Implementing Gender-Responsive Farmer Business School with Smallholder Potato Farmers in Tungurahua, Ecuador

by

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Abstract

Implementing Gender-Responsive Farmer Business School with Smallholder Potato Farmers in Tungurahua, Ecuador

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The purpose of this study was to examine the case of the smallholder potato farmer’s organization known as CONPAPA, in the province of Tungurahua in the Ecuadorian Andes, in order to inform the evolving methodology of Farmer Business School (FBS). Diverse native potato varieties are grown in the Andes, and both women and men play key roles in the farming system. The FBS methodology emerged from Indonesia and only recently implemented within the cultural context of Latin America. Additionally, this study focussed specifically on the gender relations that exist within the potato growing organization CONPAPA. Multiple data collection methods used in this study included naturalistic observation, CONPAPA member survey, key informant interviews and focus groups. The findings of this study suggest that male and female group members are encouraged to participate equally and attain positions of leadership within CONPAPA, however the female participants are lacking in verbal skills and self-confidence. Due to the high level of institutional support that farmers receive from CONPAPA, this study concludes that the FBS methodology should focus more on the individual capacities of farmers to benefit financially from their production of potatoes.
Acknowledgements

The planning, implementation and completion of this thesis would not have been possible without the support of many people and organizations along the way. My thesis advisor Dr. Helen Hambly Odame has been central to the completion of this thesis from the very beginning helping me find and secure my position in Ecuador. During in the long months of writing in isolation Dr. Helen Hambly Odame has been a crucial with her encouragement and support keeping me focussed and on task.

In Ecuador, I would like to thank the wonderful staff of the CIP Ecuador offices with their assistance and support I was able to coordinate all of the complex stages towards the completion of the data gathering for this thesis. The members of CONPAPA were helpful and supportive offering their valuable time to ensure I had understood their perspectives, concerns and aspirations. Also to my research assistants, transcriptionists and translators who diligently worked with me to ensure that the findings of this study accurately represented the conditions experienced by the farmer members of CONPAPA.

Finally, to my family and loving partner who have supported me every step of way, this thesis would not have been completed in isolation without your encouragement and love.
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Chapter 1: Introduction

Introduction:

This study takes place in the province of Tungurahua Ecuador, located in the central Andean region of the country. Tungurahua has a diversity of mountainous microclimates, which offer a diversity of comparative advantages regarding agricultural activities. Within Tungurahua, there is a large diversity of agricultural activity due in part to the variation of climates that exist within the province. Ambato, the capital city of Tungurahua, hosts the Mercado Mayorista, a large wholesale market that shows the agricultural diversity produced within the province. There are up to 16 varieties of potato being produced, among other staple crops such as corn, potato production is the primary crop being grown by smallholder farmers. Much of the agricultural activity within Ecuador takes place on small plots of land, “farms of under 5 hectares represented 63 percent of all holdings, but occupied only 6.3 percent of the agricultural land” (Vera, 2003). Within the Andes the geography does not present optimal circumstances for large-scale agriculture and modern agricultural machinery, therefore many of the land plots are still cultivated by hand.

According to the 2010 national survey, Tungurahua has a population of 504,583 people, 299,037 of whom live in rural areas (INEC, 2010). 82.1% of the population of Tungurahua is Mestizo, and 12.45 indigenous, versus the national averages of 71.9% mestizo and 7% indigenous (INEC, 2010). Between men and women there is a discrepancy in years of school attended in Tungurahua, women attend for an average of 8.7 years and men for an average of 9.4 (INEC, 2010). Residents of Tungurahua in urban environments average 11.5 years of
education, while rural residents only average 7.2 years of education, with an estimated level of illiteracy at 7.5% which has fallen 25% since the previous census in 2001 (INECE, 2010).

Background:

The Consortium of Small Potato Producers (CONPAPA) is a potato grower’s organization that produces different varieties of native potatoes for the production of native potato chips named Kiwa, a brand shipped internationally from Ecuador. The founding of CONPAPA was the result of previous interventions within the Ecuadorian Andes in an effort to develop the potato value chains (Devaux et al. 2007). This study was undertaken to provide an informed assessment of how a new methodology for teaching farmers business skills can best be implemented with the smallholder farmers of CONPAPA.

CONPAPA was officially founded in 2003, provides support for smallholder potato farmer members. Smallholder farmers deliver their potatoes to CONPAPA where sales are coordinated with clients, CONPAPA seeks to create agreements with other organizations to better enable their members to benefit from potato production (CONPAPA, 2009). The Tungurahua branch of CONPAPA, has a $USD100 entrance fee, and depending on the level of engagement and participation of a member they will be maintain either an ‘A’, ‘B’ or a ‘C’ level of membership. The level of membership affects the level of assistance received by a member, at the time of this study there were 65 registered members, a number that has been declining over the previous years.

Centro Internacional de la Papa (CIP), a large international agricultural research organization has a high level of interaction with CONPAPA; this familiarity will allow the new
methodology to be implemented with a reduced level of precarity. The new methodology being implemented is called the Farmer Business School (FBS), which is a derivative of Farmer Field School (FFS).

FFS is a group learning approach for farmers to learn about specific topics:

“The topics covered vary from conservation agriculture, organic agriculture, animal husbandry, and soil husbandry, to income generating activities such as handicrafts. FFS provide opportunities for learning by doing. It teaches basic agricultural and management skills that make farmers experts in their own farms. FFS is a forum where farmers and trainers debate observations, experiences and present new information from outside the community” (Gitau, 2010: 1).

FBS is very similar to FFS, it is a group learning format that is focussed on adult farmers. These two intervention strategies differ in the content that they teach, FFS focusses on the technical aspects of crop production, FBS focusses on the abilities of farmers to increase their economic wellbeing through their production of a specific crop (FAO, 2016). The ability of both FFS and FBS spread the knowledge or techniques learned in a rapid way. Instead of a top down approach, FFS and FBS use a participatory approach that engages the farmer participants in ways that lecture format is often unable to do (Feder et al. 2003). Additional training to those that have completed an FFS or FBS cycle enables participants to become facilitators, enabling the content of the FFS and FBS to spread (Feder et al. 2003, Horton et al. 2013).

CONPAPA was selected to be the recipient of the first implementation of Farmer Business School (FBS). Presently, CONPAPA has three separate branches, located in four separate provinces of the Ecuadorian highlands (Tungurahua, Bolivar and Chimborazo); the FBS will be implemented with the CONPAPA organization in the province of Tungurahua. CONPAPA
was founded in as a result of Papa Andina Project. The Papa Andina project was implemented in 1998 in the Andean Mountains of Peru, Bolivia and Ecuador. This project implemented two complementary approaches, the Participatory Market Chain Approach (PMCA) and Stakeholder Platforms, to enable pro-poor innovation for the smallholder farmers engaged in the potato value chain (Devaux et al. 2007). PMCA is an intervention strategy designed to bring together a diverse group of members (smallholder farmers, researchers and service providers) to identify and exploit potential business opportunities using pro-poor innovation (Bernet et al. 2006, Devaux et al. 2007, Devaux et al, 2009). The Stakeholder Platform is a complimentary approach to the PMCA, in which a space for different actors of the market chain can come together in a sharing process with the intent of creating new innovations (Devaux et al. 2007).

The implementation of the PMCA within the Ecuadorian Andes has been a success, it has resulted in the increased livelihoods to farmers that are currently engaged in CONPAPA. However, at this current point in time, CONPAPA is struggling to meet the needs of their farmer members, and the membership of the organization has shrunk. This study will seek to address what business capacities would best enable the smallholder farmers and CONPAPA to experience higher levels of wellbeing and prosperity. Individual and institutional business capacities will be identified to best serve the interests of the smallholder farmers.

As opposed to PMCA which seeks to thoroughly engage all relevant stakeholders within a value chain, FBS is primarily focused only on the smallholder farmers. An important aspect of this study will be to determine the scope of FBS as an intervention method. In the context of this existing value chain, it may be more beneficial to engage more value chain actors outside of
the group of smallholder farmers, even though FBS in its purest form does not overly emphasize such action.

An additional consideration for this research project is to integrate aspects of female empowerment into the curriculum of the FBS implementation. As the FBS methodology is highly participatory, it is important that a deeper understanding is gained of the dynamics between men and women as they relate to participation within value chain activities. If the FBS is to have a maximum impact regarding innovative capabilities of the smallholder farmers it is important that data is collected from all perspectives of those who engage in this value chain. Additionally, when considering the facilitation of the FBS upon implementation it is important that all social and knowledge capital of smallholder farmers is contributing to the formulation of innovation strategies for the smallholder farmers.

Context of Research

Smallholder farmers maintain a strong connection with traditional methods of agricultural cultivation; machinery is both expensive impractical, due to the land plots that many farmers subsist off of have a steep pitch to their fields make them inaccessible to machinery. Within the context of CONPAPA, farmer members have exposure to more modern methods of agriculture than is common among smallholder farmers in the province of Tungurahua. Where once there was an increased focus placed on familial and community based participation being employed in times of preparing or harvesting the fields, such traditional values have increasingly given way to monetary compensation for assistance in agricultural activities. Families or close groups of friends will come together to assist someone
in need during a planting or harvest phase. However, it is much more common for farmers to come assist one another for a flat financial rate for the day such as US$10-15 per day, or to receive a certain amount of money per potato sack harvested.

Within the province of Tungurahua as it is throughout much of the Andes there are many micro climates that exist, this results in the comparative advantage of certain agricultural activities and crops over others. Within this part of the Andes there are a diversity of agricultural activities, within the livestock sector there is the production of milk from cows, raising guinea pigs and pigs for meat and keeping chickens and roosters for both meat and eggs. Though Ecuador does not have equal biodiversity regarding potato cultivation as can be found in Peru, there are still upwards of 16 different varieties of potato currently being grown commonly for sale in local markets. Within the province of Tungurahua, there are high levels of corn and beans being grown by smallholder farmers. Within each micro climate, depending on the level of exposure that each community may have to different varieties of seeds and agricultural inputs, influence how individual farms determine what combination of agricultural activities would be in their best interest.

Within the province of Tungurahua, Spanish is the overwhelmingly dominant language spoken, the other language being the traditional native language of Quechua. Though uncommon, there are communities and households throughout Tungurahua that have a greater fluency and comfort conversing in Quechua rather than Spanish, this typically occurs in higher altitude communities that are extremely remote. Though such communities and households exist, it is rare that individuals are unable to communicate using Spanish. As is
common for those interacting in a second language, as the complexity of the subject matter of an interaction increases, there is an increasing need for clarification and noticeably diminishing levels of comfort regarding the ability and willingness to interact.

Research Objectives and Questions

The goal of this research project is to study the gender relations and business capacities of the farmer members of CONPAPA to determine if the methodology of the FBS should be augmented to better suit the needs of the farmer members.

Objective 1:

To identify if there are lacking business capacities being experienced by the farmer members of CONPAPA that can be addressed in the FBS methodology.

Research Questions:

a. What improvements would farmers like to experience regarding their interaction with the potato value chain?

b. What capacities can feasibly be addressed within the FBS implementation cycle to enable farmers to obtain desired improvements?

Objective 2:

Identify sex-disaggregated decision-making capacity as it relates to participation within CONPAPA and intra-household gender relations, and specifically, economic activities.

Research Questions:
a. Within the family dynamics of the farmer member households of CONPAPA, who is making decisions related to profits yielded from participation within CONPAPA?

b. How effective is the institutional framework that exists within CONPAPA to ensure equal empowerment of male and female members?

Significance and Limitations:

The significance that this study offers is that it examines the methodology of the Farmer Business School from a gender perspective and asks how best it can be adapted to the farmer members of CONPAPA Tungurahua. Given that, the methodology is designed in such a way that it can be self-replicating beyond one small farmer’s organization in Ecuador; this study can inform its use in other country contexts.

One of the study’s limitations is that it was specifically designed to study CONPAPA instead of a broader analysis of rural farming communities within the Ecuadorian Andes. Due to the different lived realities of potato farmers within CONPAPA, the ability to generalize from this study to the region is not possible. The farmers of CONPAPA already have a significant level of assistance due to their membership within this organization. Therefore, where the recommendations of this study are applied to farmers who did not have the same support structure, they would not be well served by the findings of this study. Though the augmented FBS curriculum cannot directly be used for the future FBS implementations, it is highly probable that there will be common criteria from amongst the farmers of this study and prospective participants within Latin American potato value chains in the future.
Additionally there are many implications of gender relations and women’s empowerment that are brought up with this study. This study investigates gender empowerment of the economic decision making dynamics within the households of CONPAPA farmer members. Due to the values of CONPAPA to create equal opportunities for both male and female members, this study will be able to determine to what extent these institutional values are reflected in the perceptions of the farmer members.

Due to the lack of geographic consolidation of farmer members, the ability to build rapport and trust with all of the farmer members is limited. Farmer members within CONPAPA live in 21 different communities throughout the province of Tungurahua, there a many different microclimates that exist within these 21 different communities due to variations in elevation. Due to the lack of uniformity of climate, that farmer members deal with, this results in different livelihood strategies that are employed by farmer members depending on where they live. Due to limited funding and time constraints, the researcher was unable to spend sufficient in each community to understand how specific microclimates affected how farmer chose to diversify their livelihood activities.

Organization of the Thesis

This thesis is composed of five chapters. Chapter One: Introduction, outlines the context and some of the background that establishes the need for this research to be conducted. The need of CONPAPA farmers to be exposed to a new methodology is outlined, as is the need for FBS to be implemented in a gender responsive way. Additionally Chapter One
gives a brief overview of the research objectives and questions, and concludes by evaluating the significance and limitations of this study.

Chapter Two: Literature Review, covers the history of FBS and gender intervention strategies and the theoretical developments that lead to their development and use. Also the background of agricultural practices from within the study’s geographic and cultural region are examined. Specifically, the role of women within agriculture with value chain theory, and also specifically within the potato value chains of the Andes. This chapter concludes with the study’s conceptual framework that guides the methodological structure of this study.

Chapter 3: Methodology, presents the epistemological stance of the researcher and outlines the methods used in this project. The rationale behind the research methods is presented. As well, discussion addresses the practical difficulties associated with conducting research in a foreign country, while acceding to the research objectives. The process of qualitative data transcription and translation are described. The manner in which the data were analyzed by the researcher are covered in this chapter. This chapter is then concluded by acknowledging the methodological limitations of this study.

Chapter Four: Findings, presents the results of this study. Using the research objectives and questions as a guideline, the findings of this study are presented with summaries of the data collected for each question. Both descriptive graphics and written summaries of the results are provided to allow for an intuitive understanding of the data.

Chapter Five: Discussion, interprets the results from the previous chapter. Using the research questions to connect to the data, this chapter discusses the implications of the data
collected. In this chapter the basis for the recommendations of Chapter Six are developed by connecting the research objectives and questions with the literature of Chapter Two.

