of Environment and Natural Resources	Support for mangrove plantation project
	2. Bureau of Fisheries and Aquatic Resources	Provided seaweed seedlings
	3. Nortehanon Access Center	Received funding for fishing nets
	4. Department of Labour and Employment	Hog raising project
	Philippines Rural Development Project	Received fish cages
	5 Local Government Unit of Biri	Received training on Project Budgeting and Operations Planning
LAPAS of San Pedro	1. Department of Agriculture	Provided with seeds
	2. Red Cross	Provided farm equipment
	3. CERD	Coastal resource management
	4. Bureau of Fisheries and Aquatic Resources	Provided seaweed seedlings
	5. Nortehanon Access Center	Received funding for fishing nets

Local government agencies, NGOs and aid agencies provide short-term assistance to rural farmers and fishermen in Northern Samar. However, the assistance was limited and not distributed widely and

evenly. CBO leaders demonstrated they could access these resources when they proactively expanded their social networks to these agencies for assistance.

The evidence supports Hypothesis 5a that CBO leaders' purposefully developed social capital improves access to external resources.

7.4 CBO Leaders' Actions: Develop New Partnerships (Hypothesis 5b)

The CBO leaders demonstrated that they could access external resources from local agencies from their expanded social networks and capital. However, most of the resources they obtained were short-term, stop-gap assistance for farming and aquaculture. Though they provided benefits to the farmers and fishermen, these resources did not address the long-standing challenges faced by the farmers and fishermen and the reasons for their continued poverty. According to NEDA (2017) and validated by the household survey, the major obstacles faced by the farmers and fishermen were due to their limited access to credit and the lack of working capital to acquire the necessary equipment to improve their productivity. The lack of technical capacity to develop viable projects, poor credit records, and unacceptable collaterals were the reasons cited for farmers and fishermen not getting access to formal credit (NEDA, 2017). This was the same feedback from the MFIs in Northern Samar based on the survey conducted in September 2017 (Table 7.12). NEDA's analysis of rural poverty and the assessment from MFIs put the farmers and fishermen in a dilemma because all the reasons provided were mutually conflicting. Chapter One reviewed past attempts by the Philippines government to improve the flow of credit to farmers and fishermen during the past 50 years; and these attempts had not been effective either. The poor farmers and fishermen will continue to face these predicaments and a bleak future unless the current situation is changed.

The household survey indicated that the farmers and fishermen are willing to change. Similarly, the CBO leaders are not only willing to change, but have expressed their desire to lead the change as well. They wanted to change from being beneficiaries of goodwill from the local government and aid

agencies to active engagements with these agencies in developing livelihood-improvement projects from their expanded social capital.

CBO leaders were asked to discuss livelihood-improvement ideas that could double or triple their monthly income based on the current baseline from the household survey if they have access to external financing to develop these projects. Two NGO leaders (one from NAC and one from CERD) and the regional director of a technology provider participated in these discussions to provide expert advice on productivity-enhancing technologies currently available to farmers and fishermen. These discussions were designed to focus the discussion on developing sustainable livelihood- improvement projects by leveraging the assets they owned, such as their agricultural land and their farming skills for the farming communities, and the extensive fishing resources they have access to for the fishermen.

7.4.1 Livelihood Improvement Project for Farming

The CBO leaders discussed their current rice farming methods, the equipment they used and the challenges they faced in rice cultivation. They also shared the current yield per hectare and the relationship between rice yield and the farmers' monthly income. They provided the requirements to dramatically increase their monthly income. For rice farming, the three most critical productivity-enhancement input are better quality fertilizers, improved certified seeds and irrigation. Since most farmers in Northern Samar lived through multiple natural disasters like typhoons and floods, they were also fully aware of the risks they faced from these disasters and the need to mitigate these risks.

The CBO leaders from Cahicsan and San Isidro provided their current breakdown of rice production in their villages. They also estimated the increased in yield and monthly income if they have access to better quality fertilizers, improved certified seeds, irrigation solutions, and farming machinery. Table 7.13 shows the current productivity and monthly income for farmers and the potential yield with additional productivity-enhancement input. With better fertilizer and seeds, they estimated that yield

would increase from 50 sacks to 70 sacks per hectare based on available yield information from nearby farms. With irrigation, they could move to double cropping if water from the nearby river water can be pumped to the rice fields during the dry season. The combination of these three productivity-enhancement factors could dramatically change their gross monthly income from PHP 4166 to PHP 11,666 if they are getting the same price from their traders with improved yield.

Table 7.13 Relationship between rice yield and farmers' income

	Current Productivity	Improved Productivity
No of hectares under cultivation	93	93
One crop per year without irrigation	1	2 ¹
Current yield per hectare (sacks of rice)	50	70 ^{2,3}
Total yield per planting session (sacks)	4,650	6,510
Annual production (sacks)	4,650	13,020
Price per sack (Peso)	500	500
Total annual gross revenue	2,325,000	6,510,000
Average land holding per farmer (hectare)	2	2
Average gross annual income per farmer (Peso)	50,000	140,000
Average gross monthly income per farmer (Peso)	4,166	11,666

1. With solar-powered pumps

2. With quality fertilizers and rice ducks

3. With certified seeds

Table 7.14 Estimate cost for productivity enhancement proposal¹

	Per unit	Units required	Total
5HP solar-powered water pump	\$1,500	20	\$30,000
Solar Panel	\$1,000	20	\$20,000
Installation and support	\$5,000	2	\$10,000
Hose from water pump to rice fields	\$150	20	\$3,000
Hand Tractors (per unit)	\$1,000	8	\$8,000
Hand ploughing machine	\$500	8	\$4,000
Certified seeds	N/A	N/A	
Improved fertilizers	N/A	N/A	
Total			\$75,000

1. Estimated cost in US\$

The equipment costs to implement the initiative was provided by the technology provider (Table 7.14) and the CBO leaders. Solar-powered water pumps were chosen due to the low running costs even though the initial start-up costs for diesel-powered pumps were lower. The incremental cost for better

quality fertilizers and seeds were small. The total productivity-enhancement cost was about US\$75,000 or PHP 4 million for the entire village. Technically, the full capital investment cost could be recouped in one year from the incremental income.

7.4.2 Livelihood Improvement Project for Fishing

The CBO leaders from the fishing communities followed the same format to discuss their current fishing methods, the equipment they used and the challenges they faced. They also shared the current yield per catch and the relationship of their catch to each individual fisherman's monthly income. They also provided the requirements to dramatically increase their catch and monthly income. The three most critical productivity-enhancement requirements for fishermen are motorized boats, better fishing nets and hooks, and better lights to fish at night. The motorized boats will enable the fishermen to fish further offshore. This could double or triple their catch depending on weather conditions. HSSi demonstrated how submersible solar-powered lights could increase their catch at night since most fishes are attracted to light. Marine biologists have shown that fishes are attracted to blue and green lights at night.

The current catch using paddle boats were used as a baseline to calculate their yield and income. A typical yield with a paddle boat shared by five fishermen is about 20kg of fish per fishing trip. A motorized boat with a submersible light can catch up to 100kg of fish per fishing trip. The selling price of fish to the village traders is PHP 100 per kilo. Their current monthly income based on their catch with paddle boat was PHP 4500. With motorized boats, better nets and hooks, and submersible solar-powered lights, the fishermen can fish further offshore both day and night. These productivity-enhancement factors will allow a fisherman to earn a gross income of PHP 12,000 and net income (after subtracting for fuel for motorized boats) PHP 9000. The cost to build a 25-foot boat by a local carpenter equipped with a Yoma 10HP motor is PHP 44,000. The bigger fishing net costs PHP 20,000 and one set of submersible solar-powered lighting systems costs PHP 10,000. The estimated total

investment is about PHP 74,000 per motorized boat with a capacity for six fishermen, or about PHP 12,500 per fisherman. These investments could be funded from the incremental monthly income within a relatively short period.

The CBO leaders from SAFA expanded the ideas, discussed and developed a formal proposal and tracking worksheet for this livelihood improvement project.

7.5 Enabling New Partnerships

The productivity-enhancement ideas proposed by the CBO leaders were based on their personal experiences as farmers and fishermen. Their proposed solutions to dramatically improve the livelihoods of farmers and fishermen were based on solutions currently available locally. The proposals provide opportunities for equipment and technology providers to sell more products and services to the local communities. As indicated by MFI providers from the MFI survey, they would also be more willing to extend credit to the farmers and fishermen on income-generating livelihood projects. According to the household survey, the farmers and fishermen are willing to take risks to change and work collectively to share common tools. Focusing on the CBO leaders and the communities as active partners to adopt and implement common tools and technologies, and demonstrating how these new enhancements can dramatically improve yields and household income, has given them the impetus and hope to change. Most of the obstacles cited by the MFI providers and NEDA as barriers to increase the flow of credit to the impoverished rural farming and fishing communities can be overcome with these productivity-enhancement projects.

A new paradigm is needed to address the ‘catch-22’ dilemma faced by the poor farmers and fishermen in the Philippines during the last 50 years. First, technology and equipment providers should not only sell their equipment, but consider extending credit to the farmers and fishermen. Additional insurance could be included as part of the vendor-linked financing proposal. A vendor-linked financing model is

a viable and profitable arrangement for the vendors and their future customers. Second, the NGOs play big roles in the community-organized activities and provide on-going monitoring and advice on project implementation. Third, since these livelihood projects will be owned by the CBO and led by their CBO leaders, providing credit to the CBO as a group should mitigate the risk of lending to individual farmers and fishermen, a major obstacle indicated by the MFIs in Northern Samar. Finally, financial institutions should consider repayment schedules that are linked to the cash flow for the farmers and the fishermen to minimize their uneven income-expenditure gaps between harvest and their dependence on trader-linked finance to cover these gaps.

The CBO leaders have demonstrated their capabilities and desire to find new solutions to address their livelihood challenges. The San Antonio Fisherfolks Association and LAPAS of San Pedro are now working with a technology provider and NGO partners to conduct pilot tests for the fishing productivity-enhancement project. Their expanded social capital enables them to work on developing new partnerships with outside parties to adopt common tools and technologies.

7.6 Summary

Chapter Five triangulated the qualitative and quantitative evidence collected to investigate research Question One and confirmed that CBO leaders could purposefully develop their social capital within a short period for the treatment case-study sites with simple social network training. CBO leaders' purposefully developed social capital also led to observable positive behavioural changes as well. Results from the control groups in Chapter Six positively confirmed that the pre- and post-intervention changes in the CBO leaders' social capital were attributed to the social network training and not because they were being studied or due to other external events.

This chapter builds on all the analyses from the previous two chapters and the additional data collected from follow-up surveys to investigate CBO leader's actions from their purposefully developed social

capital to enable the farmers and fishermen to adopt common tools and technologies. These common productivity-enhancement tools and technologies, if adopted, can dramatically contribute to improving farming and fishing yields and the farmers and fishermen's income. The proposed CBO leaders' actions from their purposefully developed social capital are first, improvement in informal trader-linked financing; second, their access to external resources; and third, developing new partnerships with external parties.