Chapter Six: Final Summary, Conclusions and Recommendations, summarizes the entirety of this study. Conclusions are identified. In its final section recommendations regarding how the FBS might be implemented are outlined, also areas for future research are presented based on the findings and limitations of this study.
Chapter 2: Literature Review

Introduction:

This literature covers the key theories that influence the conceptual framework of this research project. This project is being conducted to effectively facilitate the first ever Farmers Business School intervention cycle to take place in Latin America. Focussing specifically on the context of the Ecuadorian Andes potato value chains, this research is guided innovation systems theories and how they can be effectively integrated with gender empowerment values. The first section covers the scope of different forms of agricultural innovation delivery approaches. For this research an innovation systems perspective specifically guides the framework. Following the analysis of innovation systems this review cover the Participatory Market Chain Approach, which is a value chain intervention strategy based on the principles of innovation systems. The PMCA was used as an intervention method to construct the value chain that this study examines. The following section is an overview of Gender and Development along with a brief theoretical contrast to other prominent gender theories. To link this two main theoretical perspectives there is also a section on how innovations systems in agriculture can represent a complimentary intervention strategy to implement gender empowerment strategies in rural communities. The last section is a comprehensive look at the conceptual framework of this study. The conceptual framework connects the theoretical literature that is covered in this review to the actual project that is being implemented.
Agricultural Innovation:

Since the 1960’s the way in which innovation in an agricultural context has been implemented and researched has changed drastically. Agricultural innovation is a concept that has become increasingly complex. The following table obtained from Sarapura (2013: 42) provides a basic understanding of the theoretical platforms and how they have evolved over time.

**Table 2.1 Types of perspectives in agricultural innovation**

<table>
<thead>
<tr>
<th>Characteristics of the perspective</th>
<th>Diffusion of innovations/transfer of technology</th>
<th>Early Farming Systems Research</th>
<th>Agricultural knowledge and information systems</th>
<th>Agricultural innovation systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Era Mental model and Activities</strong></td>
<td>Central since 1960s Supply technologies through pipeline</td>
<td>Starting in 1970s and 1980s Learn farmers’ constraints through surveys</td>
<td>From 1990s Collaborate in research (Participatory research) and extension</td>
<td>2000s Co-develop innovation involving multi-actor processes and partnerships</td>
</tr>
<tr>
<td><strong>Knowledge and disciplines</strong></td>
<td>Single disciple driven (breeding)</td>
<td>Multidisciplinary (agronomy plus agricultural economics)</td>
<td>Interdisciplinary (plus sociology and farmer experts)</td>
<td>Transdisciplinary, holistic systems perspective</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Productivity increase</td>
<td>Efficiency gains (input-output relationships)</td>
<td>Farm-based livelihoods</td>
<td>Value chains, institutional change</td>
</tr>
<tr>
<td><strong>Core elements</strong></td>
<td>Technology packages</td>
<td>Modified packages to overcome constraints</td>
<td>Joint production of knowledge and technologies</td>
<td>Shared learning and change, politics of demand, social networks of innovators</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>Supply-push from research</td>
<td>Diagnose farmers’ constraints and needs</td>
<td>Demand-pull from farmers</td>
<td>Responsiveness to changing contexts, patterns of interaction</td>
</tr>
<tr>
<td><strong>Relation with policy and institutional environment</strong></td>
<td>Science and technology are relatively independent of political and other social partners –institutional factors as external conditioners of the adoption process</td>
<td>Science and technology are relatively independent of political and other social partners – institutional factors as external conditioners of the adoption process</td>
<td>Science and technology develop and are embedded within a historically defined social, political, economic and agroecological context</td>
<td>Science and technology develop and are embedded within a historically defined social, political, economic and agroecological context. Institutional change is considered a ‘sine-quanon’ for innovation</td>
</tr>
<tr>
<td><strong>Innovators</strong></td>
<td>Scientists</td>
<td>Scientists and extensionists</td>
<td>Farmers, scientists and extensionists together</td>
<td>Multiple actors, innovation platforms</td>
</tr>
<tr>
<td><strong>Role of farmers</strong></td>
<td>Adopters or laggards</td>
<td>Sources of information</td>
<td>Experimenters</td>
<td>Partners, entrepreneurs, innovators exerting demands</td>
</tr>
<tr>
<td><strong>Role of scientists</strong></td>
<td>Innovators</td>
<td>Experts</td>
<td>Collaborators</td>
<td>Partners, one of many responding to demands</td>
</tr>
<tr>
<td><strong>Gender Perspective</strong></td>
<td>Neutral and blind Women issues highlighted</td>
<td>Still Neutral and blind – Women as part of the men’s groups</td>
<td>Gender aware but see women as collaborator – Feminization of agriculture</td>
<td>Gender aware but still “neutral”. Women contributor and stakeholders. Contribute to AIS but still not visible</td>
</tr>
<tr>
<td><strong>Research Agenda</strong></td>
<td>Not gender sensitive</td>
<td>Becoming more gender sensitive because of greater participation of</td>
<td>Becoming more gender sensitive because of greater participation of</td>
<td>Becoming more gender sensitive because of greater engagement of</td>
</tr>
</tbody>
</table>
Role of Women
- Women are seen as beneficiaries of the process
- Women are considered as part of the groups but as complement of the groups.
- Women are seen as active participants in the process
- Women are seen as critical actors

Gender Focus
- Focus is on gender difference of access to technology and services
- Focus is on gender difference of access to technology and services and on participation and representation in the research process
- Focus is on gender difference of access to technology and services and on participation and representation in the research process
- Focus is on gender difference in leadership and capacity to influence policy-making processes; social dimension and market linkages are made stronger but must ensure gender inclusion

Institutionalizing Gender
- Personnel policies and gender balance in relevant institutions are started but gender imbalance remains a major concern
- Personnel policies and gender balance in farmers’ groups. Is started though, women’s presence still weak.
- Personnel policies and gender balance in relevant institutions are improved; building capacity for women scientists and farmers’ organizations is the focus
- Institutional development is created to support interaction and to ensure full engagement in policy-making processes but must have explicit gender dimension

Key changes sought
- Farmer behaviour change
- Removing farmers’ constrains
- Empowering farmers
- Institutional change, innovation capacity

Intended outcomes
- Technology adoption and uptake
- Farming system fit
- Co-evolved technologies better fit to livelihood systems
- Capacities to innovate, learn and change

Table 1.1 Note: The above table was copied from the “Gender and Agricultural Innovation in Peasant Production of Native Potatoes in the Central Andes of Peru.” By Sarapura, S. (2013). University of Guelph.

The use of top down linear technology diffusion driven innovation, was the model that resulted in the ‘Green Revolution’ in the 1950-1960 (Sarapura, 2013). The ability to alter food in a laboratory setting was relatively new, but problems began to arise as the application agricultural innovations created in controlled settings of laboratories had different impacts in farmers’ fields.

By the 1980’s a new perspective had emerged, Farming System Research, farmers’ perspectives were now being incorporated into agricultural Innovation. “Participatory methods are used to better meet farmers’ needs and to adapt technologies to site-specific circumstances at a relatively late stage of the research process” (Gonsalves et al. 2005:37 as cited in Sarapura 2013:43). The emergence of systems perspectives relating to agricultural innovation emerged in the 1990’s and it has resulted in two similar but unique systems.
perspectives of agricultural innovation Agricultural Knowledge and Information Systems (AKIS) and Agricultural Innovation Systems (AIS). The evolution of new perspectives emerging over time should not mean that previous doctrines are no longer adhered to, simply that over time a diversity of perspectives have emerged with different interpretations of best practices (Röling, 2009).

AKIS is defined as “the articulated set of actors, networks and/or organizations, expected or managed to work synergically to support knowledge processes which improve the correspondence between knowledge and environment, and/or the control provided through technology use in a given domain of human activity” (Röling 1992: 48). This is an evolved perspective of systems thinking that takes on a soft systems approach, which emerged from the previous hard systems perspective that AKIS had was originally conceptualized as (Klerkx et al 2012).

AIS is defined as “a network of organisations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organisation into economic use, together with the institutions and policies that affect the way different agents interact, share, access, exchange and use knowledge” (Hall et al. 2006: vi-vii). This understanding of agricultural innovation clearly has a strong emphasis on coordination with market forces, as a means of securing a sustainable driving force to perpetuate innovative capacity.

Though there are strong similarities present between these two systems theories of agricultural innovation it is clear that the added emphasis seen in AIS on markets is a lacking component from AKIS. AKIS’s “focus is restricted to actors and processes in the rural environment and the
framework pays limited attention to the role of markets (especially input and output markets), the private sector, the enabling policy environment, and other disciplines/sectors. The AKIS framework recognizes the importance of transferring information from farmers to research systems but tends to suggest that most technologies will be transferred from researchers down to farmers” (Hall et al. 2006: 25-26).

Conceptual Insight into Innovation Systems:

When regarding innovation systems theory it is very important to distinguish between technological innovation, which may be a result of an innovation systems intervention, and the facilitation of an intervention designed to facilitate a process of innovation. Innovation systems do not necessarily seek to create new knowledge, rather it is possible to have an incremental process in which existing knowledge can be used and implemented in new ways (Velasco, 2013, Hall et al. 2006). Velasco, 2013 identifies this concept of innovation as a process as “innovation can be seen as the process through which organizations and individuals convert an invention (creative idea) into goods and services with economic and social significance to the users, whether these goods or services are brand new or a combination of existing ones” (Velasco 2013: 36-37).

As so much emphasis is placed on the process of interaction between different actors within a systems context, the quality of the relationships that different actors cultivate bears considerable attention. Innovation as a process of interaction cannot be a series of events in isolation from one another, rather relationships needs to be built and maintained. An ongoing dialogue, and thus process of innovation, must be cultivated to ensure that innovation cycles
continue to flourish. In this way the learning that takes place within a process of innovation is occurring within a diverse source of contexts, not just from research in isolation but also from the process of interaction that must accompany it (Velasco, 2013, Hall et al. 2006).

Within institutions there exists different policies and practices employed as institutions evolve along unique pathways. Thus when considering the practical challenges of determining the best intervention strategies from an innovation systems perspective, the diverse array of institutional practices need to be considered as to how they might interact. Compatibility amongst institutions must be an anticipated portion of the process of innovation that is to be conducted.

“Do they have a tradition of sharing information with collaborators and competitors, of learning and upgrading, or are they more conservative. What is their attitude to risk taking? This is important as innovation often requires investment (in training, in equipment, in marketing) and this involves a degree of risk taking. Habits and practices also determine the way organisations respond to innovation triggers such as policy changes, or changing market and technological conditions. Because habits and practices vary across organisations and across countries and regions, there is no certainty about the way actors in innovation systems will respond. For this reason the embeddedness of innovation process in institutional contexts has to be accounted for in innovation capacity development interventions and this will often involve tackling some of these habits and practices and tailoring policies and incentives accordingly.” (Hall et al. 2006)

Participatory Market Chain Approach:

Participatory Market Chain Approach (PMCA) is an intervention strategy that is a product of the AIS school of thought. “PMCA is an approach that helps to structure participatory processes that involve different market chain actors. In this way, it aims to stimulate joint innovations based on shared ideas and trust” (Bernet et al. 2006: 17). Over the
course of a 9-15 month cycle the PMCA implements three separate phases in an attempt to create an innovative environment of trust and collaboration between different market chain actors ranging from farmers to public and private sector participants. In phase one a process of familiarization takes place to understand different value chain actor’s perspectives as they relate to interests, constraints and goals. In phase two an understanding is developed within thematic groups to identify market opportunities that are viable. In phase three the identified opportunities are acted upon, innovative ideas are turned into tangible action towards the production and marketing of new innovations (Devaux et al. 2007, Devaux et al. 2009, Bernet et al. 2006). These cycles of PMCA revolve around the exploitation of identifying niche markets in which the produce of smallholder farmers will maintain a comparative advantage within the market (Devaux et al. 2009, Devaux et al. 2007).

The following diagram illustrates how the PMCA can be visualized to intuitively understand its conceptual framework:
Farmer Business School:

Farmer Business School (FBS) “is an action-learning approach that aims to develop the capacity of farmers and farmer groups to transform themselves from traditional producers and suppliers of agricultural commodities into successful businesses men and women that actively participate in dynamic agricultural market chains” (Horton et al. 2013). The initial cycle of FBS was completed in March 2010, thus there is a lack of literature that has been published regarding
this new and innovative intervention strategy. Upon review of PMCA cycles in West Java researcher found that farmers were unable to effectively interact with businessmen, coupled with the high cost and extensive timeframe required to implement a PMCA cycle a new intervention strategy was conceptualized (Horton et al. 2013). The lack of focus on education has been identified as a shortcoming of AIS (Hall et al. 2006), thus this new intervention strategy offers a sound complimentary strategy to better facilitate innovation. With increased business skills, farmers will have the ability to ensure that they continue to produce innovative initiatives instead of being unable to meet new demands as innovation cycles do not offer continuous returns (Bernet et al. 2006).

Gender and Development:

Gender and development (GAD) as a theory creates a holistic understanding of gender relations as social constructions. Compared with other prominent gender based theories such as Women in Development (WID) or Women and Development (WAD), GAD attempts to not only focus on constraints of women but also men. Without a broader analysis social constraints on all groups within a certain context GAD theory identifies such narrow scopes as limiting understanding of complex socially constructed institutional norms (Young, 1992). WID follows a logical analysis that is similar to underdevelopment theories of development. Though such theories of development are useful in being able to disparity, they do not necessarily explain the root cause of an identified disparity or construct plausible solutions to alleviate the perceived inequalities (Kingiri, 2013). There are important distinctions in how GAD seeks to understand disparities between the genders which offers enables a much more comprehensive
analysis of different realities experienced by different genders. Expressed in GAD literature is an emphasis placed on gender empowerment as it relates to dichotomies that can arise between treatment within public and private spheres of communities. This offers new context for the metrics that must be used to determine more accurate levels of gender and empowerment (Moser 1993, Sarapura 2013).

With the increased level of women in agricultural activity, especially within the context of smallholder farming (Deere 2006, Coles & Mitchel 2010), methodologies and toolkits need to be better adapted to reflect how this increased responsibility is affecting female livelihoods. Currently methodologies have been making progress in determining to what extent woman are participating in agricultural production. However, increased participation within economic roles should not necessarily be interpreted as a victory for the empowerment of women. Without increased capacity as it relates to ownership, decision making capacities and the ability to govern and access financial resources the metrics used to determine female empowerment need to be upgraded. “Development must be by people, not only for them. People must participate fully in the decisions and processes that shape their lives. (UN, 1995 b: 12) but at the same time promotes a rather instrumentalist view of empowerment; Investing in women’s capabilities and empowering them to exercise their choices is not only valuable in itself but is also the surest way to contribute to economic growth and overall development (UN, 1995b: iii)” (Oxaal & Baden, 1997: 2). From this definition of empowerment, it becomes clear that the GAD characteristic of placing a higher valuation on understanding the intra-household dynamics that
women experience must be a precursor to charting accurate evaluations of gender and empowerment, both in local and national development initiatives.

Gender and Innovation Systems:

GAD offers an effective platform from which gender empowerment can better be analyzed, this holistic interpretation of gender relations is a complimentary approach to AIS. “AIS as an analytical framework is particularly suitable for analysing innovation through a gender lens because of its emphasis on institutions and actors that create ‘gendered’ patterns of interaction” (Kingiri, 2013). As Coles and Mitchell 2011 point out, to effectively intervene within a value chain means that the metrics by which we gender related impacts need to be better understood and defined. Understanding the context of what gender means within a specific cultural context needs to be better established, “generic value chain level interventions targeting nodes in which women participate are of limited effectiveness if issues at the institutional and household levels are not addressed” (Coles & Mitchell, 2011: 11).

Gender and Agriculture in Ecuador:

Among Latin American Countries, Ecuador has the highest of joint ownership of major assets (Deere, Alvarado, and Twyman 2012). According to Deere and Twyman (2012), within dual headed households in Ecuador is egalitarian.

“We found that women’s share of couples’ wealth is positively and significantly associated with the likelihood of symmetry and agreement in joint decision making among couples regarding their decision to work and to spend income. Also, both owning real estate is positively associated with the likelihood of egalitarian decision making for the spending decision. The level of earnings of each spouse, specifically where this is roughly equal, and employment in the case of the spending decision
are also important indicators of egalitarian decision making” (Deere and Twyman, 2012: 319).
Women in Ecuador represent 53.6% of landowners within Ecuador, which coincides with their percentage of the adult population (Deere and Contreras 2011). When attempting to connect such information to intra-household decision making, there are many barriers however, Deere & Leon de Leal (1982), points out that within the area there have been many studies that produce inconsistent results. The presence of Machismo negatively impacting women’s ability to exert self-determination within the Andes varies, Deere and Leon de Leal (1982) identified northern Peruvian farming systems to maintain a gender balance of power but in Columbia patriarchal systems were prominent. Methodologies used to understand how decision-making occurs in the Andes and in Ecuador do not have a great deal of consistency. Different studies will analyze different factors, such as who the head of the household is who owns the lands or to what extent women participate in agricultural activities (Deere, Alvarado, and Twyman 2012). Comparing the results obtained in studies of gender relations, results regarding household decision-making can be difficult due to differences in how men and women report women’s engagement in decision-making. “In Ecuador men tend to report less participation by their wives in agricultural decision-making than the women report. It may be that since we are only examining decision making among women who are landowners, that ownership of land gives them the confidence to value their own role, irrespective of prevailing social norms that define agriculture as a male occupation” (Twyman, Useche and Deere, 2015: 495). Thus the methodology employed in a study can have a large impact on the data generated, causing difficulty in the ability to generalize based upon results.
Conceptual Framework:

The conceptual framework for this study is influenced by the theories that have been examined in this literature review. While seeking to implement the first FBS cycle within the cultural context of the Ecuadorian Andes this study will offer recommendations for the most culturally appropriate implementation strategy of a curriculum that was conceptualized within Indonesia. The AIS theories and GAD theories will influence the way in which such recommendations are yielded. For the purpose of this thesis, the research is exploratory in nature. Within the value chain that exists in Ecuador a cycle of PMCA was completed in 2005 and the initial result was the farmers union CONPAPA being founded. CONPAPA currently has four provincial branches, yet they operate as independent groups without an overall national collaboration. This study will focus on the value chain that exists in the province of Tungurahua, Ecuador. The value chain is well established, and the farmers that participate as members of CONPAPA operate as contract farmers and the end result on native potatoes that are grown within this value chain is in the production of the native potato chips called Kiwa. The rational that drives this project is that farmers do not have the business capacity to effectively interact with the market forces. Thus the intervention method FBS is designed to facilitate an increase in farmer’s capacities to better engage with market forces. As was early covered in the literature regarding AIS, a lack of education is an identified weakness of AIS. Thus in the context of a post PMCA intervention, the FBS will be implemented and this research will identify lacking capacities that farmers face. Though the objectives of FBS are to specifically target smallholder farmers, there is flexibility within this methodology to interact with broader actors within the value chain. Additionally female empowerment though not directly overlooked has not been a central focus within this
value chain. Using the theoretical background of GAD this study will seek to identify if there are
gender disparities are they relate to decision making capacities. From this analysis of how
gender influences individual smallholder farmers to interact within the value chain,
recommendations will be put forth to reflect the identified dynamic within the curriculum of
the value chain.

The diagram below represents the linear relationship in which the value chain is operating at
present. Information and interactions are represented in the linear fashion as they are
perceived to be by members of the value chain and also members of Centro Internacional de la
Papa (CIP) who has long been the intermediary organization within this value chain.

The diagram representing the conceptual framework of this study shows the
smallholder farmers and the farmer’s union (CONPAPA). The two directional arrow connecting
the smallholder farmers to the farmer’s union, show that there is a two directional flow of
influence between them. This study employs multiple methods of data collection, including
naturalistic observation, a survey, KII and focus groups. The objective was to interact with as
much of the value chain as possible while in the naturalistic observation phase of this study, to
better influence the questions used in the survey, and also to build a list of potential key
informants that could be interviewed for this study and the questions that they would be asked.
By identifying the constraints and the opportunities, as presented to both the male and female
smallholder farmers, the capacities that are lacking from amongst the smallholder farmers
would become apparent. Finally, the capacities found lacking from amongst the smallholder
farmers would be used to
influence the content of the FBS curriculum. Using the focus groups as an opportunity to present the lacking capacities to the smallholder farmers to gain their perspectives. In addition, the focus groups can be used to give the farmers an opportunity to review emerging ideas for the FBS curriculum.
Chapter 3: Methodology:

3.1 Introduction:

In this chapter, the epistemological perspective that guides this research project will be outlined. The reasoning behind how this research project was structured is also outlined, explaining why the data collection process was conducted the way it was. The logistical obstacles presented by the context of this research project are also addressed. As this study uses both qualitative and quantitative data, this chapter also outlines the transcription and translation process that was used. Finally, an overview of how the data was analyzed, and also the limitations of this study.

3.2 Epistemology

This study is informed by transformative feminist perspective. The transformative approach emphasizes building trust between participants of the study and the researcher (Mertens, 2007). The transformative paradigm focuses on the influence of power differentials, and their impact within culturally diverse research settings (Mertens, 2007). This epistemology offers many benefits towards understanding how potato production plays an important role within the complex livelihood strategies that different smallholder farmers engage in. In addition, the transformative paradigm is effective as a research perspective to analyze the gender power relations both at a household and institutional level within the value chain.

This study is also influenced by feminist theory, the goal of feminist research is “to correct both the invisibility and distortion of female experience in ways relevant to ending
women's unequal social position” (Lather 1988: 571). Rather than a traditional examination of gender relations and power, viewing women as oppressed and men as oppressors. This study views power from the perspective of Miller (1992), in which power is capacity for change. Instead of being constrained to a zero sum view of power, the empowerment of women can lead to increased empowerment of others (Miller, 1992), at both a household and institutional level.

3.3 Research Design

A mixed methods approach was used for this research study, neither a purely quantitative nor qualitative allowed for the scope and depth needed to offer well founded recommendations. Creswell (2013), defines explanatory sequential mixed methods as a study in which quantitative research is first carried out, and then qualitative data is gathered afterwards, to help explain the findings of the quantitative data. Exploratory sequential mixed methods are the opposite, instead starting first with qualitative data that is used to inform the construction of quantitative data gathering (Creswell, 2013). This study is a mixture of those two forms of mixed methods approaches. Though the researcher had spent a year living within the Andes previously, he had no experience working with smallholder farmers, and had neither travelled nor worked in Ecuador previously. Prior to travelling to Ecuador a preliminary literature review was conducted, studying both theoretical literature and practical evaluation manuals of agricultural value chains. Upon arrival in Ecuador, the studies of this value chain and farmers organization (CONPAPA) that had occurred previously, were reviewed. Due to the inexperience of the researcher, prior to the construction of data gathering devices, engaging in
naturalistic observation was deemed to be an important first step so that the following data collection techniques would best address the objectives of the study. After two weeks of naturalistic observation, a survey was created to gain insight into both the gender relations and lacking business capacities of the farmer members of CONPAPA. There were four separate data collection methods used in this study to ensure reliable and collaborated results were yielded in this study. Stating initially with naturalistic observation which was used as a platform to influence the other forms of data collection. The other three techniques that were used in this was a survey of the farmer members, key informant interviews and focus groups.

3.4 Research Setting:

This study was primarily focussed within the province of Tungurahua in Ecuador. Ambato is the capital city of Tungurahua, which is also where the headquarters of CONPAPA are located. According to the 2010 national survey, the province of Tungurahua has a population of 504,583. The level of illiteracy within the province has almost halved between 1990 and 2010, falling from 14% to 7.5%. Men have on average 9.4 years of education compared to 8.7 for women, within urban areas there is an average of 11.5 years of education compared to only 7.2 in rural areas (INEC, 2010). The majority of the research took place in Tungurahua, the head offices/warehouse of CONPAPA is located in Ambato and all of the farmer members live and farm within the province.

Riobamba is the capital city of the province of Chimborazo. It is south of Tungurahua and has a separate branch of CONPAPA. Four interviews were conducted with local experts in Ecuadorian agriculture, all three had experience and knowledge of the Tungurahua based
CONPAPA, these informants also had a wealth of experience working with farmers in a plethora of capacities.

Quito is the capital of Ecuador, and it is where the offices of CIP are located, therefore it is where the researcher was living permanently while in the country. Research was conducted within Quito, the offices of two key informants in this study are located within the city. Additionally the factory that makes the Kiwa potato chips, is located in Quito. The factory was visited as a part of the naturalistic observation to understand the value chain from a different perspective instead of simply from the view of the potato farmers.

3.5 Research Assistance:

For the duration of this study the researcher was based in Quito, in the head offices of Centro Internacional de la Papa. The personnel at the office were able to provide an immense amount of support, this came in the form of introductions to researchers, government organizations, private sector business interests and local NGOs. There were also multiple conferences that were made accessible through the office personnel, which enabled the researcher to gain access to advantageous networking opportunities. Also the researcher was able to accompany other researchers within CIPS’s offices to the field where they were conducting their own research, this enabled the researcher to be introduced to the study participants.

Through the CIP office expenses were also covered for field work when it came to accommodations and food. These costs were in addition to the research costs that were covered by CIP that in the end exceeded the initial budget that had been agreed upon, the cost
of research assistants, transcription and translation of the focus groups and interviews. In the field the researcher was assisted by the manager of CONPAPA by way of being introduced to different farmer members, and also being able to travel with him to visit different farms as he provided varied extension services for the farmer members. The research assistants that were hired to assist in the collection of surveys, and also the coordination of focus groups, had previous experience as research assistants on projects focussed on CONPAPA. Both research assistants were from a rural community that had the highest number of CONPAPA members of any other community in Tungurahua. Therefore, both research assistants were well versed in the cultural norms of farmers in Tungurahua, and they were both also fluent in both Spanish and Quechua. Though almost all of the farmer members of CONPAPA could speak Spanish, to understand the specifics meaning of all of the research questions having research assistants that could speak fluently in Quechua was incredibly valuable. Though the two research assistants had previously worked in the collection of surveys and also assisted in qualitative data collection, the researcher still spent an afternoon explaining how the research needed to be conducted. Protocols were agreed upon regarding how potential participants were to be approached, ensuring that they did not feel pressured or obligated to participate. Also for the first day of survey collection the researcher observed and critiqued the research assistants in their process of collecting surveys.

3.6 Naturalistic Observation:

Naturalistic observation, was a key component to the creation of the other data collection methodologies that were used in this study. Before any other methods of data collection could
be introduced, a comprehensive and holistic understanding of the value chain was required. Due to the lack of geographic concentration of the farmer members of CONPAPA, simply spending time with one community would not be sufficient to understand how the FBS methodology could effectively be used with a diverse group of the farmer members. The farmer members of CONPAPA are reside in 21 different communities within the province of Tungurahua. Therefore, it was determined that shadowing the manager of CONPAPA, would prove a more effective strategy to understand the diversity of problems that farmers were faced with. As smallholder farmers cannot be expected to have a thorough grasp of what business capacities they are lacking, it was important that the naturalistic observation did not exclusively take place with only farmer members. Therefore, a list of individuals was accumulated that have unique insight into the national agricultural system of Ecuador, and also that had unique experience specifically to potato value chains in the Andes. This was done by interacting with NGO’s and reviewing previous studies of the region and its potato value chains. Also there was an added emphasis of attending conferences and also reviewing who had conducted previous studies within this subject matter.

3.7 Survey:

The baseline survey was implemented to gain a grasp of the opportunities and constraints being experienced by the farmer members of CONPAPA. A total of 50 surveys were collected from the overall population of CONPAPA (65), representing the working population for this study. The surveys were collected both in the offices of CONPAPA in Ambato, Tungurahua as farmers came in to sell their potatoes and also at their houses. The language of the survey was
previously reviewed with the manager of CONPAPA to ensure that the questions would be constructed in a way that the farmers would best understand. Even with these efforts in place the survey collected proved difficult as many farmers could speak Spanish reasonably well, still needed questions translated into Quechua, the indigenous language of the region. Two research assistants were hired for the collection of the surveys, a young man and woman, from the community with the largest number of farmer members in CONPAPA. Both of the research assistants had worked on two previous studies of the CONPAPA organization.

The focus of the surveys was to gain a consensus from the farmer member perspective towards regarding the first and second objective of this study, gauging the lacking business capacities and exploring discrepancies that may exist between men and women regarding decision making. The objective of employing gender mainstreaming values within the format of this survey, was to understand decision making as it relates to potato production decisions at a household and institutional level. It was important to understand if there are disparities among women and men in choosing whether to participate and how in the value chain, as well as to analyze how decisions regarding how economic gains are allocated and spent at a household level.

For the gathering of information regarding farmers’ business capacities, a series of questions were used to analyze different aspects of the farmer members’ understanding of business. Questions focussed on where farmers gained their market information, what business skills they thought would be beneficial to them, what aspects of production they struggled with and how their interaction with CONPAPA could be improved.
3.8 Key Informant Interviews:

In total ten key informant interviews (KII) were collected for this study, these included interviews from amongst the CONPAPA farmer members and its management. This was coupled with interviews from public and private sector individuals representing organizations involved in the research and policy development for smallholder agriculture Ecuadorian Andes. These interviews followed a semi structured format, which enabled rich data contributions to the study, represented by the expertise of each participant. The interviews ranged from 45 minutes to an hour and a half, then each interview was transcribed, and, with the exception of two interviews that were conducted in English, the interviews were translated. There was extensive interaction between the primary researcher and the translator that was contracted for this study, to ensure that the context of the interviews was well represented as the translations were taking place. After the translations were completed the interviews were coded to identify the common consensus that each participant was able to offer on the variety of different research themes in this study. The information retrieved from the interviews was sufficient to offer support towards the data of the interviews from a different perspective.

The interviews sought to directly identify what business skills would best benefit farmers, and how men and women interact differently with the Ecuadorian value chain. Following the semi structured format enabled different questions to be prepared for each KII, and also to adapt the line of questioning to the conversations that transpired over the course of the interview. For example when interviewing individuals who were a part of CONPAPA, the focus of the interview would be to gain a deeper understanding of the nature of how CONPAPA functioned, how it
had progressed and how it could be improved. This narrowed approach to the specific characteristics of CONPAPA was not mirrored in interviews where the participant was better suited to yielding information related to a larger view of the value chain. For example for specialists who were interviewed who had expertise relating to government projects for the promotion of farmers capabilities on a national scale, the content of the interviews were about different skill sets and organizational methods that could be adopted rather than specifically focussing on an organization that they would not have an insiders perspective of.