Though CBO leaders could improve the relationship and trust between the traders and farmers from their efforts to facilitate more dialogue sessions among themselves, they were not unable to reduce the transaction costs for trader-linked finance for the farmers. The current monopolistic nature of the traders made it difficult or impossible to change their practices at the local level since they are the primary source of credit for the farmers facing income-expenditure gaps between harvests. Though the post-intervention survey to assess CBO leaders' actions to improve the relationship and trust between the traders and farmers have not been collected, there were sufficient preliminary qualitative information to validate hypothesis 4a. However, the improved relationship and trust between the farmers and traders have no consequential effect in reducing the financing costs for the farmers (Hypothesis 4b).

The qualitative update provided by the CBO leaders and the post-intervention CBO social capital survey provided the evidence to validate Hypothesis 5a that CBO leaders' expanded social capital improved their access to resources from external agencies such as NGO, aid and local government agencies. However, these resources were mostly short term, stop-gap assistance for farming and aquaculture. They did not address the long-standing issues faced by farmers and fishermen, i.e., access to external formal credit to acquire their much-needed farming and fishing tools.

The CBO leaders, NGOs, and technology partners explored livelihood improvement ideas that could dramatically increase the farmers' and fishermen's income. The CBO leaders understood the

relationship between productivity-enhancement input for farming and fishing, and the impact on yields and income. Changing the dynamics of the farmers and fishermen from being the beneficiaries of short-term aid and assistance to become active partners in the adoption of improved common tools and technologies, provided the impetus from outside parties to form new partnerships to support these projects. Though more evidence is needed to validate Hypothesis 5b, the willingness from the key technology providers, NGOs and their sponsors to form new partnerships to pilot test the fishing project provided positive indications that the new paradigm can be implemented.

Chapter Eight will build on the proposed paradigm and consider additional policy-related requirements on how productivity-enhancement projects can be implemented broadly in impoverished rural communities. The new paradigm holds great promise to address the long-standing issues cited by NEDA on how farmers and fishermen can gain better access to capital to significantly improve their livelihoods.

Chapter Eight

Discussion and Conclusion

8.0 Introduction

My journey to Northern Samar, one of the most impoverished regions in the Philippines, started from my firm belief that developing the social networks and capital of the community leaders of these impoverished communities could be a viable intervention to improve their livelihoods. My intuition was based on my personal experience teaching executives social networking skills and how being network brokers made them more successful in their personal and professional lives.

The goals of my research were, first, to demonstrate that CBO leaders, regardless of their socio-economic background, responded well to simple intervention to purposefully develop their social networks and capital within a short period of three to six months. Second, the purposefully developed social capital would lead to impactful actions that could help them gain better access to external resources to improve the livelihoods of people in their communities. The resources highlighted during the post-workshop reviews include better quality fertilizers, improved certified seeds, farming equipment, water pumps for irrigations, motorized boats, better nets, and submersible solar-powered lights for fishing. Access to these resources would allow the farmers and fishermen to dramatically improve yields and income. The CBO leaders' expanded social capital, combined with their desire for change, helped them to access available external resources and to develop new capabilities. The transition provided a new approach to solving the long-standing dilemma faced by the farmers and fishermen, i.e., the lack of access to credit and capital to acquire the tools they needed to improve their productivity.

This chapter will discuss the following:

1. Summary of my study.

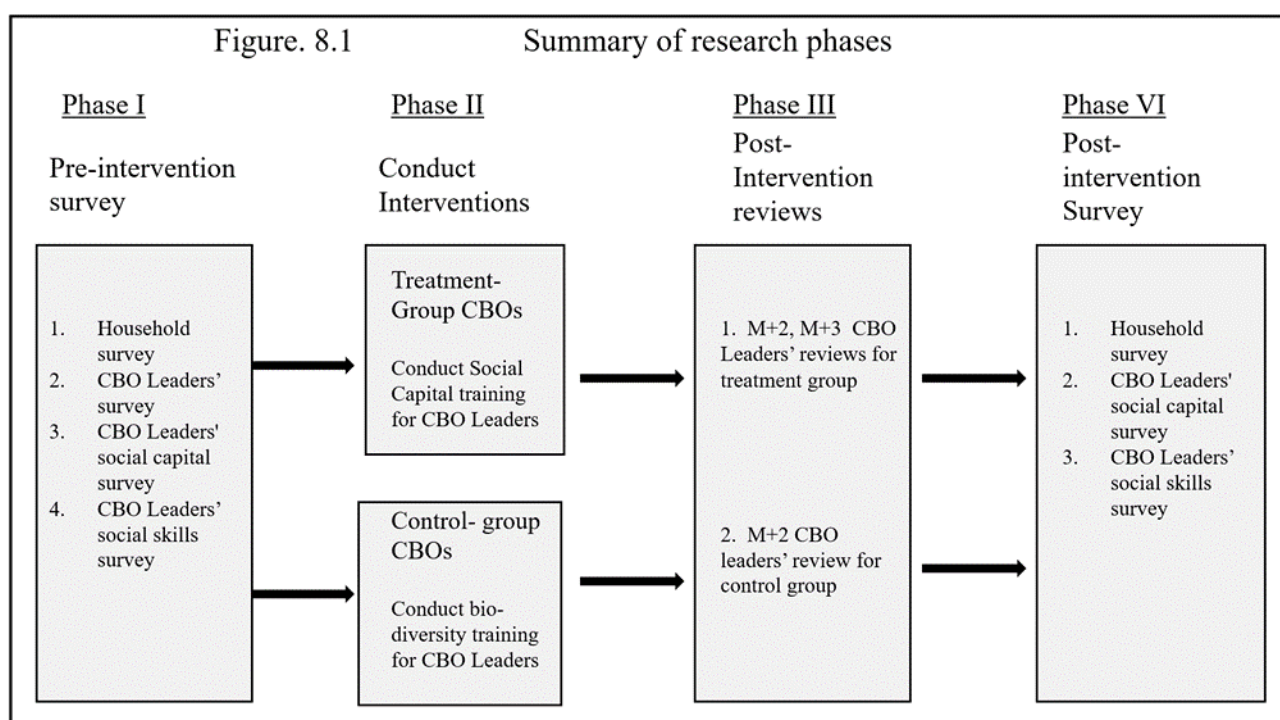
2. Theoretical foundation for the research.
3. Summary results and limitations of the research.
4. Policy implications for sustainable livelihood improvements.
5. Contributions to research.
6. Conclusion and implications for practice.

8.1 Summary of my study

Social capital research often ignores antecedent factors that lead to the development of social capital and assume it is ‘static, unchanging and without cost’ (Gedajlovic, 2013). This research responded to this particular limitation with a field experiment based on the exploratory sequential mixed method design to investigate how social capital can be purposefully developed across multiple case-study sites in two major rural economic activities, i.e., farming and fishing (Creswell and Plano Clark, 2011). The research was conducted in four phases (Figure 8.1).

The first phase focused on collecting detailed socio-economic household data from the six case-study sites, the socio-economic background of the CBO leaders, their pre-intervention social capital and social skills data. The survey selected 50% of households in each case-study site randomly selected and 100% of CBO leaders from the CBOs represented in this research. The second phase involved providing the appropriate training for those antecedents that lead to social capital development for the treatment groups and non-social capital-related training for the control groups. The third phase consisted of two post-intervention review meetings two and three months after treatment (M+2, M+3) for the treatment CBOs and a M+2 review with the control group CBOs to track how CBO leaders responded to treatment. The fourth phase involved collecting post-intervention changes to CBO leader’s social capital, social skills, and assessment from heads of households relating to CBO leaders’ behavioural changes. Follow-up surveys were added to collect additional data to investigate informal

financing practices in the farming village and how CBO leaders could improve the farmers' access to informal credit with their expanded social capital. The research design provided a consistent and rigorous framework to collect multiple sources of qualitative and quantitative data in the treatment and control groups throughout the duration of the field study period to investigate the proposed hypotheses for this research. The findings from the treatment groups were compared against those of the two groups of CBO leaders from the control case-study sites to increase the reliability of the measures, and minimize face validity on the proposed hypotheses.



The decision to conduct the research across multiple case-study sites was to provide some levels of generalizability from the research findings (Yin, 2014).

8.2 Theoretical Foundation

Social capital is a contested concept, and its manifestation is multidimensional, context-dependent and complex (Jones and Woolcock, 2007; Kawachi et al., 2008; Woolcock, 2010). Similarly, past research on social networks and social capital were treated as two distinct fields and there are justifications for

linking social capital and social network research. I agreed with Burt (2000) that research and theory hold more promise to focus on the ‘network mechanisms responsible for social capital effect’. This research built upon two main theoretical foundations. First, findings in cognitive social networks that individuals’ perception of their network can improve their ‘ability to harness the social capital embedded in the network’ and influence their ‘decisions and behaviour’ (Janicik and Larrick, 2005; Brands, 2013). Second, Burt’s (1992) ‘structure holes’ theory or missing connections between people inhibit information flow, and the advantage of being network brokers to exploit opportunities from separate and non-redundant information in their networks (Burt 1992, 2000, 2005, 2009). The systematic experimental design to understand how social capital was developed and deployed among the CBO leaders in the treatment group filled a gap in the lack of such research in a resource-limited rural setting (George et al., 2012).

8.3 Summary Results and Limitations of the Research:

8.3.1 Purposefully Developing Social Capital

Social capital is defined as ‘resources embedded in ones’ social networks, resources that can be accessed from knowing others, being part of the social network with them, or merely from being known to them and having a good reputation’ (Baron and Markman, 2000; Lin, 2001). Three antecedents that influence individual relationships and networks were considered. These relationships facilitate an individual to access or mobilize resources embedded in one’s social networks through ties in the networks (Lin, 2001).

The first antecedent focused on increasing the network density of CBO leaders among themselves and with community members within the villages to expand their bonding social capital (Woolcock et al., 2004; Halpern 2005; Islam et al., 2006). Bonding social capital being resources that are accessed across the horizontal networks within their communities. The second antecedent focused on expanding the

CBO leaders' social network ties with external agencies to develop their bridging social capital (Woolcock et al., 2004; Halpern 2005; Islam et al., 2006). Bridging social capital being resources that they can access in distant networks outside of their village boundaries and social identities. In addition to social relationships, the third antecedent focused on the social skills of the CBO leaders which could help to enhance their reputation and engage others in collective actions (Baron and Mackman, 2000; Fligstein and McAdam, 2013). The three components of social skills relevant for this research were: social perception, social adaptability, and expressiveness skills.

Intervention with simple social network training led to a statistically significant increase in the paired sample mean for CBO leaders' network density and their bonding social capital. The intervention also led to a statistically significant positive increase in the CBO leaders' interactions with outside agencies and their bridging social capital. The paired sample mean changes for the survey question relating to the usefulness of their social networks was positive and statistically significant. Intervention with non-social network-related training for the control group CBO leaders did not lead to statistically significant mean changes in these groups and networks measures.