This method of gathering a diverse view of potato production from within the Ecuadorian Andes allowed many different insights to be shown. Individuals with such drastically different lived experiences and perspectives will often produce a wider variety of data collection than when isolating the scope of the research to a more homogenous group of participants. Though the intention of the FBS is to work specifically with smallholder farmers, the lack of surveying on farmers outside of the CONPAPA membership could be viewed as a weakness. For this reason it was very important to ensure that diverse participation was gained during the course of the KII.

3.9 Focus Groups:
The focus groups were incorporated into this study with the intent of corroborating the results yielded from the surveys that were collected. To address potential gender biases the desired objective was to have a minimum of one focus group for men and one for women so that there would be a greater ease of communication in each focus group regarding the gender dimension of this study. Due to the lack of geographic concentration from amongst the farmer members,
coordinating the focus groups proved to be extremely difficult. The manager of the farmer organization was best placed to engage the farmer members to achieve a diverse representation of lived realities within each focus group. However, when confirmation had been achieved and the date and times set for focus groups, the farmer members consistently had difficulty meeting on time at the specified location. It was unclear whether this was due to the lack of an effective transportation system within the region or whether a stronger incentive was required to ensure participation at the required time and place. The initial focus group that was conducted consisted of three women and one man that had shown up early. This focus group commenced and some valuable data was collected. After the end of the researcher’s contract duration, one more focus group was attempted with a specific community that had a high number of farmer members within CONPAPA. However once again perfect gender segregation was not achieved as only three men showed up and eight women, also the research assistants were not present and they were not able to be reached. This mixed gender focus group took place with eleven participants and once again valuable data was collected that added insight to the data that had been collected from the survey results.

3.10 Data Analysis:

The data analysis for this study took place in stages. Naturalistic observation occurred on an infrequent basis for the duration of this study, which began in May 2015 when the researcher arrived in Quito and concluded in October 16th, the day of the second focus group. Notes taken during the course of this study were never formally coded, rather keeping the other data collection methods in mind the researcher would make specific notes during the
course of the naturalistic observation that were specifically intended to influence a certain aspect of a data collection method.

SPSS was used to digitize the surveys collected, the bulk of the surveys were collected from September 14-17th 2015. The surveys that were collected between the 14-17th of September were put into SPSS the day they were collected. Due to a delay in the surveys being collected there was not much time to review the survey data before the 18th of September, when four KII’s had been scheduled. However, an initial review was taken of the survey data which allowed the researcher to alter the structure of the initial KII’s with the new information that had been discovered through the surveys.

The researcher collected 50 surveys from the 65 CONPAPA members currently registered, these 50 surveys represent the working population for this study. Using SPSS the surveys were analyzed, the researcher was looking to identify levels of satisfaction with CONPAPA, what areas they thought it could be improved and other areas relating to desiring to have access to more land, credit, high quality seeds and what levels of importance farmers placed on these inputs. The gender relations questions were analyzed seeking discrepancies between male and female respondents on topics of income allocation, choice of livelihood activities, participation within CONPAPA. There were also gender questions covering the perceptions of the institutions of CONPAPA, and also decision making capacities that are decided by men, women or together as a couple.

The interviews and the focus groups were read several times before any notes were taken, after reading the interviews several times it was decided that the interviews with
members of CONPAPA should be separated from interviews of the external experts. The perspectives from the CONPAPA members are very different and represent a different perspective and knowledge base therefore they were coded separately. Coding is more than simply labelling sections of qualitative data and lumping them together, when done properly “It leads you from the data to the idea, and from the idea to all the data pertaining to that idea” (Richards & Morse, 2007: 137). It is a rigorous process that needs to be cycled through repeatedly. “Rarely is the first cycle of coding data perfectly attempted. The second cycle (and possibly the third and fourth, and so on) of recoding further manages, filters, highlights, and focuses the salient features of the qualitative data record for generating categories, themes, and concepts, grasping meaning, and/or building theory” (Saldana, 2009: 8).

The focus groups and the KII’s were organized and coded in this way, breaking all of the data down into simpler thematic groups that were refined to have a application towards the development of the recommendations being put forward by this study. This study also applies the use of copying direct quotes from the data collected that are representative of the overall thematic grouping that occurred through the coding, and also to present descriptive elements of the contributions of the participants involved in this study (Walker & Myrick, 2006).
Chapter 4: Results

Introduction:
This chapter presents the data collected during the course of this study. The data is presented in the order of each research objective, addressing first the business capacities of farmers and how they might be addressed followed by data relating the gender relations and decision making capacity. The data collected regarding how smallholder farmers perceive their barriers and limitations within the value chain are presented, followed by data collected regarding farmers incentives for participating in potato production. This chapter then displays data collected on the types of financial planning that farmers engage in, and the different levels of access to credit that farmers have. The next section of the chapter deals with the second objective of the study, how men and women are making decisions at both a household level, and also within CONPAPA meetings.

Overview of Survey Participants
50 CONPAPA farmers were surveyed in this study 24 women and 26 men, the following is presented to offer a profile of the participants of this study. The table clearly shows that the vast majority of CONPAPA farmers own the land that they farm, and also that the lands that are rented and/or have a high probability of being in both the husband and wife’s name. However one disparity that exists related to how men vs women identify their position of authority within the households of CONPAPA members. When male survey respondents were asked if they were the boss of their farm 92.3% said that they were, women only responded that they were the boss of their farm 20.8% of the time.

Table 4.1 shows gender disaggregated data of survey participants position of authority and type of land farmed.
<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>45.6</td>
<td>49.5</td>
</tr>
<tr>
<td>What type of property do you have</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own</td>
<td>80.1%</td>
<td>87.5%</td>
</tr>
<tr>
<td>Rent</td>
<td>7.7%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Both</td>
<td>11.5%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Under whose name?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>4.3%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Wife</td>
<td>8.7%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Both</td>
<td>87.0%</td>
<td>81.0%</td>
</tr>
<tr>
<td>Are you the boss of your farm?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>92.3%</td>
<td>20.8%</td>
</tr>
<tr>
<td>No</td>
<td>7.7%</td>
<td>79.2%</td>
</tr>
</tbody>
</table>

Objective 1:

**To identify if there are lacking business capacities being experienced by the farmer members of CONPAPA that can be addressed in the FBS methodology.**

As the FBS methodology was developed in a different cultural context, it is important that a concrete understanding of the local culture and the smallholder farmers’ lived realities within the Ecuadorian Andes was gained to influence the FBS methodology. The FBS methodology was developed in a foreign cultural context meaning that there are a plethora of barriers that could potentially impede the effective implementation of the FBS methodology. Such differences could include language barriers, literacy barriers, different gender relations being present in agricultural value chains and also the different livelihood strategies due to the micro climates of the Andes. It was also necessary to interact outside of the scope of CONPAPA farmer members to understand what capacities would best serve their interests, farmers may not have a complete understanding of what business skills would make them more effective to act in their own best interests. Professionals from both the public and private sector where engaged to participate as their professional and research driven perspectives were complimentary to the
personal perspectives of small holder farmers. Using this dual perspective from within CONPAPA and also from the greater region, enabled this study to gain deep understanding of what business capacities farmers lacked that would be of the greatest value to them.

Research Question 1.a:
What improvements would farmers like to experience regarding their interaction with the potato value chain?
To understand the limitations and barriers that are being experienced by CONPAPA farmer members, they were asked in the survey to rank a list of limitations. Answering with (8) identified the most problematic limitation, (1) was used to identify the least problematic. The following table summarizes these responses by presenting the mean responses that each limitation.

<table>
<thead>
<tr>
<th>Barriers/Limitations</th>
<th>Mean Score</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Inputs</td>
<td>5.35</td>
<td>2.549</td>
</tr>
<tr>
<td>Demand of CONPAPA</td>
<td>4.96</td>
<td>2.521</td>
</tr>
<tr>
<td>Access to Credit</td>
<td>4.87</td>
<td>1.932</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>4.41</td>
<td>1.903</td>
</tr>
<tr>
<td>Sickness/Plagues within Crops</td>
<td>4.22</td>
<td>2.347</td>
</tr>
<tr>
<td>Seed Quality</td>
<td>4.20</td>
<td>2.535</td>
</tr>
<tr>
<td>Quality Control</td>
<td>4.11</td>
<td>2.189</td>
</tr>
<tr>
<td>Access to Land</td>
<td>3.89</td>
<td></td>
</tr>
</tbody>
</table>

Upon review of the data using a gender disaggregated filter, there are indications that men and women experience constraints differently through their participation in the potato value chain as CONPAPA members. The following tables show a comparison of how constraints are ranked by male vs female CONPAPA members.
From the interviews, the demand of CONPAPA can be addressed. Many farmers identify that the demand from CONPAPA is not sufficient enough. During the interviews multiple KII’s addressed the issue of trust between CONPAPA and its farmers. When the market prices (which are prone to extreme fluctuation) are high and exceed that of the price being offered by CONPAPA, farmers are prone to selling their potatoes at the market instead of to CONPAPA. This was further confirmed in the focus groups that were conducted. As CONPAPA provides clients with predetermined amounts of potatoes on a consistent basis, the actions of farmers to sell their potatoes into the wholesale market directly undermines the ability of CONPAPA to provide consistency to clients.

The farmer survey respondents were asked to rank the importance of different aspects of potato production. Once again (1) meant that it was the most important aspect of potato production and (5) the least important aspect. The following table summarizes the mean scores accumulated from the survey data.

Table 4.3 gender disaggregated barriers and limitations of farmers ranked in

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barriers/Limitations</td>
<td>Mean</td>
</tr>
<tr>
<td>Cost of Inputs</td>
<td>5.17</td>
</tr>
<tr>
<td>Demand of CONPAPA</td>
<td>5.00</td>
</tr>
<tr>
<td>Quality Control</td>
<td>4.54</td>
</tr>
<tr>
<td>Sickness Within Crops</td>
<td>4.54</td>
</tr>
<tr>
<td>Access to Credit</td>
<td>4.29</td>
</tr>
<tr>
<td>Seed Quality</td>
<td>4.29</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>4.17</td>
</tr>
<tr>
<td>Access to Land</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Table 4.4 gender disaggregated incentives of potato production

<table>
<thead>
<tr>
<th>Aspect of Potato Production</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

42
<table>
<thead>
<tr>
<th></th>
<th>Mean Score</th>
<th>Std. Dev.</th>
<th>Mean Score</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Price of Potatoes</td>
<td>4.36</td>
<td>1.036</td>
<td>4.26</td>
<td>1.251</td>
</tr>
<tr>
<td>Consistent Demand</td>
<td>3.72</td>
<td>1.208</td>
<td>3.78</td>
<td>1.043</td>
</tr>
<tr>
<td>Technical Support</td>
<td>2.68</td>
<td>1.069</td>
<td>2.74</td>
<td>1.093</td>
</tr>
<tr>
<td>Cost of Production</td>
<td>2.32</td>
<td>1.030</td>
<td>2.35</td>
<td>1.191</td>
</tr>
<tr>
<td>Cultivation Cycle Duration</td>
<td>1.88</td>
<td>1.130</td>
<td>1.83</td>
<td>.937</td>
</tr>
</tbody>
</table>

In this regard the data collected from male and female respondents in consistent, not only in how the different aspect of production are ranked, but the mean scores themselves are very similar. More than any other factor involved in the production of potatoes, farmers (both male and female) are primarily motivated by the price they can receive for the potatoes that they produce.

To understand to what extent farmers were selling their potatoes outside of CONPAPA they were asked a series of questions regarding to whom they sold their potatoes, how often they sold to other clients and what percentage of their production they sold to other clients. It is not clear however to what extent farmers will sell their potatoes to CONPAPA rather than the wholesale markets. Naturalistic observation, interview and focus group data all indicate that it is not uncommon for farmers to sell their potatoes outside of CONPAPA when the market price is higher. For these reasons some farmers may have avoided answering the following questions, and/or under reported the extent to which they sell their potatoes to the wholesale markets. Of the 50 respondents, one farmer did not answer the question, 29 confirmed that they sold potatoes outside of CONPAPA, and 20 responded that they only sold potatoes to CONPAPA. Of the 29 farmers that reported they sold potatoes outside of CONPAPA, 22 reported their estimates of how much of their total production they sold outside of CONPAPA.
Based on the estimates of these 22 farmers, an average of 30.23% of their potato production is being sold outside of the CONPAPA organization.

Farmers’ access to credit was analyzed to understand what percentage have access to credit, what percentage choose to receive credit, what gender the credit receiver is and whether or not they would like to access more credit.

Table 4.5 gender disaggregated table of showing who has access to credit

<table>
<thead>
<tr>
<th>Access to Credit</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>26%</td>
<td>34%</td>
<td>60%</td>
</tr>
<tr>
<td>No</td>
<td>26%</td>
<td>14%</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>52%</td>
<td>48%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Of the 13 men who have access to credit, all 13 of them receive credit. Of the 17 women who receive credit, 15 of them receive it. Therefore, of those who have access to credit (30) 93.3% make use of their access to credit by receiving it. However, when survey participants were asked who in the household receives credit the results were did not present data that represents equal access between men and women.

Table 4.6 gender disaggregated table showing who receives credit

<table>
<thead>
<tr>
<th>Who receives credit</th>
<th>Male respondent</th>
<th>Female Respondent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>35.7%</td>
<td>25%</td>
<td>60.7%</td>
</tr>
<tr>
<td>Wife</td>
<td>3.6%</td>
<td>14.3%</td>
<td>17.9%</td>
</tr>
<tr>
<td>Both</td>
<td>7.1%</td>
<td>14.3%</td>
<td>21.4%</td>
</tr>
</tbody>
</table>
Therefore 60.7% of credit is received by men, or another way to summarize these results would be to say that only 17.9% of the time do women receive credit without the assistance of men.

The following table presents data collected of farmers with access to credit, who would like to increase their access.

**Table 4.7 gender disaggregated table who wants access to more credit**

<table>
<thead>
<tr>
<th>Want access to more credit</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>39.3%</td>
<td>42.8%</td>
<td>82.1%</td>
</tr>
<tr>
<td>No</td>
<td>7.1%</td>
<td>10.8%</td>
<td>17.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46.4%</strong></td>
<td><strong>53.6%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Of those who already have access to credit, 82.1% of respondents would like to increase their access to credit. The data analysis of the interviews showed that access to credit is not

**Research Question 1.b:**

What capacities can feasibly be addressed within the FBS implementation cycle to enable farmers to obtain desired improvements?