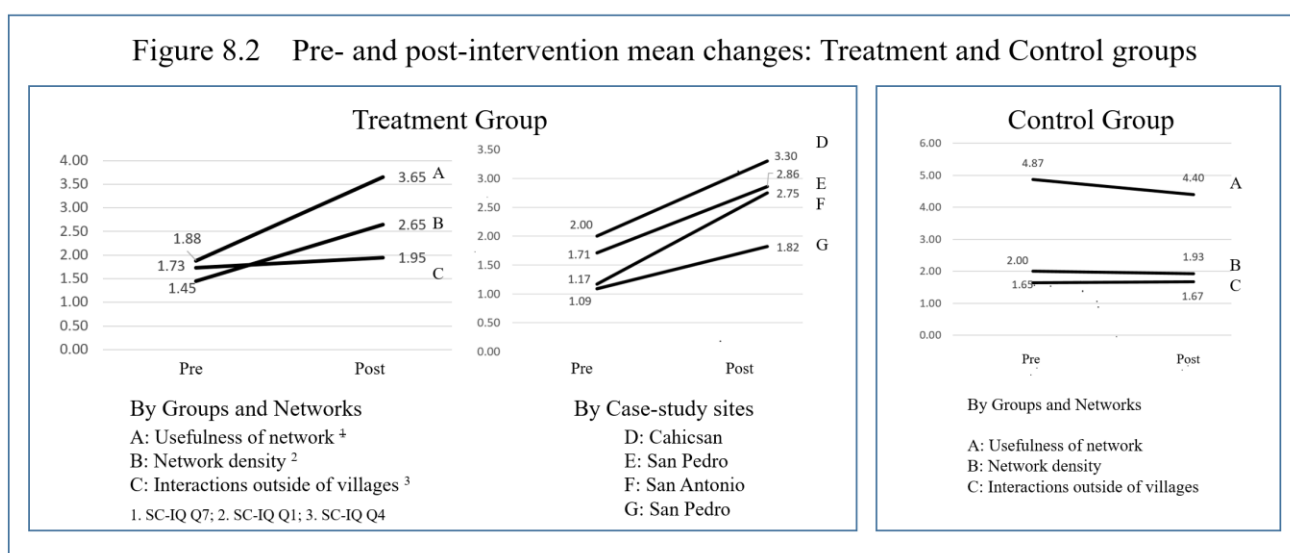


Figure 8.2 summarizes the comparison of the pre- and post-intervention for the treatment group based on the SC-IQ survey for groups and networks proxy measures. The changes were significant for three items in the groups and networks measures for the CBO leaders as a group. At the individual CBO

level, the measure for network density was statistically significant even though the sample size at this level was small. There were only marginal and statistically non-significant pre- and post-intervention mean changes for the three items in the groups and networks measures for the control group.

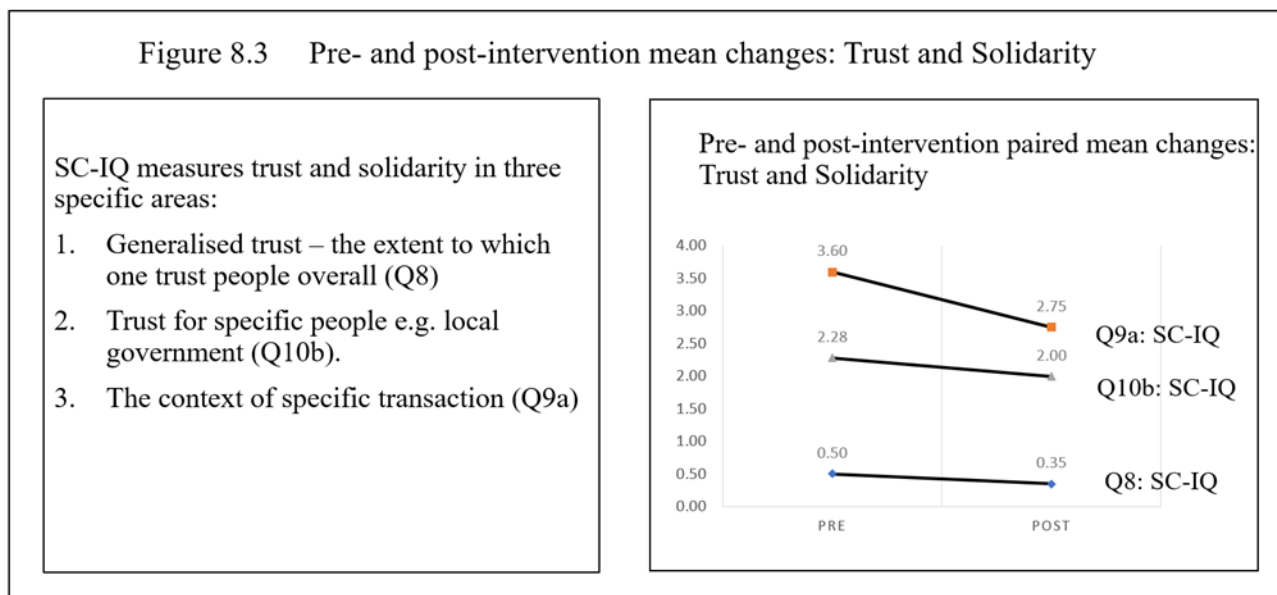
The CBO leaders provided insightful feedback relating to the pre-intervention social skills survey results during the training workshop. Among the three categories of social skills, CBO leaders rated very low on the social perception skills and very high on social adaptability. Most considered that it was rude and socially inappropriate for them to pre-judge other people or read other peoples' feelings. It was also considered inappropriate to change their social perception skills as well. Hence, the investigation to access how social perception, social adaptability and expressiveness skills (Hypotheses 3a, 3b, and 3c) influenced the development of social capital was aborted.

Though great emphasis was placed on how the qualitative and quantitative data were collected, documented and triangulated to improve the validity and reliability of the proxy measures on how social capital could be purposefully developed, the limitation of the SC-IQ survey should be taken into consideration in this dissertation.

The SC-IQ survey used in this research captured the six dimensions of social capital. Based on extensive empirical studies, the three most useful proxy measures are groups and networks, trust and solidarity, and collective action (Grootaert et al., 2003). The SC-IQ survey provides a relevant baseline measure of social capital at the individual and household level. This research applied three proxy measures to validate the proposed hypotheses. Of these three proxy measures, the groups and networks proxy measure is the most relevant for this research based on how social capital was defined and operationalized for this research. The intervention to purposefully develop the social capital of CBO leaders focused on expanding their ties in the networks, and how they access these resources based on their relationships with people. However, the paired sample mean changes for trust and solidary proxy measures for social capital was negative and statistically significant at $p < 0.05$ for two of three

measures for trust and solidarity measures (Q9a and Q1b) and $p < 0.1$ for Q8 for this research since the CBOs' expectations of trust with others evolved as they deepened their relationships with people in their social networks (Figure 8.3).

Collective action is the third proxy measure for social capital in SC-IQ. This measure stems from the fact that collective action is only possible when the community is endowed with strong social capital. Since the communities were already actively participating in various community-organized activities regularly, collective action as a proxy measure for this research was redundant. Despite these limitations, the groups and networks proxy measure from the SC-IQ survey was a robust measure to assess pre- and post-intervention changes for the structural dimension of social capital. Future research should consider additional measures that can assess changes to other dimensions of social capital from interventions.



8.3.2 CBO Leaders' Actions: Improve Trader-linked Financing

Household surveys in all the case-study sites revealed a dire socio-economic situation in the case-study communities. The mean monthly household income was PHP 4166 for all the case-study sites. Almost

all households were below the official household poverty threshold of PHP 9064 to meet basic food and non-food needs. Hence, most depended on informal credit to overcome their income-expenditure gap for basic food items. The primary source of informal credit was trader-linked finance. The trader-linked finance survey confirmed the unscrupulous practices of the traders, with interests charged for a short-term loan ranging from about 20% to about 50% of the value of their produce monthly. Sadly, overpricing of trader-linked loan for supply of agricultural inputs and underpricing on the purchase of produce from farmers are the biggest form of exploitation by the traders; and past regulations were not effective, or ignored (Krinks (2003).

The CBO leaders were motivated to work with the traders to improve trader-linked financing. One of their actions was to leverage their expanded social networks to improve relationships and trust between the traders and farmers. Most agreed that developing better relationships and trust would reduce the default rate of the farmers' loans from the informal lenders. The improved default rate would eventually help to lower the financing rate for these informal loans. The view was consistent with findings from the literature that improving trust lowered transaction costs (Barney and Hansen, 1994; Uzzi 1997; Dyer, 1997). However, the investigation into the trader-linked financing in the farming communities shed light on the complex traders' networks and their monopolistic practices. Ultimately, the 'big' traders at the provincial level set the rules, buying prices and the interest rates for the traders in the village. The farmers have no other choice but to accept the prices set for their produce and the interest rates in the form of 'shrinkage charge' for their loans. The CBO leaders' actions to develop better relationships and trust between the farmers and traders at the village level had no impact on the trader-linked financing practices even though 82% of farmers who were surveyed indicated that the traders were taking advantage of them.

The informal 'trader as lender' financing model is well entrenched in all rural communities in the Philippines even though their operations and practices are considered illegal under the current Lending Company Regulation Act. Ultimately, their totally corrupt monopolistic practices need to be addressed

through a combination of better enforcement, better ‘farm-to-market’ infrastructure or as indicated by most CBO leaders, their ability to ‘earn enough for food and household expenses’ to avoid borrowing from the traders completely. The enforcement of illegal lending activities and developing better ‘farm-to-market’ infrastructure are beyond the capabilities of most CBO leaders at the local village level and not in the scope of my current thesis. These are topics that I plan to investigate in my follow-up research after the completion of this thesis.

The CBO leaders demonstrated that their purposefully developed social capital allowed them to be more effective in mobilizing resources from their expanded network ties. They were also more confident, hopeful and optimistic of themselves because of their expanded social networks and capital. These capabilities have helped them to gain more collective support from their members to implement common tools and technologies to improve productivity and yields; and this can potentially be a viable option to sideline the traders from profiteering from the improved incomes.

8.3.3 CBO Leaders’ Actions: Access to External Resources and Formal Financing

CBO leaders took action to proactively expand their social networks with external agencies such as local government, international aid, and NGOs when they were shown that these were the gaps from their social capital survey. Though they interacted with officers from these agencies in the past, most of the interactions took place in their villages when officers of these agencies made their routine visits. Due to the remoteness of these villages, most of the visits were irregular and infrequent. They also recognized that developing new relationships with these external agencies would help them to harness more support from them. CBO leaders from all the four treatment case-study villages demonstrated that their new network ties helped them to reach out to agencies who could provide them with more support and access to the resources that these agencies could mobilize for them.

The CBO leaders’ abilities to access these resources gave them more confidence to consider alternative options to access external credit to acquire the essential tools they needed to improve productivity and

yields. They understood the relationship between improved productivity and yields, and how improved yields could contribute to improved incomes for the farmers and fishermen. Several productivity-enhancing solutions that the communities agreed to implement collectively were proposed by the CBOs from San Antonio, San Pedro and Cahicsan, based on the different combinations of requirements and the costs to implement these solutions. Pilot projects to provide fishermen with better nets and submersible solar-powered lights were implemented with the sponsorship from NAC for the San Antonio Fisherfolks Association and the LAPAS of San Pedro. The proposals from the Cahicsan Farmers Association to increase rice yields with better quality fertilizers and certified seeds were adopted and implemented during the last planting seasons in December 2017. The San Isidro Farmers Association planned to adopt the pilot proposal from Cahicsan in their next planting season.

The time allocated for this research was not long enough to collect sufficient improvement data from these pilot implementations. However, based on the high level of interest from their members and the commitment from the CBO leaders on these pilot projects, I am confident that these initial pilot projects can have a high chance of success. There must also be follow-up work after completion of the dissertation to track the progress of these pilot implementation and assess how they contribute to improved yields and incomes. There is also a need to consider how these pilot projects can be further expanded to include other productivity-enhancing inputs requested by the CBO leaders. One such request is the installation of solar-powered water pumps to enable double cropping for the farmers (example illustrated in Table 7.13 and 7.14). An impact analysis of how improved yields from these projects contribute to livelihood improvements should also be part of the follow-up study.

8.4 Policy Implications for Sustainable Livelihood Improvement

NEDA (2017) developed a strategic framework to expand the economic opportunities in the agriculture, forestry, and fisheries sectors in their next Five-year National Economic Development

Plan (2017-2022) for the Philippines. Enhancing the capacity of small farmers and fishermen to use better and new technologies, easy access to affordable formal credit and provision of agricultural insurance were among the strategic priorities to be implemented to improve farmers' and fishermen's productiveness. The last Five-year Plan introduced for the year 2011-2016 (NEDA, 2011) had similar strategic goals and implementation plans for the farmers and fishermen. However, the results were mixed. The farmers and fishermen faced similar challenges to access external credit to acquire the tools they needed during the last five-year period under the plan. Access to credit and capital to improve their livelihoods was also the top requirement cited in the household survey from all the case-study sites.

Siamwalla (1993) in his research in Thailand on rural credit and rural poverty provided a compelling argument that in addition to using credit as a tool for poverty alleviation, there is a need to consider how the poor are engaging in productive economic activities. 'Credit can only play a supporting role, successful only if there are profitable new investment opportunities' (Siamwalla, 1993). Early seminal research on agricultural development provided a similar conclusion that 'credit provides little leverage for development in the absence of investment opportunities' (Hayami and Ruttan, 1971)

The importance of credit for the rural poor in general is well understood. However, in addition to resolving issues relating to credit, policymakers are well advised to consider how the poor are provided with capabilities to develop projects that can significantly improve productivity and yields. NEDA's (2017) proposal to increase the number of small farmers and fishermen with low cost agricultural insurance should encourage more financial institutions to increase the flow of credit to these communities. In conjunction with enhancing the capacity of small farmers and fishermen to use better and new technologies, policymakers could also consider additional incentives to encourage technology and equipment providers, financial services institutions and NGOs to form new partnerships for productivity-enhancement projects.

Last, but not least, NGOs and local or international development agencies should consider integrating social networks training as part of their capacity building activities for rural communities. I am convinced that purposefully developing the social capital of community leaders can lead to an impactful change to adopt common tools and technologies that can dramatically improve yields and household incomes. These transformations provide the best chance for the farmers and fishermen to access external financing and capital, the long-standing challenges that hamper productivity.

8.5 Contributions to Research

There is also a lack of systematic research on how social capital is developed, deployed and changed in ‘resource-limited’ rural settings (Krishna, 2007; George et al., 2012). My research responded to this limitation with a large-scale field experiment in multiple case-study sites to investigate individual antecedents that influence individual relationships and networks to purposefully developed the social capital of CBO leaders. The research filled a gap in the leadership literature on how simple social network training can purposely develop social capital in disadvantaged communities and how this could bring about positive social change in impoverished communities.

Several surprises and paradoxes were uncovered from the qualitative phases of this research. As explained earlier, cultural differences can influence peoples’ perceptions and response to social skills. The intervention to improve CBO leaders’ social skills was aborted as it was considered culturally and socially inappropriate to change people’s perceptions of others based on feedback provided during the intervention workshops. However, without intervention, the CBO leaders’ social skills showed positive and statistically significant changes to the three lowest items in the social perception survey, and an overall improvement in their social perception skills. These changes suggested that changes in social capital could lead to changes in social skills. The endogeneity of social skills and social capital is an area for further investigation.

Another consistent theme emerging from the post-intervention review meetings with the CBO leaders was the changes they described to their personal behaviour as they expanded their social networks, and deepened their relationships among the officers, the community members and external agencies. They were more confident of themselves, more optimistic that their communities will support them to implement common tools and technologies, and more hopeful that they could help their communities to improve their livelihoods. Luthans et al., (2004) considered these changes as ‘positive psychological capital’ and showed how they could be leveraged for effective work performance. How purposefully developed social capital can impact the development of ‘positive psychological capital’ and how it could contribute to bigger social impacts are areas for further research.

8.6 Conclusion and Implications for Practice

My research was driven by my social purpose and the scientific rigour of research to develop a more holistic approach on social impact initiatives as a means for poverty alleviation in impoverished rural communities. Social impact is defined as ‘positive change that addresses a pressing social challenge’, a definition adopted from The Center for Social Impact, University of Michigan. Hence the implications for practice is a key consideration for the research.

The adoption of common agricultural and fishing tools and technologies to improve yields and incomes is a viable path out of poverty for the rural poor. However, many questions remain on how new innovations were adopted by poor small-scale farmers and fishermen. Feder et al., (1985) and Feder and Umali (1993) provided a comprehensive survey on the adoption of agricultural innovations in developing countries, and highlighted their mixed successes due to the lack of credit, limited access to information, farmers’ aversion to risk, inadequate farm size, lack of skills and poor infrastructure. By and large, the constraints highlighted were similar to those from the case-study sites except for the farmers’ aversion to risk. Similarly, there is also an increasing strand of studies focusing on the

importance of social learning and social networks on adoption. For example, Corley and Udry (2001) provided an extensive study on the adoption of new fertilizer by pineapple farmers in Ghana and found that social learning is important in the diffusion of the new practice. Bandiera and Rasul (2002) in their study on the distribution of sunflower seeds in Northern Mozambique found that individual adoption decisions were influenced by others in the same social networks. In a similar vein, my research confirmed that teaching social network skills to community leaders to purposefully develop social capital can be an effective method to improve adoption of common tools and technologies.

Past policy interventions focusing only on the poor to gain access to formal credit without addressing how they could engage in productive economic activities had not worked. I agree with Hayami and Ruttan (1971) and Siamwalla (1993) that access to credit can only play a supporting role, successful only if there are profitable investment opportunities. Hence, future social impact initiatives need to take a more holistic approach to evaluate how such profitable productivity-enhancing opportunities can be discovered, developed, and implemented. My research provided a practical approach to assess and implement future social impact initiatives in impoverished communities with the following recommendations:

First, there is a need to identify influential individuals to lead the change in impoverished communities. The CBO leaders were the focus of my research based on literature, my consultation with NGO leaders and church elders in Northern Samar. The household survey in all the case-study sites confirmed that the CBO leaders not only are among the most influential individuals in the communities, they are also trusted by their community members and are willing to learn new skills and change.

Second, it is necessary to integrate social network training as part of the capacity development for the community leaders. The training that I developed for this research can be easily customized and adapted for these capacity-development programs. The initial concern that the higher status CBO leaders might encompass more social capital at the expense of their lower status community members

and aggravate intergroup inequality can be mitigated by highlighting these risks to them during the social network training.

Third, outside parties need to work collaboratively with CBO leaders to discover and develop productivity-enhancing initiatives that improve yields and incomes. My research confirmed that most CBO leaders are experts in farming and fishing, and have the capabilities to develop sustainable productivity-enhancing ventures. Partnering with the CBO leaders to develop productivity-enhancing initiatives that can dramatically increase yields and incomes is an effective means for the CBO leaders to build upon the strong collective actions that already exist in the communities, and garner more support from their members to implement these projects.

Fourth, the impoverished communities will not be able to implement their livelihood-improvement projects without the support from outside parties. I concurred with George et al., (2012) that outside parties (such as large multinationals, small entrepreneurial firms, social enterprises and others) should ‘identify, locate, and create access’ to these impoverished communities to implement new partnership models to exploit these productivity-enhancing ventures. I am confident that initiatives that focus on productivity and yields to improve incomes are drivers for rural communities to develop economically, and contributors to social and financial inclusion.

I firmly believe that purposefully developing the social networks and capital of community leaders in impoverished communities can be a viable intervention to improve livelihoods in these communities.

Appendix:	Chapter One
Appendix 1.1	Endorsement Letter from the Governor of Northern Samar
Appendix 1.2	Endorsement Letter from the Municipality of Mondragon
Appendix 1.3	NGO and Technology Partners in Northern Samar
Appendix 1.4	Research Assistants in Northern Samar

Appendix:	Chapter Four
Appendix 4.1	Pre-intervention Household Survey
Appendix 4.2	Pre-intervention CBO Leaders Survey
Appendix 4.3	Pre-intervention CBO leaders' Social Capital Survey
Appendix 4.4	Pre-intervention CBO leaders' Social Skills Survey
Appendix 4.5	MFI Survey
Appendix 4.6	Trader-linked Financing Survey (Traders)
Appendix 4.7	Trader-linked Financing Survey (Farmers)
Appendix 4.8	Post-intervention CBO leaders' Social Capital Survey
Appendix 4.9	Post-intervention Household Survey

Appendix 1.1 Endorsement Letter from the Governor of Northern Samar



Republic of the Philippines
PROVINCE OF NORTHERN SAMAR
Catarman, Northern Samar

TRANSFORMMATIONAL LEADERSHIP FOR A RENEWED PROVINCIAL GOVERNMENT OF NORTHERN SAMAR

OFFICE OF THE GOVERNOR

ENDORSEMENT

This office hereby approves the request of **CHON-PHUNG LIM**, to conduct case studies for his research on farming and fishing communities in the municipalities of Mondragon and Biri, Northern Samar. His research will focus on how social capital could play an important role in improving the livelihood of people in the community. As part of this research, he and members of his research team will be conducting face-to-face interview with individual head of household in your community. He will be assisted by Mr. Noel Gabrito.

Please extend support to him and members of his research team as they conduct their study in your municipality.

It is understood that no government funds shall be used to pay for any expenses related to his study.

Issued this 25th day of April 2017 at Catarman, Northern Samar.

FOR THE GOVERNOR:
JOSE L. ONG JR.

by:


GARY M. LAVIN
Acting Governor M

4-25-17

Telefax: (055) 251 - 8100
Telephone: (055) 251 - 8205
Email_ govnsamar@yahoo.com

2F New Capitol Building
Brgy. Dalakit Catarman, Northern Samar
6400

Appendix 1.2 Endorsement Letter from the Municipality of Mondragon

Dear Sir Chon Phung Lim,

I am so happy to hear from you so soon. I'll print the attached documents and give a copy to Mayor Madera.

LGU Mondragon will support your research all the way and hope only the best for you. Rest assured that our Official support be given as soon as possible.

Thank you and Best Regards.

Sent from my iPhone

On 5 Apr 2017, at 6:13 PM, LIM Chon Phung <cplim.2015@phdgm.smu.edu.sg> wrote:

Dear Madam Vice Mayor:

It was a pleasure meeting you this afternoon.

I am very excited to have your support and the support of Mayor Madera for my research study in Mondragon. I attached the email that was sent to Dr Delorino, President of The University of Eastern Philippines and Dr Balanon, Dean of Graduate Studies, from my PhD supervisor, the Singapore Management University on his support for my research in the Samar Island.

I attached two documents, the first is a summary of my research proposal and the second, my professional background to give you and Mayor Madera additional detail regarding my research and myself.

I look forward to receiving your official support from the Mayor's office to begin my research study. I also hope I could make some contributions to improving the livelihoods of the communities from my research in the near future.