Prior to the implementation of the FBS, there are some key areas of the methodology that need to be addressed. Regarding the ability to sit and effectively learn from a lecture format, there is a high level of illiteracy amongst the farmer members. The ability to read and write was not addressed in the survey, the oversight occurred because CONPAPA was one of the few farmer organizations that had facilitated contract farming between its members and processors. However, after observing a significant percentage of the members struggle to understand the
survey, and also to write down words as basic as their names, the use of a lecture to farmers in the format of a lecture will not be possible. When asked about the reading and writing capabilities of CONPAPA farmer members, a key informant who works in CONPAPA and knows the farmers best believes the farmers should “interact through practice which is better, because they are not able to read and write” (KI1). When asked what percentage of farmers could read KI1 estimated that “it is 20%, they can do it fast”. In the second focus group the issue of illiteracy was identified as a barrier to the implementation of the FBS, it was expressed that first farmers needed to learn to read and write prior to engaging in other business learning activities.

The methodology of the FBS indicates that the group should meet once a week for 6-8 weeks, also there is a significant portion of the methodology that focuses on lecturing and the teaching of technical words. The overwhelming majority of survey participants who had an interest in participating in the FBS indicated that meeting once a month would be their ideal frequency to participate. Of the 50 survey participants, 48 respondents are interested in participating in the FBS. The following table illustrates the optimal frequency of meetings for these farmer:

<table>
<thead>
<tr>
<th>Frequency of Meetings</th>
<th>Once a week</th>
<th>Once every two weeks</th>
<th>Once a month</th>
<th>Once every three months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>2</td>
<td>6</td>
<td>34</td>
<td>6</td>
</tr>
</tbody>
</table>
Due to the desire to have meetings only once a month this will present two options for the facilitators of the FBS. One would be present the case for having more meetings than the overwhelming majority of farmers would like, or to augment the curriculum, giving it much more modest goals for the development of farmer capacities. The skills identified through this study as having the greatest potential impact to farmer members of CONPAPA are: accounting practices, business planning and organizational management.

Accounting Practices: Farmer members of CONPAPA are very capable and effective in their ability to grow potatoes of a high quality. The lack of comprehensive accounting and documentation of farming activities was observed to be a problem during a meeting between CONPAPA members and a processor. The quality of potato required for the processing of commercial products is much higher than that commonly found in wholesale markets of Ecuador. Though the price paid per kilogram is higher than is found in wholesale markets, there is only client for this particular type of potato. The quality control requirements of the processor cause much distress amongst the potato farmers, who appreciate the higher per kilogram value but wish a smaller percentage of their crops were graded as acceptable. The processor had previously provided “farm books” for the farmers to document their problems in the production of this variety of native potato, but none of the farmers had used these booklets. The following two tables show the data collected in the survey about how many farmers document their incomes and expenditures as well as construct plans for their potato production related activities.

Table 4.9 farmers documenting their income and expenses
The survey indicated, and it was further emphasized by the research assistants, that additional comments to these questions were extremely valuable. However, when farmers (who responded that they do document and plan expenses and incomes) were asked to elaborate answers were reported as vague and unclear. Farmers have a strong understanding of their expenses and profits, not the exact figures but and understanding, as was discussed during
naturalistic observation and also in the second focus group. As farmers of CONPAPA continue to engage in contract farming with larger producer companies, the structure of their cost to benefit ratio is subject to change. This adds a new level of complexity to understanding their overall profit margins and therefore the introduction of accounting practices to manage their overall profit margins would be greatly beneficial.

The increased quality that is required through contract farming presents two solution to address how farmers should approach these new requirements, these solutions are not however mutually exclusive. One solution would be to improve the accounting capacities and practices that are part of the farmers’ routine. Multiple Key Informants confirmed the need to improve accounting practices of the farmers in order to evaluate an appropriate price for potatoes being produced. Such capacity development fits well into the methodological structure of the FBS. The other solution is to elevate the technical farming capacity of CONPAPA members. Such skill development is more suitable to a Farmer Field School, in which agricultural extension workers engage farmers in new farming practices to improve their skill sets related to specific crops or problems occurring in the fields. To meet the needs of farmers, CONPAPA could increase agricultural extension workers to farmers as part of an incentive based on participation and loyalty within the CONPAPA.

There already exists a structure in place within CONPAPA that incentivises farmers to provide high end potatoes and also reliable behaviour. There are three levels of membership within CONPAPA, ‘A’, ‘B’ and ‘C’. Members who are in category ‘A’ are more privileged members than those in category ‘C’. This system is similar to what is being proposed by the
researcher, however the members of CONPAPA would need to be made more aware of the existing incentive system. The survey sought to identify how many members were in each category, and yet when asked to which category they belonged many farmers were unsure. The following table summarizes the results from the survey.

Table 4.11 farmer’s awareness of membership category in CONPAPA

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>16%</td>
<td>6%</td>
<td>22%</td>
</tr>
<tr>
<td>B</td>
<td>14%</td>
<td>16%</td>
<td>30%</td>
</tr>
<tr>
<td>C</td>
<td>4%</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>Unsure</td>
<td>18%</td>
<td>20%</td>
<td>38%</td>
</tr>
<tr>
<td>Total</td>
<td>52%</td>
<td>48%</td>
<td>100%</td>
</tr>
</tbody>
</table>

This lack of communication regarding an existing incentive scheme already in place negates any potential positive impact that it could have on the farmer members. Previously addressed in this chapter is the finding in the survey that consistency of demand is second only to obtaining a higher price for potatoes sold, as ranked by farmer members of CONPAPA. These survey results only offer half of the situation, the interviewees and focus groups indicated that farmers are prone to sell their produce in the markets outside of CONPAPA when the prices are high. This causes difficulty for the management staff of CONPAPA that on a month to month basis can struggle to meet their delivery commitments to clients. When farmers are extremely poor and the prices in the wholesale markets exceed the price per kilogram offered in a
contract rate, it is difficult for farmers to resist acting in their own best interest. As was summarised by KI6 when discussing farmer behaviour “if they had a chance to sell knowing that the price is raised in the market, they won’t hesitate to sell in the market and then to break the contract.” It is difficult to estimate to what extent farmers sell outside of CONPAPA due to high prices in the market, and to what extent it is necessary due to low level of demand from CONPAPA. According to the estimates that were yielded in KI1, the levels of production that are provided by CONPAPA members can have large fluctuations from month to month. When asked what percentage was supplied by CONPAPA members KI1 responded “we supply 70% from group members and about 30% from providers; but sometimes, the members can supply 30%, and 70%, we have to look for from providers and so it is by month.” This inconsistency acts a barrier towards CONPAPA being able to guarantee the quality and quantity of potatoes to their clients, this is a topic that farmers are already aware of. “So we have to be responsible. We have to commit to the organization, because if the price goes down we have to deliver the potatoes and the same when the price goes up. So it is a commitment even the potatoes are expensive or cheap, we have to deliver the product at CONPAPA” (male farmer FG1 discussing the importance commitment to CONPAPA).

Returning again to accounting practices of the farmer members, this skill set should be taught at the beginning of the FBS to allow farmers to progress towards achieving the ability to outline business plans for themselves. This connection between accounting practices and access to credit through planning was outlined by KI4 and KI5, “From the beginning, definitely to determine the cost of production, if I want to harvest one hectare of potatoes, how much
money do I need to sow in one hectare? So base on that it should be the loan. If you will only sow the half of a hectare, why do you need more money? So in this way you will demonstrate why the credit is wrongly addressed. Something is not working well, there. So the credit should be addressed by your needs.” (Quoted from interview with KI4). Credit is much more likely to be approved were the need is clearly identified, also defined should be the returns on the investment. This concept would also allow farmers to make accurate estimates about the feasibility of renting more land to rent more land. Discussed with farmers in the first focus group the problem is gaining access to sufficient loans. “Yes, we can buy lands, but there are a lot of lands around the area to buy. We need loans, Loans!” (Female participant in the focus group that took place on September 28, 2015).

CONPAPA has many strengths as an organization, though they have certain advantages (such as the contract farming with Inalproces) they also do not provide value added production. Farmers in the survey indicated that they value a high price for their potatoes more than anything. The consensus from both the interviews and the focus groups is that the best way to increase the price of potatoes is to add value to the potatoes being sold by CONPAPA. The ways in which this can be done are: by washing, packaging, cutting up and cooking the potatoes grown by CONPAPA farmers. These options are evident to the key informants that were interviewed as well as the farmers that were present for the focus groups. The construction of a plan that would effectively identify the optimal solution for CONPAPA to engage in a value added process of potato commercializing would offer a practical example to also teach principles of accounting, business planning and cost benefit analysis. As there are two other
provincial branches of CONPAPA that are now washing and selling washed potatoes, it would be good for CONPAPA Tungurahua to evaluate the feasibility of following this example to ensure that farmer members can get a higher price for their potatoes.

The fluctuating prices within the wholesale markets cause inconsistent demand, which is both a problem for farmers and for CONPAPA as an overall organization. Interviews with key informants inside of CONPAPA confirm that CONPAPA does not have enough market share to impact prices. Within Ecuador the Ministry of Agriculture (MAGAP) publish agricultural prices for different commodities in different wholesale markets around the country on a weekly basis. Information of prices do not empower farmers to choose where to sell their potatoes or to influence the production cycle timeline of their crops. KI4 recommended that farmers could be given information that would indicate optimal times for a harvest, however during the course of observation it was noted that researchers at MAGAP have been unable to use the data to determine when farmers should plant. In the final Key Informant Interview (KI8), an innovative idea was presented to the researcher, suggesting a feasible solution to market price volatility that could be implemented at the farm level. If a farmer has one hectare of land, and plants the full hectare at the same time, then there will be one harvest which may occur while prices are low or high. This is a high risk in Ecuador. If the hectare is split into fractions and fractions are planted at different times throughout the year, then the risk of harvesting potatoes while prices are low is decreased. The more the hectare is divided, the more risk of a low market price for the harvest time is reduced. Another added benefit of this method of planting is that
it would provide a more consistent income for the farmers employing it (a rough estimate of a
potato production cycle is six months depending on the variety and altitude).

Marketing concepts can be introduced through an interactive process of identifying what would make the potatoes produced by CONPAPA more attractive than those of competing sellers. To gain higher prices for potatoes produced by CONPAPA an added value to the production would have to be introduced, such as washed potatoes. These different ideas cannot all be implemented during the short intervention cycle proposed by the FBS methodology however each of these ideas can be used as a platform to introduce relatively complex concepts through relatable contexts.

Objective 2:

Identify sex-disaggregated decision-making capacity as it relates to participation within
CONPAPA and intra-household gender relations, and specifically, economic activities.

This objective was developed in response to an excessive emphasis being placed in the increasing presence of female labour within economic activities in the region without considering the agency of the female farmers. Added responsibility without the component of autonomous decision making capacity should instead be viewed as detrimental to the empowerment of women. Due to the lack of concentration of farmer members geographically, the 5-month window of this research study was not adequate enough to inform a more in-depth analysis of decision making capacities. For the purpose of this study the scope of determining gender related decision making capacity was strictly limited to the participation in
CONPAPA and the resulting benefits of it. The gender relations as they relate to CONPAPA participation will provide insight into how a gender responsive FBS intervention can be staged in this specific context.

Research Question 2.a:
Within the family dynamics of the farmer member households of CONPAPA, who is making decisions related to profits yielded from participation within CONPAPA?

This chart represents a summary of the data collected during the survey regarding men and women’s capacity to make decisions regarding expenditure. This data specifically relates to how choices regarding expenses are made in relation to economic gains from potato production. This is an important distinction as not enough research has been conducted regarding the different and diverse array of livelihood activities that different farmers will engage in. Thus the scope of control over expenditures was specifically restricted to profits gained in potato value chain activities.

This table shows presents the overall data regarding male and female agency regarding control of financial expenditure of money gained through potato production.

*Table 4.12 control of income expenditures by male and female farmers*

<table>
<thead>
<tr>
<th>Uses of Income</th>
<th>Men</th>
<th>Women</th>
<th>Together</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potato Production</td>
<td>24.5%</td>
<td>16.3%</td>
<td>59.2%</td>
</tr>
<tr>
<td>Buying Seed</td>
<td>28.6%</td>
<td>18.4%</td>
<td>53.1%</td>
</tr>
<tr>
<td>Agricultural Technology</td>
<td>31.3%</td>
<td>12.5%</td>
<td>56.3%</td>
</tr>
<tr>
<td>Better Food</td>
<td>8.2%</td>
<td>28.6%</td>
<td>63.3%</td>
</tr>
</tbody>
</table>
To understand if there is a distinction between how men and women report their control over economic decision making the following table splits the above table of data into male and female respondents.

*Table 4.13 gender disaggregated responses of control of income expenditure*

<table>
<thead>
<tr>
<th>Uses of Income</th>
<th>Male Respondents</th>
<th>Female Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Health Costs</td>
<td>12.2%</td>
<td>16.3%</td>
</tr>
<tr>
<td>Educational Costs</td>
<td>16.3%</td>
<td>12.2%</td>
</tr>
<tr>
<td>Extra (cell phones etc.)</td>
<td>16.7%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Other: Debt, workforce</td>
<td>10.2%</td>
<td>16.3%</td>
</tr>
</tbody>
</table>
This data yields some interesting insight into the dynamics of the decision making capacities of men and women. From the first table it is clear that men having exclusive decision making authority in the first three rows, then drops significantly in the 4th, 5th and 6th row. The first three rows can be collectively analyzed as productive expenditures, rows four to six (better food, health costs and educational costs) can be viewed as reproductive expenditures. In the second table, it is immediately clear that the gender of the survey respondent plays a significant role in the reported statistics of the decision making dynamic that exists regarding economic investments and expenditures. The respondent is much more likely to report themselves than their spouse as the decision maker of a certain expenditure. Due to an oversight in the surveys the 7th and 8th rows (extra: (cellphones etc.) and Other: Debt, workforce) were not explicitly clear when translated into Spanish and therefore are not used in the following table that compared decisions making capacity between productive and reproductive expenditures. The following table combines the first three rows (Potato production, buying seed and agricultural technology) as ‘Productive Expenditure’ and combines rows four, five and six (better food, health costs and educational costs) as reproductive costs. Though health, education and food can all lead towards greater economic productivity, these types of expenditures are perceived as costs of a household, which according to traditional gender roles women would have a greater influence in relative to the production inputs for the farm.

Table 4.14 control over productive vs reproductive expenditure

<table>
<thead>
<tr>
<th>Type of Expenditure</th>
<th>Men</th>
<th>Women</th>
<th>Together</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


This table clearly shows that men and women clearly have a higher level of control over what kind of decisions are made on issues relating to economic activities. The gender disaggregated version of the above table is presented below.

Table 4.15 gender disaggregated control over productive versus reproductive expenditure

<table>
<thead>
<tr>
<th></th>
<th>Male Respondents</th>
<th>Female Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td><strong>Productive</strong></td>
<td>28.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Reproductive</strong></td>
<td>17.9%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

This data indicates that men exercise higher levels of decision making authority than women regarding economic activity, and within the context of unproductive or household decisions, women appear to have slightly higher levels of agency to make independent decisions.