Thank you and best regards,

Chon-Phung Lim

Appendix 1.3 NGO and Technology Partners in Northern Samar



Front row, left to right: Laarni Paraboles-Macalalag- CERD, Inc

Evelyn Acibar-Bandal – EVPRD, Inc

Ailene Ballesta-Diaz – CERD, Inc.

Maybelle Mangada-Camps - NAC

Back row, left to right: Mateo Aleria- EVPRD, Inc

Gregorio sarmiento- EVPRD, Inc.

Lim Chon Phung (Author)

Professor Romula Obleopas - University of Eastern Philippines (U.E.P)

Ronel Menor - HSSi

Appendix 1.4 Research Assistants in Northern Samar



From left to right:

Eduardo A. Arca, Agnes C. Bautisa, Lim Chon Phung (Author), Noel B. Gabrito (Team Leader), Nilo D. Sabangan Jr. and Roel Menor (from HSSi).

Appendix 4.1 Pre-Intervention Household Survey (Page 1)

Interviewer's code _____ Date: _____ Questionnaire number _____			
INDIVIDUAL COMMUNITY HOUSEHOLD SURVEY			
Section A. RESPONDENT'S BASIC DEMOGRAPHIC INFORMATION			
1	Name:		9
2	Age :		What is your primary occupation?
3	Gender	Male 0 Female 1	Farming/agriculture Fishing Manual labour/construction Shop owner/Sari-sari store Others, please specify:
4	Which level of education did you complete?	None 0 Elementary 1 Secondary 2 College 3 Post Graduate 4	10 Do you or your household possess any agricultural 11 If YES, how many hectare/s?
5	Marital status	Single 0 Married 1 Widowed/widowe 3	12 Status of ownership Owned Rented Under tenancy Others, please specify:
6	Do you have children?	Yes 0 No 1	13 Current land classification(use) Rice land Coco land Combination of rice & coco land Aquafarming Others, please specify:
7	If yes, how many?		
8	Are you head of the family?	Yes 0 No 1	
14	What is your average monthly gross income (only you)?PhP		
15	What is the monthly average gross income of your entire household?		20 Whom did you or your household borrow money?
	Don't know? 0		Relatives or Friends 0
	PhP:		Loan Shark (Bombay) 1
16	What is the monthly household expenditure?		Traders 2
	Don't know? 0		Pawnshops 3
	PhP:		NGO-MFIs 4
17	In the last 12 months, did you or anyone of your household borrow money?		Cooperatives 5
	Yes 0		Banks 6
	No 1		Other, please specify: 7
	Don't know? 2		21 In the last month, has anyone in the household lent any money?
18	If yes, what was the amount borrowed?		Don't know 0
	Don't know 0		Yes 1
	PhP:		No 2
19	What was the loan used for?		22 If YES, how much? PhP _____
	To buy household basic needs 0		23 How much money did your household put into savings in the past month?
	To start or additional capital for business 1		Don't know
	To pay off loan 2		No
	To buy farm/fishing equipment/tool 3		PhP:
	To pay household emergencies/celebrations 4		
	To pay school expenses 5		
	Other, please. specify: 6		

Appendix 4.1 Pre-Intervention Household Survey (Page 2)

SECTION B. RESPONDENT'S SOURCES OF LIGHTING IN HOUSEHOLD			
24	What is the primary source of lighting in your household?		
	NORSAMELCO	0	
	Solar power	1	
	Kerosene lamp	2	
	Coco oil	3	
	Candles	4	
	Generator set	5	
	Other, please specify	6	
25	If not using solar power, state the reasons why you are not using?		
	Not aware of solar lighting power	0	
	Cannot afford to purchase the system	1	
	Don't trust solar power system	2	
	No existing supplier in our barangay	3	
	It's expensive	4	
	Other, please specify:	5	
26	Would you consider using loan to buy the household solar system?		
	Yes	0	
	No	1	
	Not sure	2	
27	If YES, where do you plan to apply for a loan?		
	Don't know	0	
	Relatives or Friends	1	
	Loan Shark (Bombay)	2	
	Traders	3	
	Pawnshops	4	
	NGO-MFIs	5	
	Cooperatives	6	
	Banks	7	
	Other, please specify:	8	
28	What is the loan monthly loan instalment affordable for you?		
29	If the answer of # 26 is NO, what are the reasons why you don't consider using loan to buy the system?		
	I am not aware that I can get a loan to buy the system		
	I cannot afford to pay the loan amount		
	I do not want to get into debt		
	Others, please specify:		
30	Do you (or anyone of your household) have a cell phone?		
	Yes	0	
	No	1	
31	If YES, how do you (or your household member) charge your cell phone?		
	Electricity	0	
	Generator	1	
	Charging store	2	
	Solar power charger	3	
	Other, please specify:	4	

Appendix 4.1 Pre-Intervention Household Survey (Page 3)

SECTION C. RESPONDENT'S USE OF COMMON TOOLS AND THEIR COMMUNITY PARTICIPATION																																															
<p>32 Are willing to adopt new tools/methods to help you improved your livelihood?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Yes</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>No</td> <td style="text-align: center;">1</td> </tr> </table>	Yes	0	No	1	<p>39 In the past 12 months, did you or anyone in your household participate in any community activities which people come together to do some work beneficial for the community?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Yes</td> <td style="width: 20%; text-align: center;">0</td> </tr> </table>	Yes	0																																								
Yes	0																																														
No	1																																														
Yes	0																																														
<p>33 If NO, state the reasons why you don't want to adopt new tools/methods?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">My existing tool/method is working fine and no need to adopt new tool/method</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>I am not aware of the new tool/method for my livelihood</td> <td style="text-align: center;">1</td> </tr> <tr> <td>My livelihood will be affected if such new tool/method doesn't work</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Adoption of new tool/method is usually expensive and technical</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Others, please specify:</td> <td style="text-align: center;">4</td> </tr> </table>	My existing tool/method is working fine and no need to adopt new tool/method	0	I am not aware of the new tool/method for my livelihood	1	My livelihood will be affected if such new tool/method doesn't work	2	Adoption of new tool/method is usually expensive and technical	3	Others, please specify:	4	<p>40 If yes, how often did you participate?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Very often</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>Often</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Seldom</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Never</td> <td style="text-align: center;">4</td> </tr> <tr> <td>Don't know</td> <td style="text-align: center;">5</td> </tr> </table>	Very often	0	Often	1	Seldom	2	Never	4	Don't know	5																										
My existing tool/method is working fine and no need to adopt new tool/method	0																																														
I am not aware of the new tool/method for my livelihood	1																																														
My livelihood will be affected if such new tool/method doesn't work	2																																														
Adoption of new tool/method is usually expensive and technical	3																																														
Others, please specify:	4																																														
Very often	0																																														
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Appendix 4.2 Pre-Intervention CBO Leaders survey (Page 1)

		Interviewer's code	Date:	Questionnaire number
INDIVIDUAL COMMUNITY LEADER'S SURVEY				
WRITE IN CAPITAL LETTERS				
Section A. RESPONDENT'S BASIC DEMOGRAPHY INFORMATION				
1	Name:			
2	Age:			
3	Gender	Male	0	
		Female	1	
4	Which level of education did you complete?	None	0	
		Elementary	1	
		Secondary	2	
		College	3	
		Post Graduate	4	
5	Marital status	Single	0	
		Married	1	
		Single parent	2	
		Widowed/widower	3	
			4	
6	Do you have children?	Yes	0	
		No	1	
7	If yes, how many?			
8	Are you head of the family?	Yes	0	
		No	1	
Section B. RESPONDENT'S WILLINGNESS TO LEARN NEW SKILLS				
14	Are you willing to learn new skills to expand your knowledge?	Yes	0	
		No	1	
		Not sure	2	
15	If yes, what are the skills you like to learn?			
	New approaches/techniques to improve community's livelihood	0		
	Skills to improve my relationship with the community	1		
	Skills to improve my relationship with agencies working in the communities	2		
	Others, please specify:	3		
9	What is your primary occupation?	Farming/agriculture	0	
		Fishing	1	
		Manual labour/construction	2	
		Shop owner/Sari-sari store	3	
		Other, please specify:		
10	What is your role/position in the community association?	BOD member	0	
		Officers (President, Secretary, Treasurer, etc)	1	
		Executive Committee member	2	
		Committee member	3	
		Others, please specify:	4	
11	How long have been holding this position?	Number of year/s:		
12	What community project(s) previously implemented or currently implemented by your association?	Have not implemented any community project	0	
		Name of Project(s):		
13	If implemented community projects, who were/was your funding partner(s)?			
16	How many days do you plan to invest in learning new skills?			
17	If the answer is NO for question 12, why?			
		I don't have the time to learn new skills	0	
		I don't know what new skills to learn	1	
		I don't think the new skills will improve the community's livelihood	2	
		Others, please specify:	4	

Appendix 4.2 Pre-Intervention CBO Leaders survey (Page 2)

SECTION C. CHALLENGES FACING THE COMMUNITY				
18	Are willing to adopt new tools/methods to help you improve your livelihood?			
	Yes	0		
	No	1		
19	If NO, state the reasons why you don't want to adopt new tools/methods?			
	My existing tool/method is working fine	0		
	I am not aware of the new tool/method	1		
	It is difficult to learn new tool/method	2		
	The new tool/method is usually expensive	3		
	Others, please specify:	4		
20	Do you think your association members will consider using common farming/fishing equipment to help them improve their livelihood?			
	Yes	0		
	No	1		
	Not sure	2		
21	If YES, what are some of the common farming/fishing equipment they need?			
	Farming Communities		Fishing Communities	
	Water pump	0	Fishing boat	0
	Buffalo/Carabao	1	Fishing nets	1
	Tractor	2	Compressor	2
	Handtractor	3	Fish aggregating device (payaw)	3
	Tracer	4	Fish cage	4
	Others, pls specify:	5	Others, pls specify:	5
22	If the answer is NO for Question No 19, state your reasons:			
	They don't like that scheme	0		
	They want to have tools/equipment exclusive for their own use	1		
	They do not trust other members in using common tools/equipment	2		
	They don't trust the association in managing and maintaining the equipment	3		
	They can earn more income in other employment	4		
	They cannot afford the high upfront cost	5		
	Others, pls specify:	6		
23	Has your organization ever availed a loan?			
	Yes	0		
	NO	1		
25	Is your association members will be willing to access a loan to purchase these common farming/fishing equipment?			
	Yes	0		
	No	1		
	Not sure	2		
26	If YES, what is the loan amount that the association members is willing to pay to purchase common equipment? Php			
27	Where will your association obtain this loan?			
	I don't know	0		
	Government Financing Institution:			
	Land Bank of the Philippines	1		
	Development Bank of the Philippines	2		
	Agricultural Credit & Policy Council	3		
	National Livelihood Corporation	4		
	Other, pls. specify	5		
	Private Financing Institutions:			
	Commercial Banks	6		
	MFIs	7		
	Equipment Providers	8		
	Traders	9		
	Community Cooperative	10		
	Other, please specify:	11		
28	How should be loan payment be structured?			
	Farming CBOs			
	I don't know	0		
	Monthly equal payment	1		
	Bullet payment upon harvest or after selling the products produced/livestock raised	2		
	Others, pls specify:	3		
	Fishing CBOs			
	I don't know	4		
	Weekly equally payment	5		
	Monthly equal payment	6		
	Bullet payment upon harvest or after selling the products produced/livestock raised for fisherman who has these other livelihoods aside fishing	7		
	Others, pls specify:	8		
29	What should be the type of disbursement for this loan?			
	I don't know	0		
	In the form of cash	1		
	In the form of equipment/tools needed instead of cash	2		
	Others, pls specify:	3		
30	If the answer to question NO. 25, please provide reason/s why your association is not willing to access loan?			
	They are unsure that the new common equipment will improve their livelihood	0		
	They are worried about non-payment by other members	1		
	They are worried about getting into debt in the future	2		
	They are worried about impact to their reputation if they are not able to make payment	3		
	They don't trust the community leaders to manage the loan	4		
	Others, pls specify:	5		
31	Who should manage and maintain common tools/equipment in your community?			
	No idea	0		
	Individual member	1		
	People's association (like your association)	2		
	Barangay Councils	3		
	Equipment providers	4		
	Other, please specify:	5		
32	What are the top 3 issues currently face by your community?			
	1. _____			
	2. _____			
	3. _____			
33	What are the top issues hindering the deployment/establishment of common equipment in your community?			
	1. _____			
	2. _____			
	3. _____			
	Any observations during the face-to-face interview that need to recorded:			

Appendix 4.3 CBO Leaders' Social Capital Survey (Page 1)

INDIVIDUAL COMMUNITY LEADER'S SOCIAL CAPITAL SURVEY					
WRITE IN CAPITAL LETTERS					
Name of Village Leader:					
Section:					
A. GROUPS AND NETWORKS					
1 Which groups, organizations, networks or associations are you or your household a part of? (This could be formally organized groups or just groups of people who get together regularly to do an activity or talk about things)					
			5 If yes, how often?		
Religious organization	0		Frequently	0	
School-based organization	1		Occasionally	1	
Livelihood organization	2		Rarely	2	
Employment organization	3		6 How many close friends do you have?		
Neighbourhood association	4		I don't now	0	
Cause-oriented organization (lobby with government)	5		7 If you suddenly needed to borrow a small amount of money, are there people beyond your immediate households and close friends willing and able to provide this money?		
Farmer-based organization	6		Definitely	0	
Fisherfolks-based organization	7		Probably	1	
Other, pls specify:	8		Unsure	2	
2 Of all these groups, which one is the most important to you?			Probably not	3	
			Definitely not	4	
3 Thinking about members of this group, are most of them the same in:					
Aspects	Yes	No			
Religion	0	1			
Gender	0	1			
Occupation	0	1			
Educational attainment	0	1			
Economic status	0	1			
4 Do you interact with people or groups outside the village/neighbourhood?					
Yes		0			
No		1			
B. TRUST AND SOLIDARITY					
8 Would you say that most people can be trusted?					
Yes		0			
No		1			
9 Do you agree with the following statements?					
4 strongly agree	☺☺		Score	Statements	
3 mostly agree	☺		a. Most people in this village/neighbourhood are willing to help you if need it.		
2 barely agree	☹		b. In this village/neighbourhood, one should be alert or someone is likely to take advantage of you		
1 do not agree	☹☹				
0 strongly disagree	☹☹☹				
10 How much do you trust the following officials?					
3 I trust them very much			Score	Government Officials	
2 I trust them			Local government officials		
1 somewhat trust them			National government officials		
0 I never trust them					
11 If a community project does not directly benefit you but has benefits for many others in the village, would you contribute time or money to the project?					
		Time			Money
Yes. I will contribute		0	Yes. I will contribute		0
No. I will not contribute		1	No. I will not contribute		1
C. COLLECTIVE ACTION AND COOPERATION					
12 In the past 12 months, did you or anyone in your household participate in any community activities which people come together to do some work beneficial for the community?			13 If Yes, how often did you participate in the past 12 months?		
Yes		0	Very often	0	
No		1	Often	1	
			Seldom	2	
			Never	3	
			Don't know	4	

Appendix 4.3 CBO Leaders' Social Capital Survey (Page 2)

D INFORMATION AND COMMUNICATION			
14 In the previous month, how often did you make or receive phone call?			
Very often	0		
Often	1		
Seldom	2		
Never	3		
Don't know	4		
15 What are your extent of preference for the following sources of information about what the government is doing (such agricultural extension, workfare planning, etc.)			
3 Most preferred	Score	Sources of Information	
2 Preferred		Relatives	
1 Least preferred		Friends and neighbours	
		Community bulletin board	
		Local newspapers	
		National newspapers	
		Radio	
		TV	
		Groups or Associations	
		Business or work associates	
		Political associates	
		Community leader	
		Government agents	
		NGOs	
		Social media/internet	
E SOCIAL COHESION AND INCLUSION			
16 There are often differences in the characteristics between people living in the same village/neighbourhood (e.g. differences in wealth, income, social status, religious beliefs, political beliefs, gender, age etc) To what extent are such differences present in your community?			
Great extent	0		
Moderate extent	1		
Cannot say	2		
Small extent	3		
Very small extent	4		
17 Do any of these differences cause problems?			
Yes	0		
No	1		
18 If YES, how often the following differences cause problems?			
3 Most often	Score	Differences	
2 Often		In education	
1 Seldom		In landholdings	
0 Never		In wealth/material possessions	
		Social status	
		Between men and women	
		Between long-term and recent residents	
		Political party affiliations	
		Religious beliefs	
19 Have these problems ever led to violence?			
Yes	0		
No	1		
20 In general, how safe from crime and violence do you feel when you are alone at home?			
Very safe	0		
Moderately safe	1		
Neither safe or unsafe	2		
Moderately un safe	3		
Very unsafe	4		
E. EMPOWERMENTAND POLITICAL ACTION			
21 In general, how happy do you consider yourself?		23 In the past 12 months, how often have people in this village got together to jointly petition the government officials or political leaders for something beneficial to your community?	
Very happy	0	Never	0
Moderately happy	1	Once	1
Neither happy or unhappy	2	A few time(< 5)	2
Moderately unhappy	3	Many times (>5)	3
Very unhappy	4		
22 Do you feel that you have the power to make important decisions that change the course of your life?		24 Did you vote in the last local/national elections?	
Totally unable to change life	0	Yes	0
Mostly unable to change life	1	No	1
Neither able or unable	2		
Mostly able to change life	3		
Total able to change life	4		
Any observations during the face-to-face interview with the respondent:			
THANK YOU VERY MUCH FOR YOUR TIME & ATTENTION. IS THERE ANYTHING YOU WANT TO ASK ME?			

Appendix 4.4 CBO Leaders' Social Skills Survey

INDIVIDUAL COMMUNITY LEADER'S SOCIAL SKILLS SURVEY			
WRITE IN CAPITAL LETTERS			
Name of Village Leader:			
A. SOCIAL PERCEPTION			
1 Do you agree with the following statements?			
4 strongly agree	☺☺	Score #	Statements
3 mostly agree	☺		1 I am a good judge of other people.
2 barely agree	☹		2 I can usually recognize others' traits accurately by observing their behaviours
1 do not agree	☹☹		3 I can usually read others well - Tell how they are feeling in a given situation
0 strongly disagree	☹☹☹☹		4 I can tell why people have acted the way they have in most situations
			5 I generally know when it is the right time to ask someone for a favour
B. SOCIAL ADOPTABILITY			
Do you agree with the following statements?			
4 strongly agree	☺☺	Score #	Statements
3 mostly agree	☺		6 I can easily adjust to any social situation
2 barely agree	☹		7 I can be comfortable with all types of people - young or old, people from the same or different background as myself
1 do not agree	☹☹		8 I can talk to anybody about almost anything
0 strongly disagree	☹☹☹☹		9 People tell me that I am sensitive and understanding
			10 I have no problems introducing myself to strangers
B. EXPRESSIVENESS			
Do you agree with the following statements?			
4 strongly agree	☺☺	Score #	Statements
3 mostly agree	☺		11 People can always read my emotions even if I try to cover them up
2 barely agree	☹		12 Whatever emotion I feel on the inside tends to show up on the outside
1 do not agree	☹☹		13 Other people can usually tell pretty much about how I feel at a given time
0 strongly disagree	☹☹☹☹		
Any observations during the face-to-face interview:			
THANK YOU VERY MUCH FOR YOUR TIME & ATTENTION. IS THERE ANYTHING YOU WANT TO ASK ME?			

Appendix 4.5 MFI Survey

		Interviewer's code _____	Date: _____	Questionnaire number _____																
MICROFINANCE INSTITUTIONS SURVEY IN NORTHERN SAMAR																				
1	MFIs Name: _____	9 If YES, what does the MFI provide to farmers when they need a loan?																		
2	Your Name: _____ Position: _____	Only cash	0																	
		Household goods	1																	
3	What is the MFI's current scope of operations?	Agri-inputs	2																	
		Farming equipment	3																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Nation-wide</td><td style="text-align: right;">0</td></tr> <tr><td>Region-wide</td><td style="text-align: right;">1</td></tr> <tr><td>Province-wide</td><td style="text-align: right;">2</td></tr> </table>	Nation-wide	0	Region-wide	1	Province-wide	2	10 What are the terms and conditions of such agree-loan in terms of :												
Nation-wide	0																			
Region-wide	1																			
Province-wide	2																			
4	Number of borrowers currently served: _____	Frequency of payment																		
		Interest rate																		
5	What are the economic activities currently financed by the MFI?	Maximum loanable amount																		
		Collateral requirements																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Farming/Agri-production</td><td style="text-align: right;">0</td></tr> <tr><td>Manufacturing</td><td style="text-align: right;">1</td></tr> <tr><td>Trading</td><td style="text-align: right;">2</td></tr> <tr><td>Services</td><td style="text-align: right;">3</td></tr> <tr><td>Others, please specify</td><td style="text-align: right;">4</td></tr> </table>	Farming/Agri-production	0	Manufacturing	1	Trading	2	Services	3	Others, please specify	4	11 What are the criteria set by your MFI in approving loan to farmers or fisherfolks?								
Farming/Agri-production	0																			
Manufacturing	1																			
Trading	2																			
Services	3																			
Others, please specify	4																			
6	What loan products does the MFI provide to the community?	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>																		
		12 The long standing issue face by the farmers or fisherfolks is their limited access to credit resulting in low farming or fishing productivity. This is one of the main causes of rural poverty in the Philippines. What are the reasons why they have limited or even no access to credit?																		
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Farmers are considered "risky borrowers"</td><td style="text-align: right;">0</td></tr> <tr><td>Agricultural lending incurs high financial cost to MFIs</td><td style="text-align: right;">1</td></tr> <tr><td>Farmers are usually lack or even no physical asset to offer as collaterals</td><td style="text-align: right;">2</td></tr> <tr><td>Vulnerability of agriculture to natural disasters makes it not attractive for funding</td><td style="text-align: right;">3</td></tr> <tr><td>Poorly developed transportation and communications infrastructure in the rural areas</td><td style="text-align: right;">4</td></tr> <tr><td>Agriculture lending involves seasonality, is required for longer periods and repaid in one or to "lumpy" instalments</td><td style="text-align: right;">5</td></tr> <tr><td>Rural areas are prone to loan delinquency where residents(farmers) have very limited options for economic activity</td><td style="text-align: right;">6</td></tr> <tr><td>Others, please specify:</td><td style="text-align: right;">7</td></tr> </table>			Farmers are considered "risky borrowers"	0	Agricultural lending incurs high financial cost to MFIs	1	Farmers are usually lack or even no physical asset to offer as collaterals	2	Vulnerability of agriculture to natural disasters makes it not attractive for funding	3	Poorly developed transportation and communications infrastructure in the rural areas	4	Agriculture lending involves seasonality, is required for longer periods and repaid in one or to "lumpy" instalments	5	Rural areas are prone to loan delinquency where residents(farmers) have very limited options for economic activity	6	Others, please specify:	7
Farmers are considered "risky borrowers"	0																			
Agricultural lending incurs high financial cost to MFIs	1																			
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Rural areas are prone to loan delinquency where residents(farmers) have very limited options for economic activity	6																			
Others, please specify:	7																			
7	What is the minimum and maximum loanable amount?																			
	_____ Minimum _____ Maximum																			
8	Does your MFI provide loan to farmers?																			
	Yes	0																		
	No	1																		