During the course of naturalistic observation and through the interviews and focus groups there were multiple references made to made increasingly seeking employment off of their farms. Such incidents were also covered in the literature review of this study, and therefore when interviewing members within CONPAPA, understanding to what extent this was occurring was a key concern. “About 25% of members approximately. The woman is in charge
of the house and the man works out of the town. They spend part-time working on the crops and the rest of the time, they take care of their cattle” (KI1 discussing the ratio of men in CONPAPA member households who migrate for work). This trend is identified as an enabling factor among interviewees, yet Machismo (the word used to identify masculine identity), is still prominent in the culture of rural communities in the Ecuadorian Andes. “Generally men are in charge of their families in Ecuador. Men usually go to the city, so women usually go to the training meetings, so they are taking the leadership for every activity, actually women are in charge of some associations. Men come back on weekends or at the end of every month that’s why they do not know about the management in the organizations. Although, women can become excluded from work at the organizations because of jealousy, in fact women still ask to their husbands before making some decisions in order to avoid contradicting their husbands” (KI3 discussing both the positive elements of migratory labour on gender relations, and also the potential repercussions).

Research Question 2.b:

How effective is the institutional framework that exists within CONPAPA to ensure equal empowerment of male and female members?

To investigate this research question, a section of the survey had a series of questions that were structured to offer insight on what family member was participating in CONPAPA meetings and what family decided who would participate. In addition to these questions the survey participants were asked to answer questions specifically designed to understand perceptions of farmer members regarding comfort in expressing opinions, and opinions regarding gender and mobility within CONPAPA towards positions of leadership. Based on
observations that had been made by the researcher on previous occasions, women had a distinctly different level of comfort when interacting with other members the CONPAPA offices during meetings. The researcher noted that men were much more likely to express their opinions and share than the female peers within meetings. The following table’s present data gathered regarding who is participating and who has the agency to decide who will participate in CONPAPA functions.

*Table 4.16 male versus female participation in CONPAPA meetings*

<table>
<thead>
<tr>
<th>Who participates in Meeting and Workshops</th>
<th>Male Respondents</th>
<th>Female Respondents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>38%</td>
<td>8%</td>
<td>46%</td>
</tr>
<tr>
<td>Wife</td>
<td>4%</td>
<td>36%</td>
<td>40%</td>
</tr>
<tr>
<td>Children</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Husband and Wife</td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Everyone</td>
<td>8%</td>
<td>2%</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>52%</strong></td>
<td><strong>48%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The following table presents the data that was collected to understand participation as it relates to deciding to participate in CONPAPA.

*Table 4.17 gender disaggregated decision regarding who participates in CONPAPA meetings*

<table>
<thead>
<tr>
<th>Who decides who will Participate?</th>
<th>Male Participants</th>
<th>Female Respondents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband</td>
<td>32%</td>
<td>8%</td>
<td>40%</td>
</tr>
<tr>
<td>Wife</td>
<td>6%</td>
<td>32%</td>
<td>38%</td>
</tr>
</tbody>
</table>
Both 14% 8% 22%
Total 52% 48% 100%

The above chart on the left shows, there is a very even participation rate in meetings and workshops according to the surveys collected. Furthermore, that information is coupled with the above chart on the right that indicated that the decision making power over who participates in meetings and workshops is incredibly even. Thus from this information, the facilitator(s) of the FBS meetings can be secure in knowing that participants are there of their own accord and have a pre-existing history of determining their own participation in workshops and meetings related to CONPAPA. Based on this data the male and female members of CONPAPA appear to operate with the same level of agency regarding their ability to choose to what extent they will operate within CONPAPA.

The following tables were constructed to show the data collected that asked survey participants if both men and women were equally able to express their opinions in CONPAPA meetings, and the second, if men and women had equal opportunity to obtain positions of leadership within the organization. The data is presented once again in gender disaggregated format of the respondents to whether or not CONPAPA members are of a similar or different mind depending on their gender.

\textit{Table 4.18 gender disaggregated perspectives regarding ability to express opinions in meetings}

<table>
<thead>
<tr>
<th>Equally Able to Express Opinions?</th>
<th>Male Respondents</th>
<th>Female Respondents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both</td>
<td>14%</td>
<td>8%</td>
<td>22%</td>
</tr>
<tr>
<td>Total</td>
<td>52%</td>
<td>48%</td>
<td>100%</td>
</tr>
</tbody>
</table>
This data indicates that the members of CONPAPA feel meetings are a place were all opinions should be shared equally. Not only overall perception that men and women are equally able to express themselves, but also from a gender disaggregated view, the data suggests that men and women are of the same opinion about their abilities.

*Table 4.19 gender disaggregated perspectives regarding ability to gain positions of leadership*

<table>
<thead>
<tr>
<th>Equal Opportunity to gain Leadership?</th>
<th>Male Respondents</th>
<th>Female Respondents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>23</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>Easier for Men</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Easier for Women</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>24</td>
<td>50</td>
</tr>
</tbody>
</table>
The above graphs based on data collected in the surveys clearly show that: male and female farmer members of CONPAPA, identify the institutional framework of CONPAPA to facilitate gender equality. Men and women see their opportunities to express themselves and attain leadership positions as equal. For these perspectives to exist within this cultural context indicate that CONPAPA is a progressive organization that places a high level of emphasis on conducting itself in a social just manner.

The perspectives and opinions of farmer members were respected and valued throughout the course of this research project. However, the above charts portray a different gender relation than was observed throughout the naturalistic observation stage of this project in addition to all subsequent interactions that followed. Though there is no outright discrimination that was observed within the context of the CONPAPA organization, there was a distinct discrepancy in the level of participation and expression being offered by men and women. Women simply do not participate and express themselves at the same level as men, this was noted in meetings focus groups and general interaction.

When this specific gender relation were discussed in interviews and the one successful focus group, there was a consensus that was found regarding why women would participate less than men. Even though there is a mass acknowledgment of the equal right participate in meetings and share opinions it seems that women do not have the same level of confidence as men to express themselves in a public context. Typically, men will have a higher level of interaction in off farm contexts, as was mentioned earlier men are more likely to participate in migrant labour for example. During the interview stage of this project the researcher identified
the conflict between survey data that did not align with what had been observed in the
behaviour of farmer members. The consensus that emerged from the interview data was that
women were shy. When asked about women’s shyness reasoning of this discrepancy was
rooted in women not being able to speak as well as men, and also that there were two
personalities that women could have, one of comfort and one of discomfort. Women were
described as having a much higher comfort level in expressing themselves amongst other
women. In the presence of men confidence to speak and share opinions were reduced. “If
women work by themselves, you will notice the difference, if we change the scenario and we
see a woman working with men, then it is difficult for this woman” (KI6 discussing the difficulty
women have when interacting within men as opposed to working with other women). This
concept left the researcher unable to confirm due to his gender, yet due to the multiple
references to this phenomenon it is accepted as true for this study. Based on the qualitative
data collection of this study, it seems that have a much more limited vocabulary, and
sometimes will be much more comfortable to speak in the native language of the region
(Quechua) than in Spanish.

Summary
This chapter has shown presented the data collected relating the research questions for the
first and second objectives. The constraints experienced by the farmers of CONPAPA relate to
the price of inputs, access to credit and experiencing a lack of demand for their production.
Amongst men and women, the constraints experienced through participation in this value chain
are similar, and yet it appears that women have less access to credit then men do. The levels of
gender equality amongst men and women appear to quite high, as each gender identifies their
ability to express their opinions and achieve positions of leadership as equal. However, though the perception amongst male and female farmers is that they have equal opportunities, women do not possess the same level of language proficiency as men and therefore do not participate to the same degree as men in meetings. Another barrier to the implementation of the FBS methodology during the course of this investigation, as many men and women had a difficulty completing their surveys, it became clear that only a small percentage of farmers are able to read and write with confidence.
Chapter 5: Discussion

Introduction

This chapter discusses the results presented in the previous chapter, showing the analysis of the results with the assistance of previously conducted studies. This chapter begins by addressing the illiteracy that was discovered during the course of this investigation, followed discussing the discrepancy that exists between men and women in their ability to confidently express themselves in public. Skills that are of best use to farmers are next addressed in this chapter, and with recommendations as to how they might be best implemented in the FBS meetings. Finally, this chapter ends with a summary of the gender relations that exist amongst the male and female farmer members of CONPAPA.

Objective 1:

To identify if there are lacking business capacities being experienced by farmer members of CONPAPA that can be addressed in the FBS methodology.

Introduction

In the previous chapter the survey data clearly showed that there are certain barriers being experienced by farmers: 1) the cost of inputs, 2) the demand from CONPAPA, and 3) access to credit. The farmers were also asked to rank what aspects of potato production were most important for them, the top three were: 1) high price for potatoes, 2) consistent demand, and 3) technical support. In this chapter four objectives for the FBS are outlined: 1) value added production, 2) accounting practices, 3) business planning, and 4) increasing access to credit. The most important aspect of potato production to the farmers is that the price of potatoes is high, the best way to manage this goal is to add value to the potatoes being sold by CONPAPA.
so that they can be distinguished from the competing products within the market. The objectives of teaching farmers accounting practices, business planning and to increase their access to credit, are crucial to farmers increasing their business capacity to the extent that they can identify opportunities and assess the financial viability of them.

Value Added Production
To have a high price for potatoes farmers need to be engaged in a process of value-added production. The high-quality and in-demand varieties of potatoes are conducive towards achieving a higher price for produce by adding a certain aspect of production prior to potatoes being sold and increased price can be achieved by farmer organizations looking to sell their potatoes within a new market.

Considering that two other provincial branches of CONPAPA have begun cleaning potatoes and begging them to sell to markets it has been proven that this is a reliable method of adding value to potatoes prior to their sale. It was initially identified through the observation, and again in the interviews and focus groups that CONPAPA is overly reliant on few individuals controlling the management of the CONPAPA Tungurahua branch. One of the concerns is that within CONPAPA there are not enough resources in the office to allow a process of innovation that would lead to the purchase of a potato cleaning machine and the management of a potato cleaning facility. Therefore, because cleaning potatoes has been established as a viable option, this idea can be presented to the farmers in the FBS and they can decide whether or not they would like to pursue it. It became clear during the focus groups that this is one of the only methods of the value-added production that farmers are aware of. Also, the cleaning of
potatoes was identified as the best starting position for an organization to begin a value added process to their potato production through the interviews with key informants.

Farmers clearly identified a desire to have higher levels of demand from CONPAPA, this was shown in the data collected in the surveys. However an issue that was repeatedly brought up in the KII’s and the focus groups was that farmers needed to have a higher level of loyalty to CONPAPA regarding the sale of their potatoes. Though farmer expressed that CONPAPA was unable to accommodate the production levels of their current farmers’ produce, there were multiple references to farmers selling their potatoes in the wholesale markets when the market price of potato was higher than the price being offered at CONPAPA. In order for CONPAPA to be able to meet the needs of their clients and in the future expand their member base and also their number of clients, they will need to ensure that they can rely on their farmers to sell their potatoes to the organization after a harvest. Though it appears that farmers are prone to sell their potatoes to the wholesale markets in Ecuador it would be a mistake to characterize the farmer members of CONPAPA as unreliable and dishonest. The price of agricultural commodities are prone to extreme fluctuations on a week to week basis. The farmer members of CONPAPA live subsistence lifestyles, and they work extremely long days to ensure that they are able to provide for their families through their subsistence economic activities.

To encourage a higher levels of reliability from farmers, CONPAPA should look to re-establish their incentive mechanisms. Having three levels of membership, ‘A’, ‘B’ and ‘C’, where farmers who are in group ‘A’ receive higher levels of support from CONPAPA (such as technical assistance) than do farmers in group ‘C’. Upon review of the survey data it became clear that
this mechanism was not very effective due to the fact that 38% of the survey respondents were unaware of their level of membership in CONPAPA. Due to the fact that such a large percentage of members are unaware of their type of membership, it would seem likely that many of the farmers are unaware of what entitlements exist for different membership levels. It would therefore be recommended that members and managers of CONPAPA come together to re-establish an understanding of how farmers can be further incentivized to better participate in the potato value chain through CONPAPA.

Accounting Practices:
Farmers do not keep detailed accounts of their expenses and incomes, this was identified through the interviews to be a very important skill for farmers to incorporate. The farmers that were a part of the discussions regarding accounting practices did not seem to value the idea of documenting their expenses. They have a good understanding of their profit margins and how to implement a livelihood strategy with other economic activities, such as milking cows or raising pigs to sell for their meat. In a traditional sense of farming, emphasis on the accounting practices of farmers would not have as much importance. The farmers of CONPAPA are not a part of a traditional value chain, they are among the few smallholder farmers who participate in contract farming and provide potatoes for an internationally shipped product. This change in context requires that farmers develop their skills to better represent their interests, in this value chain there are many variables that are different from traditional agriculture that affect the profit shares of the farmer producers. The importance of increasing the accounting practices of farmers was initially introduced during the course of naturalistic observation. During a meeting between CONPAPA farmers and representatives of a producer, many of the
farmers complained that the quality control standards being imposed by the producer were too extreme. After much back and forth dialogue, the representatives of the producer asked the farmers what specific technical problems they were having in the field and to what extent this was harming their harvests. Farmers were unable to present specific problems with accompanied statistical figures, the representatives then asked the farmers if they had been using their “field books” and none of the farmers had been documenting the problems that they were having with the quality control standards. With specific varieties of potatoes (such as those being grown for the potato chips) these are only grown for one buyer, therefore when there is a higher quality control being demanded, a higher percentage of the harvest is being refused by the client. Without accurate documentation to show the increased percentage of crop that is not acceptable to the processor calculated with the above average price being offered by the processor. Farmers will have a difficult time determining to what extent new contracts may be in their best interests.

Business Planning:
Accounting practices are a preliminary skill and habit that need to be adopted by farmers, by having a detailed record of their expenses and revenues plans can be constructed to maximize the livelihood activities that take place on the farm. As mentioned previously in this article farmers do not exclusively grow potatoes, instead a variety of farming activities are done so that there is a diversity of income, and therefore an increased income security. By teaching farmers the principles of business planning, they will be empowered to make accurate investment decisions in productive activities. The investment of profits gained from potato production and other economic activities assumes that sufficient revenue is being generated to
allow for increasing levels of investment in productive activities. This is generally not the case, the plots that landholders own are not large enough to generate sufficient excess profits that would enable significant productive reinvestment into the livelihood activities of the household. Access to credit is a barrier for many farmers members of CONPAPA, at present there are conflicting opinions of the best way to structure credit access for farmers. From the farmers’ perspective, it became clear over the course of the naturalistic observation and the focus groups that farmers were not enthusiastic about group lending cooperative structures. Citing that once an individual had a problem paying back credit then no one else would be allowed to access credit. However through the interviews with rural development experts the need to structure loans in such a way was necessary, it ensured high levels of farmer repayment and the cooperative structure. There was also mention within the interviews of cooperatives being structured to have a high level of interaction with the credit recipients to ensure that the loans were appropriate to the need of the farmer receiving the credit.