14	What are the top three risks your MFI encounters when it disburses loans to farmers or fisherfolks?	18 How does your MFI collect the balance if they defaulted their payments?	
15	How does you MFI mitigate these risks?	19 How can the Farmers' or Fisher-folks' associations convince your MFI to expand its operations in the rural areas?	
16	Does your MFI trust farmers or fisherfolks that they can repay the loan in full?	20 The traders are main source of informal credit to the farmers and f fisherfolks in the rural areas. What are your views on the trader-linked financing model?	
	Yes, my MFI trusts them that they can repay their loan in full	0	
	No, my MFI doesn't trust them that they can repay their loan in full	1	
	I am not sure	2	
		The traders play a vital role in rural communities when formal credit is not available and therefore encourage to provide more credit to farmers/fisherfolks	0
		More regulation and supervision are needed to protect the farmers and fisher-folks	1
		These informal lending should be replaced by more formal lending practices	2
		Others, please specify:	3

Appendix 4.6 Trader-linked Financing Survey (Traders, Page 2)

<p>11 How much interest do you usually charge? _____</p>	<p>17 Do you have cases where your farmer-customers cannot repay the loan in full?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Yes</td> <td style="width: 50%;"></td> </tr> <tr> <td>No</td> <td></td> </tr> </table>	Yes		No									
Yes													
No													
<p>12 Please indicate other charges, if any:</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>18 If YES, how many farmers failed to repay their loans in full for the 12 months? _____ cases</p>												
<p>13 Do you require your farmer-customers to sell their produce only to you?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Yes</td> <td style="width: 50%;"></td> </tr> <tr> <td>No</td> <td></td> </tr> </table>	Yes		No		<p>19 How do you collect the balance that the farmers were not able to repay?</p> <p>_____</p> <p>_____</p>								
Yes													
No													
<p>14 If they sell their produce to you to repay the loan, how do you calculate the interest you are charging?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">I usually reduce the price to cover the interest</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>I usually deduct certain percentage from the weight of their produce as shrinkage</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Others, please specify:</td> <td style="text-align: center;">2</td> </tr> </table>	I usually reduce the price to cover the interest	0	I usually deduct certain percentage from the weight of their produce as shrinkage	1	Others, please specify:	2	<p>20 Do you trust the leaders of the Farmers Association?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Yes, I trust the leaders of the Farmers' Association</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>No, I do not trust the leaders of the Farmers' Association</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Not sure</td> <td style="text-align: center;">2</td> </tr> </table>	Yes, I trust the leaders of the Farmers' Association	0	No, I do not trust the leaders of the Farmers' Association	1	Not sure	2
I usually reduce the price to cover the interest	0												
I usually deduct certain percentage from the weight of their produce as shrinkage	1												
Others, please specify:	2												
Yes, I trust the leaders of the Farmers' Association	0												
No, I do not trust the leaders of the Farmers' Association	1												
Not sure	2												
<p>15 If you adopt this shrinkage, what percent do you usually impose? _____</p>	<p>21 How can the Farmers' Association helps you to improve your business in the barangays(Example: reduce numbers of farmers who don't pay in full, provide more loans, buy more produce and make more income for your business in the barangay)?</p> <p>_____</p> <p>_____</p>												
<p>16 Do you trust your customer-farmers that they can repay their loans as agreed?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Yes, I trust them</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>No, I don't trust them</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Not sure</td> <td style="text-align: center;">2</td> </tr> </table>	Yes, I trust them	0	No, I don't trust them	1	Not sure	2							
Yes, I trust them	0												
No, I don't trust them	1												
Not sure	2												

<p>22 What other services you provided to the farmers in addition to providing loans at the start of the cropping season and buying the produce after harvest season?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">None</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>Give advice to the farmers on better farming technique</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Storage facilities during harvest</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Lend pre & post harvest farming equipment</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Transportation of produce from farm to market</td> <td style="text-align: center;">4</td> </tr> <tr> <td>Others, please specify:</td> <td style="text-align: center;">5</td> </tr> </table>	None	0	Give advice to the farmers on better farming technique	1	Storage facilities during harvest	2	Lend pre & post harvest farming equipment	3	Transportation of produce from farm to market	4	Others, please specify:	5	<p>23 Who are the competitors for your business in the barangay?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Other traders</td> <td style="width: 20%; text-align: center;">0</td> </tr> <tr> <td>Microfinance Institutions</td> <td style="text-align: center;">1</td> </tr> <tr> <td>I don't worry about other competitors in the barangay</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Others, please specify:</td> <td style="text-align: center;">3</td> </tr> </table>	Other traders	0	Microfinance Institutions	1	I don't worry about other competitors in the barangay	2	Others, please specify:	3
None	0																				
Give advice to the farmers on better farming technique	1																				
Storage facilities during harvest	2																				
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Others, please specify:	5																				
Other traders	0																				
Microfinance Institutions	1																				
I don't worry about other competitors in the barangay	2																				
Others, please specify:	3																				

Appendix 4.7 Trader-linked Financing Survey (Farmers, Page 1)

		Interviewer's code _____	Date: _____	Questionnaire number _____			
TRADER-LINKED FINANCING SURVEY - FARMER							
RESPONDENT'S BASIC DEMOGRAPHIC INFORMATION (to be extracted from the gathered data in Phase 1)							
1	Name:		6	Number of Children			
2	Age :		7	Do you possess agricultural land?			
3	Which level of education did you complete?	None		Yes			
		Elementary	1	No			
		Secondary	2	Don't know			
		College	3				
		Post Graduate	4				
4	Monthly HH Income	2000 & below	0	8	If YES, how many hectare/s?	Don't know	0
		2001-4,000	2	9	If YES, how many hectare/s?	Number of Hectare/s:	
		4,000- 6,000	3	10	Status of ownership	Owned	0
		Above 6,000				Rented	1
5	Monthly HH Expenses	2,000 & below	0	11	Current land classification(use)	Under tenancy	2
		2,000-4,000	1			Others, pls specify:	
		4,001-6,000				Rice land	0
		6,000 above				Coco land	1
						Combination of rice and coconut	2
						Abaca and Coconut	3
				12	Loan Amount availed from Trader		
				13	What was the loan used for?		
Follow up survey to collect additional data from house heads who obtained loans from traders							
14	How much loan did you avail from trader?		16	If household goods, please enumerate			
	Don't know?	0		Rice	0		
	PhP:			Sugar	1		
15	Was it cash?			Kerosene	2		
		Yes,	0	Canned goods	3		
		No, household goods	1	Condiments	4		
		No, both cash & household goods	2	Soap	5		
				Liquor/beverage	6		
				Noodles	7		
				Tobacco products	8		
				Viand (meat, chicken, fish)	9		
				Others, please specify:	10		

Appendix 4.7 Trader-linked Financing Survey (Farmers, Page 2)

<p>17 How many times do you borrow from the traders in a year?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Once</td><td style="text-align: right;">0</td></tr> <tr><td>Twice</td><td style="text-align: right;">1</td></tr> <tr><td>Thrice & above</td><td style="text-align: right;">2</td></tr> </table>	Once	0	Twice	1	Thrice & above	2	<p>23 If your loan is repaid in lumpsum during harvest, how did the trader collect your loan?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>The trader collected the entire loan amount</td><td></td></tr> <tr><td>The trader deducted _____% of the total kilos of my harvest</td><td></td></tr> <tr><td>Others, please specify:</td><td></td></tr> </table>	The trader collected the entire loan amount		The trader deducted _____% of the total kilos of my harvest		Others, please specify:			
Once	0														
Twice	1														
Thrice & above	2														
The trader collected the entire loan amount															
The trader deducted _____% of the total kilos of my harvest															
Others, please specify:															
<p>18 How do you repay the loan to the trader?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>I sell my products(copra, abaca, palay) to the trader during harvest and my entire loan is deducted from the sales</td><td style="text-align: right;">0</td></tr> <tr><td>I repay (lumpsum) the loan in cash after harvest</td><td style="text-align: right;">1</td></tr> <tr><td>I repay the loan through instalment every harvest</td><td style="text-align: right;">2</td></tr> <tr><td>Others, pls specify:</td><td style="text-align: right;">3</td></tr> </table>	I sell my products(copra, abaca, palay) to the trader during harvest and my entire loan is deducted from the sales	0	I repay (lumpsum) the loan in cash after harvest	1	I repay the loan through instalment every harvest	2	Others, pls specify:	3	<p>24 Do you think the trader is taking advantage of you?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: right;">0</td></tr> <tr><td>No</td><td style="text-align: right;">1</td></tr> </table>	Yes	0	No	1		
I sell my products(copra, abaca, palay) to the trader during harvest and my entire loan is deducted from the sales	0														
I repay (lumpsum) the loan in cash after harvest	1														
I repay the loan through instalment every harvest	2														
Others, pls specify:	3														
Yes	0														
No	1														
<p>19 Did you experience difficulty in repaying the loan?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No, I always repay my loan on time as agreed</td><td style="text-align: right;">0</td></tr> <tr><td>Yes, I defaulted my repayment in the past</td><td style="text-align: right;">1</td></tr> </table>	No, I always repay my loan on time as agreed	0	Yes, I defaulted my repayment in the past	1	<p>25 If YES, why do you think the trader is taking advantage of you?</p> <p>_____</p> <p>_____</p>										
No, I always repay my loan on time as agreed	0														
Yes, I defaulted my repayment in the past	1														
<p>20 Did the trader explain the terms and conditions before you received the loan?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: right;">0</td></tr> <tr><td>No</td><td style="text-align: right;">1</td></tr> </table>	Yes	0	No	1	<p>26 Do you always use the same trader for your loan?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: right;">0</td></tr> <tr><td>No</td><td style="text-align: right;">1</td></tr> </table>	Yes	0	No	1						
Yes	0														
No	1														
Yes	0														
No	1														
<p>21 Did you understand the terms and conditions of the loan?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: right;">0</td></tr> <tr><td>No</td><td style="text-align: right;">1</td></tr> </table>	Yes	0	No	1	<p>27 If NO, why did you change?</p> <p>_____</p> <p>_____</p>										
Yes	0														
No	1														
<p>22 For your current loan of: _____ PhP:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Payment per instalment</td><td></td></tr> <tr><td>Frequency of payment (weekly, monthly, lumpsum)</td><td></td></tr> <tr><td>Number of payment</td><td></td></tr> </table>	Payment per instalment		Frequency of payment (weekly, monthly, lumpsum)		Number of payment		<p>28 How long have you known the last trader who provided loan to you?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Less than 1 year</td><td style="text-align: right;">0</td></tr> <tr><td>1-3 years</td><td style="text-align: right;">1</td></tr> <tr><td>4 years & above</td><td style="text-align: right;">2</td></tr> </table>	Less than 1 year	0	1-3 years	1	4 years & above	2		
Payment per instalment															
Frequency of payment (weekly, monthly, lumpsum)															
Number of payment															
Less than 1 year	0														
1-3 years	1														
4 years & above	2														
	<p>29 Do you trust the traders who provided the loan to you?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes, I trust them</td><td style="text-align: right;">0</td></tr> <tr><td>No, I don't trust them</td><td style="text-align: right;">1</td></tr> <tr><td>Not sure</td><td style="text-align: right;">2</td></tr> </table>	Yes, I trust them	0	No, I don't trust them	1	Not sure	2								
Yes, I trust them	0														
No, I don't trust them	1														
Not sure	2														
<p>30 If your answer in # 29 is NO, what are the reasons you don't trust the traders?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>31 Do you think the traders trust you to pay back the loan?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes, they trust me to pay back the loan</td><td style="text-align: right;">0</td></tr> <tr><td>No, they don't trust me to pay back the loan</td><td style="text-align: right;">1</td></tr> </table>	Yes, they trust me to pay back the loan	0	No, they don't trust me to pay back the loan	1										
Yes, they trust me to pay back the loan	0														
No, they don't trust me to pay back the loan	1														
<p>32 Do you have other sources of credit in the barangay aside from traders?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: right;">0</td></tr> <tr><td>No</td><td style="text-align: right;">1</td></tr> </table>	Yes	0	No	1	<p>33 If YES, who are they?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Microfinance institutions</td><td style="text-align: right;">0</td></tr> <tr><td>Relatives</td><td style="text-align: right;">1</td></tr> <tr><td>Friends</td><td style="text-align: right;">2</td></tr> <tr><td>Politicians</td><td style="text-align: right;">3</td></tr> <tr><td>Others, please specify:</td><td style="text-align: right;">4</td></tr> </table>	Microfinance institutions	0	Relatives	1	Friends	2	Politicians	3	Others, please specify:	4
Yes	0														
No	1														
Microfinance institutions	0														
Relatives	1														
Friends	2														
Politicians	3														
Others, please specify:	4														

Appendix 4.8 Post-Intervention Households Survey

POST HOUSEHOLD SURVEY																											
		Interviewer's code _____	Date: _____																								
		Questionnaire number _____																									
Name: _____		Study Site: _____																									
<p>1 In the past 12 months, did you or anyone in your household participate in any community activities which people come together to do some work beneficial for the community?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: center;">0</td></tr> <tr><td>No</td><td style="text-align: center;">1</td></tr> </table>		Yes	0	No	1	<p>For questions # 9-15 please indicate the behavioural changes of the officers you interacted during the last 3 months:</p> <p>9 The officers are more friendly to me</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3												
Yes	0																										
No	1																										
No change in their behaviour	0																										
Small changes in their behaviour	1																										
Big changes in their behaviour	2																										
I am not sure	3																										
<p>2 If Yes, how often did you participate?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Don't know</td><td style="text-align: center;">0</td></tr> <tr><td>Very often</td><td style="text-align: center;">1</td></tr> <tr><td>Often</td><td style="text-align: center;">2</td></tr> <tr><td>Seldom</td><td style="text-align: center;">3</td></tr> </table>		Don't know	0	Very often	1	Often	2	Seldom	3	<p>10 The officers discussed to us more openly in the meetings</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3								
Don't know	0																										
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Small changes in their behaviour	1																										
Big changes in their behaviour	2																										
I am not sure	3																										
<p>3 Are you a member of the Fisherfolks/Farmers association in your community?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes</td><td style="text-align: center;">0</td></tr> <tr><td>No</td><td style="text-align: center;">1</td></tr> </table> <p style="text-align: center;">If Yes, name of the association</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>		Yes	0	No	1							<p>11 The officers listen to our input and suggestion during meetings.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3						
Yes	0																										
No	1																										
No change in their behaviour	0																										
Small changes in their behaviour	1																										
Big changes in their behaviour	2																										
I am not sure	3																										
<p>4 If YES, how much do you trust the officers of the association?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>I trust them very much</td><td style="text-align: center;">0</td></tr> <tr><td>I trust them</td><td style="text-align: center;">1</td></tr> <tr><td>I don't trust them</td><td style="text-align: center;">2</td></tr> </table>		I trust them very much	0	I trust them	1	I don't trust them	2	<p>12 The officers are more willing to help me when I have problems.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3										
I trust them very much	0																										
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Big changes in their behaviour	2																										
I am not sure	3																										
<p>5 If your answer in Question # 3 is Yes, are you more satisfied as a member of the association now versus 3 months ago?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes, I am happier</td><td style="text-align: center;">0</td></tr> <tr><td>No, I am less happy</td><td style="text-align: center;">1</td></tr> <tr><td>No change</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		Yes, I am happier	0	No, I am less happy	1	No change	2	I am not sure	3	<p>13 The officers are making more effort to recruit new members to join the association.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3								
Yes, I am happier	0																										
No, I am less happy	1																										
No change	2																										
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No change in their behaviour	0																										
Small changes in their behaviour	1																										
Big changes in their behaviour	2																										
I am not sure	3																										
<p>6 If your answer in Question # 3 is NO, are you more likely to join as a member of the association?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Yes, I am more likely to join the association</td><td style="text-align: center;">0</td></tr> <tr><td>No, I will not join the association</td><td style="text-align: center;">1</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">2</td></tr> </table>		Yes, I am more likely to join the association	0	No, I will not join the association	1	I am not sure	2	<p>14 The officers are developing better relationship with the barangay officers</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3										
Yes, I am more likely to join the association	0																										
No, I will not join the association	1																										
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Small changes in their behaviour	1																										
Big changes in their behaviour	2																										
I am not sure	3																										
<p>7 How often was your interactions with the officers during the last three months?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>I had more interactions</td><td style="text-align: center;">0</td></tr> <tr><td>No change in the interactions</td><td style="text-align: center;">1</td></tr> <tr><td>I had less interactions</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		I had more interactions	0	No change in the interactions	1	I had less interactions	2	I am not sure	3	<p>15 The officers care more about our livelihood issues in the barangay.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>No change in their behaviour</td><td style="text-align: center;">0</td></tr> <tr><td>Small changes in their behaviour</td><td style="text-align: center;">1</td></tr> <tr><td>Big changes in their behaviour</td><td style="text-align: center;">2</td></tr> <tr><td>I am not sure</td><td style="text-align: center;">3</td></tr> </table>		No change in their behaviour	0	Small changes in their behaviour	1	Big changes in their behaviour	2	I am not sure	3								
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Big changes in their behaviour	2																										
I am not sure	3																										
<p>8 If your answer is more interactions, how often did you interact with the officers?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">3 months ago</th> <th colspan="2" style="text-align: center;">Now</th> </tr> </thead> <tbody> <tr><td>Don't know</td><td style="text-align: center;">0</td><td>Don't know</td><td style="text-align: center;">0</td></tr> <tr><td>Very often</td><td style="text-align: center;">1</td><td>Very often</td><td style="text-align: center;">1</td></tr> <tr><td>Often</td><td style="text-align: center;">2</td><td>Often</td><td style="text-align: center;">2</td></tr> <tr><td>Seldom</td><td style="text-align: center;">3</td><td>Seldom</td><td style="text-align: center;">3</td></tr> <tr><td>Never</td><td style="text-align: center;">4</td><td>Never</td><td style="text-align: center;">4</td></tr> </tbody> </table>		3 months ago		Now		Don't know	0	Don't know	0	Very often	1	Very often	1	Often	2	Often	2	Seldom	3	Seldom	3	Never	4	Never	4		
3 months ago		Now																									
Don't know	0	Don't know	0																								
Very often	1	Very often	1																								
Often	2	Often	2																								
Seldom	3	Seldom	3																								
Never	4	Never	4																								
THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION!!!!																											

Appendix 4.9 Post-Intervention Supplementary CBO Leaders' Survey

Interviewer's code _____		Date: _____		Questionnaire number _____	
SUPPLEMENTAL QUESTIONS TO CBO LEADERS' SOCIAL CAPITAL					
Name: _____			CBO : _____		
Group and Networks			1.8 How many community activates did you participate during the last 3 months (enumerate them)?		
I You participated in the social capital workshop three months ago. For question 1.1 to 1.6, please indicate the frequency of meetings with the following people:					
11 How often did you meet with the following people before the workshop and today? Between yourself and other officers of the association					
Before workshop		Today			
No meeting	0	No meeting	0		
Daily	1	Daily	1		
Weekly	2	Weekly	2		
Monthly	3	Monthly	3		
			II Did you see improvement in your personal relationship with the following people after the workshop? Please indicate your responses in the following questions 2.1 to 2.6		
			2.1 Your relationship with other officers of the association?		
1.2 Between yourself and other barangay officers			No change in my relationship 0		
Before workshop		Today			
No meeting	0	No meeting	0	Small improvements in my relationship 1	
Daily	1	Daily	1	Big improvements in my relationship 2	
Weekly	2	Weekly	2	The relationship became worst 3	
Monthly	3	Monthly	3	2.2 Your relationship with other members of the association?	
			No change in my relationship 0		
			Small improvements in my relationship 1		
1.3 Between yourself and other members of the association			Big improvements in my relationship 2		
Before workshop		Today			
No meeting	0	No meeting	0	The relationship became worst 3	
Daily	1	Daily	1	2.3 Your relationship with residents in the community?	
Weekly	2	Weekly	2	No change in my relationship 0	
Monthly	3	Monthly	3	Small improvements in my relationship 1	
			Big improvements in my relationship 2		
			The relationship became worst 3		
1.4 Between yourself and non-members of your association			2.4 Your relationship with barangay officers?		
Before workshop		Today			
No meeting	0	No meeting	0	No change in my relationship 0	
Daily	1	Daily	1	Small improvements in my relationship 1	
Weekly	2	Weekly	2	Big improvements in my relationship 2	
Monthly	3	Monthly	3	The relationship became worst 3	
			2.5 Your relationship with NGOs?		
			No change in my relationship 0		
			Small improvements in my relationship 1		
1.5 Between yourself and NGOs			Big improvements in my relationship 2		
Before workshop		Today			
No meeting	0	No meeting	0	The relationship became worst 3	
Daily	1	Daily	1	2.6 Your relationship with local government unit (LGU) officers?	
Weekly	2	Weekly	2	No change in my relationship 0	
Monthly	3	Monthly	3	Small improvements in my relationship 1	
			Big improvements in my relationship 2		
			The relationship became worst 3		
1.6 Between yourself and technology, product vendors (e.g. HSSI or others)?					
Before workshop		Today			
No meeting	0	No meeting	0		
Daily	1	Daily	1		
Weekly	2	Weekly	2		
Monthly	3	Monthly	3		
1.7 What are the Government Agencies/NGOs you have visited during the last 3 months? And what was the result of these visits? (E.g. You were allocated with seeds from the Dept. of Agriculture.)					
Government Agencies/NGOs			Results		
THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION!!!!					

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