Access to Credit:
Many objectives of the FBS methodology do not apply to an organization such as CONPAPA. Farmers do not represent themselves in negotiations with clients. Therefore the benefit of developing farmers’ negotiation abilities would now have a significant effect on the farmers’ ability to sell potatoes (unless the farmers were attempting to sell their potatoes outside of CONPAPA). However, improving farmers’ business skills (Accounting and Business Planning as mentioned above), farmers will be able to increase their access to credit should they desire it. 60% of the survey respondents reported that they have access to credit, and off the survey respondents who are receiving credit (28 respondents) over 80% would like access to more
Credit. Credit cooperatives have been known to work with agricultural organizations in Ecuador, therefore for the FBS it would be useful for farmers to have a chance to interact with credit agency representatives. By increasing farmers’ abilities to document their costs and revenues from their agricultural activities they will be able to present a much stronger argument for increasing their access to credit. Not only should these skills enable farmers to gain access to more credit, but also to identify when certain investments may be a hazardous and thus help farmers avoid gaining credit for an investment that is potentially a losing venture.

Farmer in the FG2 expressed their dislike of cooperative lending organizations due to the group accountability that is used. If all of the CONPAPA farmers are expanding their skill set to construct reliable business plans then they should be able to assist each other and/or avoid being part of a lending group if they do not believe a certain group members’ use of credit will be able to pay off their debt.

Objective 2:
Identify sex-disaggregated decision-making capacity as it relates to participation within CONPAPA and intra-household gender relations, and specifically, economic activities.

The data that was collected in this study was often difficult to understand especially when related to the gender relations that exists between men and women. This research compiles many different forms of data collection to gain a deeper understanding of the results that were gained. There different reasons for men and women exercising different levels of power, both in their households and within the organization. By using multiple data collection methods and interacting with a highly diverse group of people interacting within the Ecuadorian potato value
chain, the following explanation of how decision making agency is experienced by men and women based on a wide variety of different perspectives. The results of this study were initially conflicting, when it was observed that women did not participate to the same extent as men but the survey results indicated that they felt equally empowered to speak. Yet in the end, the following section provides a convincing account of decision making capacity and some reasoning surrounding why gender relations exist as they do.

As discussed in Chapter 4 there is a relatively high level of equality regarding the overall ability of both men and women to exercise individual or joint decision making ability. That is not to say that men and women operate as equals when it comes to decisions that are made within the household. Instead the data collected in the survey clearly showed that men were more likely to control decisions that related to productive economic activities, and women were more likely to control decisions relating to activities that do not directly relate to the economically productive activities of the household.

A driving force that has been pushing women increasingly into productive activities on the farm is the increasingly common trend for men to leave their farms seeking employment. This was not specifically addressed as a question on the survey, yet it was identified in all of the different phases of qualitative data collection. However due to the fact that this study is not done in tandem with previous studies that have looked at the CONPAPA farmers’ organization, this is the first study that analyzes the decision making capacity in a gender disaggregated manner. Male and female farmer members expressed a viewpoint that can be summarized as equal. When such matters were discussed more in depth there were indications that men held higher
positions of authority. Though the survey data dealing with male and female decision making authority would suggest a high level of equality amongst the male and female members, it was not the case when the survey participants were asked if they were the boss of the farms. 92.3% of the male respondents identified themselves as the boss of their farms, this is contrasted by 20.8% of women identifying themselves as the boss of their farms.

Based on research that has already been conducted Twyman, Useche and Deere (2015), men and women from within the same household will offer different perspectives and opinions of the same household. This study was only able to interview the individual that was the member of CONPAPA instead of both the husband and the wife. Yet when looking at the results that were yielded in a gender disaggregated manner, it becomes apparent that men will almost never identify that their wives are solely responsible for making decisions. Yet also men were more likely to identify joint decision making that occurred within the household, than were female respondents to the survey.

Gender Empowerment within CONPAPA
Understanding the gender relations that existed within CONPAPA was central to this study. Not only was it important to understand how gender and power existed within households of CONPAPA members but also how men and women interacted within meetings and workshops. During the observation portion of this study prior to the development of the data collection methodologies, it clearly visible that the way in which women and men interacted at the CONPAPA warehouse and offices was vastly different. Men were socially outgoing relative to women, men interacted with a confidence level much higher than women. It must be noted that due to the researcher being both male and foreign this could have affected men and
women differently while in the presence of the farmer members of CONPAPA. Therefore there was a section of the survey that was dedicated to understanding how men and women might differently experience CONPAPA. Survey participants were asked: who participates, who decides who participates, are men and women equally able to express their opinions and are men and women equally able to gain leadership positions? Even though there was a female president of CONPAPA at the time of the data collection, it was still expected that men would be making more of the decisions and be identified as having a greater ability to express themselves/gain positions of leadership than women. This expectation was not reflected in the data. Not only did the overall survey responses reflect even participation and decision to participate, the survey also indicated that men and women were equally able to express themselves and gain positions of leadership. These survey results maintained equal response ratios even when the data was compared in a gender disaggregated matter.

At this stage of the research clarification was needed to identify the how men and women could equally identify equal ability to express themselves, yet behave in a way that contradicted the results of the survey. During the Key Informant Interview and Focus Groups portion of this, it was of interest to the researcher to find that though machismo was identified in the KII portion of the study, the main concept that was expressed that made sense of women’s disempowerment was their isolation on their farms. Women would not travel from their farms often and this had some effects. Though men increasingly leaving their farms and seeking off farm employment had enabled women to take on larger roles in the productive economic on farm activities, it also had some detrimental effects to women’s
empowerment. Women were found to not have the same confidence when in public to express themselves, though it was suggested that women could express themselves better amongst other women, the researcher was unable to confirm this. The lack of confidence that women experience stems from a lack of exposure to vocabulary and situations in which new vocabulary could be expressed. As previously stated, some of the communities that the farmers of CONPAPA are from have a higher aptitude for communicating in Quechua rather than Spanish. Where men from these communities will be more likely to have consistent exposure to external off farm interactions, women will relatively be less comfortable to express themselves and be able to interact.

The implications of this lack of comfort/ability to express themselves in group settings is concerning, from the perspective of implementing the FBS this a major obstacle to having gender sensitive meeting where participation is crucial. Assurances given towards female members within the CONPAPA organization, may not be enough to encourage them to participate at higher levels than they are accustomed to doing. Within the FBS curriculum that was already crafted, the division of FBS participants into smaller groups was recommended to the facilitator, and to divide the smaller groups (recommended 5 people per group) by gender. However having now observed and studied the gender relations that exists amongst the farmer members of CONPAPA, it is the opinion of the researcher that further focus on this issue would produce better results.
Prior to FBS Implementation:

There were three issues that arose during the course of this study that should be considered prior to initial FBS event. Should the illiteracy of farmers be addressed as a pre FBS series of workshops specifically focussed on teaching farmers to read and write? Female CONPAPA members despite realizing that they have equal opportunity to express themselves within CONPAPA meeting are not doing so due to their inability to express themselves to the same extent as their male peers. CONPAPA is a well-established organization, farmer members enjoy many benefits that are beyond the reach of average potato farmers within this region of the Ecuadorian Andes, would it be better to implement the FBS methodology with a group of farmers who might better benefit from its curriculum?

It is possible to augment the curriculum of the FBS, however should the illiteracy of the farmer members of CONPAPA be addressed or should farmers be selected to participate in the FBS program only if they are able to read and write competently and have their skills further expanded? Members of CONPAPA have been engaging in contract farming with Inalproces, this is a great achievement by CONPAPA in facilitating such an agreement on behalf of their farmers. These contracts are for terms of 18 months, and provide a higher level of income security. To continue to move in such a direction (formalizing agreements between farmers and companies) is a success for CONPAPA. Prior to moving further in the direction of formalized business interactions, farmers are in a vulnerable position when they do not have such basic skills as reading and writing. Field books were provided by Inalproces to document issues that farmers might have been having with the cultivation of this specific varieties of
potato being used in the making of Kiwa Chips. Not surprisingly not one single farmer used the field books and most had forgotten that they had been passed out. It is the opinion of the researcher that farmers need to develop their skills prior to expanding further into formal business interactions. At the very least reading and writing are necessary participate in the FBS curriculum as it is currently structured. Though participatory pedagogy should be a influential theme in the way the FBS is taught to the farmer members, reading and writing are crucial skills that will enable farmer to continue improving their quality of life, and also ensuring that they do not get taken advantage of.

Women within the CONPAPA organization are shy, the institutional framework of CONPAPA was structured to create an environment of gender equality. In many ways they have succeeded. Men and women share similar perspectives regarding gender empowerment. The division that exists between men and women exists due to the cultural norms that exists that promote men engaging in higher levels of interaction off of their farms. This prevents women from having the same ability as men to verbally express themselves, and also the confidence to do so. The methodology addresses the relative insecurity of women in the sense that it encourages women to work in groups of women when doing group work. In order to best address how this issue could be dealt with in the FBS, women should be asked what would be best for them. The participatory nature of the FBS methodology requires that all members who participate in it are able and willing to participate to the fullest extent therefore feedback will be needed to best understand how women can be empowered to participate.
During the course of this investigation a recurrent question emerged: are the CONPAPA farmers the ideal group with which to implement the FBS methodology? There are several strategic advantages to implementing the initial FBS cycle with an organization such as CONPAPA. Due to the high level of interaction, that has taken place between CONPAPA and CIP over many years, the familiarity that exists does enable a greater ease of organization. However these advantages of convenience must be weighed against the potential impact that the FBS will likely yield on the lives of the recipients. The farmer members of CONPAPA are comparatively well off when contrasted with other farmers that do not have the benefits being provided by this organization. Therefore, the questions must be raised regarding whether or not it would be more beneficial to investigate the possibility of implementing the FBS with farmers who do not have access to the types of resources and support being provided to the farmers of CONPAPA. This specific issue was not part of the scope of the investigation, instead from the beginning the goal was to determine how best the FBS could be implemented specifically with the farmer members of CONPAPA. During the course of the research it became apparent that the relative advantages being enjoyed by CONPAPA members are rare. The farmers of CONPAPA who do not have strong capabilities related to verbal and written communication, still receive a high level of support already from their membership within CONPAPA. Therefore to engage with farmers outside of CONPAPA, who most likely are in need of workshops to improve their verbal and written communication would gain a higher benefit than members of CONPAPA.
FBS Implementation with Youth:

Though this was not part of the original core of research questions an analysis of this concept needs further investigation. The ability to engage youth into agricultural production came up as a requirement often during the course of this investigation. At present many youth are seeking employment and livelihoods away from the farms of their parents, as the lifestyle of the older generations is not viewed as an attractive option by many. As a result there has been much feedback regarding the aging population of the rural areas of Ecuador. The possibility of FBS to act as an engagement tool to rekindle the interest of youth to farm the land of their parents offers an interesting potential application point for the FBS methodology.

The potential to implement FBS with a focus on recruiting younger farmers, addresses one of the most difficult barriers to the implementation of FBS with the members of CONPAPA, the inability to express themselves and illiteracy. Educational disparities between younger and older generations in the rural areas of Tungurahua are evident. By targeting younger farmers the increase of capacities regarding verbal and written communication would enable a greater ease of the transfer of information to its recipients and also allow for a greater ease of group discussion dynamics to encourage the participatory nature of the FBS methodology. It became apparent through observation of farmers and the focus groups specifically that younger farmers had a higher receptiveness capacity for creative participation that older counterparts. As this specific value chain has reached a high level of development and integration, the potential for higher level of innovative ideas to be produced by a younger demographic offer sufficient potential to merit consideration in the implementation of the FBS curriculum. The older
demographic of farmers were observed to have a much lower capacity to contribute to innovative ideas that might benefit the FBS implementation.

What happens if the FBS is successful?

From a gender perspective, women have been able to gain increasing levels of power through their increasing participation and management of value chain activities. This is in part encouraged by the trend of men seeking off farm activities that have forced women to take on increasing levels of responsibility. Were on farm agricultural activities to become increasingly profitable, the newly found roles of women controlling and participating in the management of value chain activities may be threatened.

The burden placed on men to seek off farm labour as the need arises must have associated negative impacts on the men forced to search for work. In addition, the families that have been left behind also must experience negative side effects at the loss of a key member in the family dynamic. However, this situation has had a positive impact on the role of women in value chain activities, not only on the farm but also within agricultural organizations. This increased participation in the economic activities of households is a potential vehicle towards the empowerment of rural women.

Were on farm activities to generate an increasing source of income for families participating in the FBS, how would the gender relations within the household agricultural organizations such as CONPAPA be impacted? As the Ecuadorian Andes are still a patriarchal society, the newfound power of women is not guaranteed. As men are leaving farms there is a void left that needs to be filled by those left behind on the farms. The feminization of
agriculture, in the context of women being required to take on the responsibilities of husbands that are migrating for work, is potentially a fragile arrangement contingent on the economic activities of farming not being sufficient to cover the expenses of the household.
Chapter 6: Final Summary, Conclusions and Recommendations

Introduction:

This chapter summarizes the main findings of this research project, specifically identifying the skills that would have the greatest benefit to the farmers of CONPAPA that can feasibly be addressed using the FBS as an intervention strategy. Also included is the summary of the gender relations, as they exist between the male and female farmer member of CONPAPA. The recommendations provided are both put forward for future research, and also to highlight how this research can best support the future FBS implementation within the region.

Final Summary

This study found that the farmer members of CONPAPA would greatly benefit from some basic skill building workshops focussed on reading and writing. Having these skills improved upon will help farmers to better build a skill set that will enable them to better interact with the market forces in the Ecuadorian potato value chain. Using mixed methods data collection this thesis was able to provide data collected on the smallholder farmers of CONPAPA Tungurahua, regarding the gender relations that exist in the value chain triangulation played an important role in contextualizing data previously been collected.

The lack of accounting practices and financial planning by farmers provides a possible curriculum focus for the FBS. Equally important to this discovery through the survey, was the realization that a large majority of farmer members of CONPAPA were unable to read and write effectively. Identifying that women’s verbal participation was due more to lacking ability to
verbally express themselves rather than lacking the entitlement to express themselves in the meetings of CONPAPA changed the way in which women’s empowerment will need to be addressed through the FBS, or possibly prior to its implementation. The potential benefit of pre-training rather than simply attempting to adapt the methodology to meet the abilities of the farmer members of CONPAPA was discussed, and should be strongly considered. As a highly participatory process, FBS will be of greatest benefit to farmers who are able to engage fully in the curriculum.

Conclusions

To implement the FBS with the CONPAPA organization, skills being taught to the farmers should focus on how the running of individual farms can be improved from a business perspective. Therefore the organization of accounting practices, business planning and improving the access to/management of credit. The CONPAPA organization has reached a point of maturity that in order to improve how the organization itself functions, would require professional consultation. The improvement of business skills at the level of the small holder farmer members is unlikely to result in the company being able to market themselves better to new potential clients. Since they are already engaged with an international producer and distributor of potato chips, the idea that improving farmer business skills will improve the success of the organization does not have much traction.

Within CONPAPA the divide between farmers and the management structure of the organization is clear. Farmers produce potatoes for the organization and receive a good stable price and some assistance, and CONPAPA management looks to create new contract between
themselves and businesses while assisting in some of the timing of the harvests and access to agricultural products. However, by teaching farmers business skills, management of on farm activities could be improved. Farmers will be able to make more informed decisions regarding what kinds of activities they might like to perform, and also how to better manage their finances and take a proactive approach to expanding their on farm activities should they choose to gain increased access to credit.

The gender component within the CONPAPA organization is requires higher levels of verbal skills from the female members. By women improving their communication skills, it is possible that they will begin to assert themselves to a much higher degree in the CONPAPA meetings. At present the way that women interact within meetings does not allow for all perspectives to be expressed from amongst the farmer members. It is not guaranteed that by improving women’s ability to speak that they will necessarily engage more. While seeking to identify the cause of women not participating to the same degree as men in meetings it was the confidence in and their skills of communication that was identified as the primary barrier. However social pressures that can be summarized as ‘machismo’ or the masculinity of the culture could continue to exert a suppressing influence over women’s participation in meetings even if machismo was not identified a barrier from amongst the farmers themselves.

Within households, there was a high level of shared decisions making activity and the levels of independent decision making between men and women were close. The levels of independent decision making regarding productive decisions were higher for men than they were for women, but not by much. This study did not identify to what extent men versus
women were working in the fields, but women do work have more responsibilities within the households therefore it was not necessarily troubling that men were reported to have higher levels of control over productive decisions than women. The one area in which women were observable disempowered was in the shy manner in which they interacted with other stakeholders. This study identified the cause of women shy behaviour as having a less off farm interaction than men have and lower abilities than men have in verbal communication. This study concludes that in order for women to experience higher levels of empowerment, they need to be taught to better express themselves and do so confidently.

Due to the high level of support that farmers receive through CONPAPA, the FBS should be focussed on the development of the skills of the individual farmers. Many of the farmers still would like to receive a farmer field school to help them with the technical components of farming but these themes are not incorporated in the FBS methodology. This study concludes that the FBS should be implemented with farmers who are literate (possibly after a pre FBS literacy intervention or by having literacy as an entrance criteria for the FBS). The FBS should build on farmers on farm management skills and then incorporate accounting practices and business planning so that farmers will be equipped to expand their on farm economic activities further.

Recommendations for Future Research

To further understand decision making within the households, further analysis of the dynamics is required to understand causal factors that influence how decision making authority works at a household level. In this study, it was suggested that men seeking off farm activities,
women were forced to increase their involvement in the farming activities of the family. This not only increases the responsibilities of women but seemingly it also impacts the control that women are able to assert. Further studies are needed to gain a deeper understanding of what factors influence these decision making dynamics. The methodological structure of how this study addressed gender empowerment through decision making capacity was done to add to the previously published works that dealt with the same subject matter in the same region: (Deere, Alvarado, and Twyman (2012)), (Deere and Twyman (2012)), (Deere and Contreras (2011)), (Deere and Leon de Leal (1982)), and (Twyman, Useche and Deere, (2015)).

To increase women’s comfort levels of speaking in public and sharing their opinions, classes or group discussions should be initiated with rural farming women. Further studies are needed to understand how best women who have a high level of ‘shyness’ can be become more confident in this cultural context. The study of how women’s behaviour changes as they increase their vocabulary for example would yield some interesting insight into how future projects can attempt to empower female farmers. It is unclear at what level such a project should be implemented, however it is recommended that it is done through local women’s organizations, ensuring that the participants have a familiarity with each other thus mitigating any initial feelings of shyness.

When considering how to increase farmers on farm documentation of crop problems and also their finances. A study should be constructed that catalogues the difficulties and successes associated with teaching farmers to new habits, to ensure that they begin documenting their costs and also keeping a detailed account of their on farm activities. This
type of study could prove useful, to the development of farmer field books or farmers accounting books. The development of a farmer field book that allows farmers to document their expenditures and revenues regardless of literacy would be ideal. The development of forming habits amongst farmers to use the booklets with consistency is as important as the development of the booklets themselves. It is important that CIP considers both of these issues as they move forward with this project, as the previous attempt to have farmers document their on farm activities was unsuccessful as discussed in Chapter 4.

Because the focus this research had on the FBS implementation with the farmers of CONPAPA Tungurahua, further research should be conducted to influence how the FBS can be implemented with other farmers. Due to the high level of assistance that CONPAPA farmers receive as discussed in Chapter 1 and the involvement in contract farming, the FBS intervention goals will have an optimal impact with the farmers of CONPAPA. An assessment should be conducted by whatever organization looking to implement the curriculum, based on the specific needs of the targeted farmers chosen.

Further research should be conducted by CIP to understand how CONPAPA farmers make productive economic decisions on their farms in the context of their diverse livelihood activities. Though some of the farmer members of CONPAPA only grow potatoes, these farmers are a minority when compared with the farmer members of CONPAPA as a whole. Farmers are much more likely to have multiple economic activities contributing to the household income. These include producing milk from cows, growing pigs for meet, growing other crops and seeking employment off of their farms to supplement the household incomes.
To understand better how farmers decided to allocate their time towards their economic activities would offer insight into how future interventions can be planned.

This research project attempted to provide insight into how the FBS curriculum could best be implemented amongst the CONPAPA farmers in the province of Tungurahua, Ecuador. The measures recommended to see gender empowerment achieved amongst the CONPAPA members may be easily implemented, as there is already a supportive institutional structure within the organization. By enabling farmers to better document and plan their on farm financial activities they will be able to proactively identify future opportunities for themselves. CONPAPA as an organization has been struggling but it may be possible for the FBS’ impact on the farmers to translate into encouraging new projects the organization as a whole. Though the findings of this study may not provide a template for other FBS interventions with farmers outside of CONPAPA in other regions, the initial intervention cycle of the FBS in Ecuador will act as a platform from which other interventions can be conducted.

Future studies to identify the long-term impact on gender relations as agricultural activities become increasingly profitable would be useful to understand how gender should be addressed in intervention methods such as FBS. As stated in the discussion section of this thesis, if men are leaving the farm to pursue more profitable off farm labour activities, and as a results women are gaining power over on farm economic decision making. It needs to be understood how women’s increasing role in the decision making of household economic activity will be impacted if men return permanently or if they never leave at all will women continue to make advances towards equal standing with men?
References


Collective action for innovation and small farmer market access: The Papa Andina experience.

Collective action for market chain innovation in the Andes. *Food policy, 34*(1), 31-38.


*Participatory research and development for sustainable agriculture and natural resource management: a sourcebook* (Vol. 1). Understanding Participatory Research and Development. International Potato Centre-Users’ Perspectives With Agricultural Research and Development, Laguna, Philippines and International Development Research Centre, Ottawa, Canada.


Appendices

Appendix A: Farmer Survey

Name: __________________
Community: __________________
Gender: __________________
Age: __________________

General Information

1. Are you the head of the family?
   a. Yes
   b. No
2. How many people live in your house?
   a. Adults
   b. Children
3. Your property is
   a. Owned?
   b. Rented?
   c. Both?
4. Is the property you own or rent in your name, your spouse or in both your names?
   a. Husband
   b. Wife
   c. Both
5. Do you wish to rent or own more land?
   a. Yes
   b. No
6. Varieties of potatoes that they grow

<table>
<thead>
<tr>
<th>Varieties</th>
<th>What types of potatoes do you grow at present?</th>
<th>What types of potatoes did you grow prior to joining CONPAPA?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nativa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fripapa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Super Chola</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Participation within CONPAPA and the Value Chain

7. What is your status of membership within CONPAPA?
a. □
b. □
c. □
d. Does not know

8. Do you sell potatoes to clients other than CONPAPA?
   a. Yes
   b. No
      i. To whom: ______________________
      ii. How often: ___________________
      iii. What percentage of your production: __________________

9. Do you participate in the meetings and workshops organized by CONPAPA?
   a. Always
   b. Sometimes
   c. Rarely
   d. Never

10. Which family member participates in the meetings or training workshops organized by
    CONPAPA?
    a. Husband
    b. Wife
    c. Children
    d. Everyone

11. Who makes the decision regarding which family member will participate?
    a. Husband
    b. Wife
    c. Both

12. What types of workshops have you attended in the past?
    a. Technical crop management
    b. Business skills
    c. Other: _______________

13. Have you attended workshops that were facilitated by organizations other than
    CONPAPA? (If no skip next question)
    a. Yes
    b. No

14. How have you benefited through workshops that have been conducted by these other
    organization(s)? (Have participant identify which organization hosted which workshops
    and how much they benefited from them)

<table>
<thead>
<tr>
<th>Type of workshop</th>
<th>A lot of benefits</th>
<th>Average benefits</th>
<th>Little benefits</th>
<th>No benefits</th>
</tr>
</thead>
</table>

15. How have you benefited through workshops that have been conducted by CONPAPA?

<table>
<thead>
<tr>
<th>Type of workshop</th>
<th>A lot of benefits</th>
<th>Average benefits</th>
<th>Little benefits</th>
<th>No benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical crop</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:________________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Perceptions of Farmers within CONPAPA

16. What barriers or constraints do you experience as a producer of potatoes within CONPAPA? (Rank the constraints 1 being the most problematic and 9 being the least problematic)
   a. Insufficient demand from CONPAPA □
   b. High cost of inputs □
   c. Inability to access credit □
   d. Insufficient technical assistance □
   e. Not enough access to land □
   f. Difficulty in meeting quality control standards □
   g. Disease □
   h. Lack of seed □
   i. Other: __________ □

17. Rank your values of potato production from the following list (1 is the most important, 6 is the least important)
   a. High/stable prices □
   b. Consistent demand □
   c. Cost of production □
   d. Technical support □
   e. Duration of a production cycle □
   f. Other: ________________ □

18. Has your income increased since you joined CONPAPA? (If no skip next question)
   a. Yes
   b. No

19. How do you spend the additional money that you earn?
20. Who decides how to spend the family income?

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Invest in growing potatoes</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b. To buy seeds</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c. Investing in technology for agriculture</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d. Better food for your family</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>e. Health related expenses</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>f. Expenditure in education</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>g. Additional expenses (Cellphones etc.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>h. Other (debt, electricity, labour) ______</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>i. Does not know</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

21. Do women have the same ability to communicate their opinions as men within CONPAPA meetings?

<table>
<thead>
<tr>
<th></th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes they can express their opinions equally</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b. No, women can express their opinions more easily than men</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c. No, men can express their opinions more easily than women</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

22. Are men and women equally represented in leadership roles within CONPAPA?

<table>
<thead>
<tr>
<th></th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes they are equally represented</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b. No, women are better represented in leadership</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c. No, men are better represented in leadership</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

23. To understand how CONPAPA communicates information do you feel that you are sufficiently informed on the following issues?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Somewhat</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The Price of potatoes</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b. Requirements regarding quality and quantity</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c. How agreements are made by CONPAPA regarding purchase and sale of potatoes</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d. The prices that customers pay for potatoes</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>e. The market demand for potatoes</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Additional comments: __________________________________________________________
24. Do you feel confident in your ability to have your interests represented in CONPAPA meetings?
   a. Yes
   b. Neutral
   c. No
   Additional Comments:

25. What is your overall level of satisfaction with your membership in CONPAPA?
   a. Very Satisfied
   b. Satisfied
   c. Neutral
   d. Unsatisfied
   e. Very Unsatisfied
   i. Additional Comments:

26. In five years’ time, what kind of changes would you like to experience in your role in the value chain and how CONPAPA operates?

Farmer Business Capacities

27. Do you have access to credit? (If no skip next 4 questions)
   a. Yes
   b. No

28. Who in your family has access to credit?
   a. Husband
   b. Wife
   c. Both

29. Do you receive credit? (if no skip next 2 questions)
   a. Yes
   b. No
30. Do you wish you had access to more credit?  
   a. Yes  
   b. No  
      i. Additional Comments _____________________________

31. Do you ever have problems paying back credit?  
   a. Yes  
   b. No  
      i. Why:  
         ______________________________________________________________
         ______________________________________________________________

32. Do you document your financial earnings and expenditures?  
   a. Always  
   b. Sometimes  
   c. Never  
      i. How is this done:  
         ______________________________________________________________
         ______________________________________________________________

33. Do you create a budget to control your expenditures when you receive your income from selling your potatoes?  
   a. Always  
   b. Sometimes  
   c. Never  
      i. Additional Comments:  
         ______________________________________________________________

34. Grade the importance of the following strengths of marketable potatoes (1 being the most important and 5 being the least important):  
   a. Consistently able to produce potatoes requested
   b. High quality of potatoes produced
   c. Ability to produce potatoes at a lower cost
   d. Ability to produce niche (rare) types of potatoes
   e. The ability to transport potatoes to purchaser

35. What activities interest you, or would benefit you the most? (Please rank 1 being most important 5 is least important)  
   a. Production
   b. Development of new products
   c. Business skills to negotiate conditions and prices
   d. Commercialization and marketing
   e. Other: ________________
36. Do you receive market information regarding potato demand and prices from outside of CONPAPA?
   a. Yes
   b. No
      i. If yes please specify:
         ____________________________________________________________
         ____________________________________________________________

37. Do you participate in other groups related to agricultural production?
   a. Yes
   b. No
      i. Please specify:
         ____________________________________________________________
         ____________________________________________________________

38. What business skills do you think would best serve you to allow to interact in the value chain more effectively? Please rank top three
   a. ____________________________
   b. ____________________________
   c. ____________________________
      i. Additional Comments:
         ____________________________________________________________
         ____________________________________________________________

Participation in the FBS

39. Does the FBS initiative seem like an idea that you would be interested in participating in? If no skip next two questions
   a. Yes
   b. No
      i. If no: are there other activities that interest you more?
          1. Yes, please specify: ____________________________
          2. No

40. What would be the ideal number of meetings per month for you to participate
   a. Once a week
   b. Once every two weeks
   c. Once per month
   d. Other: __________________

41. What locations/towns would enable you to participate in the FBS? Rank the best three:
   a. __________________
   b. __________________
   c. __________________
Appendix B: Focus Group Guiding Questions:

1. How difficult is it to accede to the demands of the Value Chain?
2. Would you be in favour or against engaging further in the Value Chain?
3. What recommendations would you make to improve how CONPAPA functions?
4. How do you view each genders participation in the Value Chain versus their ability to exercise decision-making capacity?
5. Regarding Communication: How do you feel about how Value Chain requirements are communicated to you? How do you feel about your ability to communicate your needs towards other nodes in the Value Chain?
6. How do you imagine the Value Chain and you role in it can and will change over the next five years?
Appendix C: FBS Participant Interview Guideline:

1. How do you feel about your engagement within the Value Chain?
2. How has your personal engagement and the engagement of the community changed over the last five years?
3. What barriers do you identify in your ability to participate more effectively in Value Chain?
4. Are there specific skills related to business or management that you can identify that you feel would be beneficial to you?
5. Describe how the activities of the household take place amongst the family who maintains what responsibilities?
6. How are decisions made within your household regarding how to generate a livelihood and what expenditures will and will not be made?
7. How are the Value Chain requirements conveyed to you? Do you feel that this could be done more effectively? Are these requirements reasonable?
8. Do you feel that you are able to effectively communicate your opinions or concerns regarding the way in which this Value Chain works?
9. What areas would you identify within the Value Chain that you would specifically like to change? Are there ways in which you can conceptualize how to bring about these changes?
10. Under optimal circumstances how would you like the Value Chain and your role in it to progress over the next 5 years? What are the major impediments to this vision coming true? What are the necessary steps required to achieve this objective?