

A PHENOMENOLOGICAL STUDY OF INDIVIDUAL
STRATEGIES FOR REBUILDING FOOD
PRODUCTION ABILITY IN RESOURCE POOR POST-
CONFLICT FARMING COMMUNITIES IN MYANMAR

By

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 2014

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ACKNOWLEDGEMENTS

I give thanks and praise to the Most High God, who loved me and gave himself up for me. I have been blessed to have help from many on this journey of learning. My wife has persevered with me in this process and worked diligently to manage our household of four kids while I collecting data and closeted away writing. My parents have supported me and taught me from an early age to not be afraid of living a life of adventure. They taught me to not be afraid to try hard things and face new challenges head on.

I've always agreed with the old saying that we stand on the shoulders of giants. I've learned much from my committee. Dr. Jeff Sallee helped my navigate the editing process and provided great insight. Dr. Nick Brown made Phenomenology more understandable and applicable to Agricultural Education. Dr. Rob Terry provided insight about the bigger issues of Agricultural Education. Dr. Craig Watters opened the world of social entrepreneurship to me.

Many others have helped me on this journey of learning. Dr. Kay Kelsey taught me the value of qualitative research and the quest for the essence. Dr. Nick Emmanuel guided me in understanding the political science implications of armed conflict. Dr. Craig Edwards gave me the opportunity to hone my understanding of agricultural innovations. Dr. James Key and Dr. Robert Terry Sr. provided invaluable advice as I formulated my research agenda. Dr. Mark Wolfgram introduced me to James C. Scott. Dr. Bill Weeks

taught me more about questioning the status quo in U.S. agricultural systems. Mr. Assoumane Maiga and Dr. Austen Moore provided valuable feedback on post-conflict agricultural extension. Dr. Gary Briers and Dr. Glenn Shinn gave me wise insight in how to conceptualize post-conflict agricultural development.

I did not come to Oklahoma State University as a blank slate. Years of agricultural development experience in Southeast Asia was valuable in enabling me to understand the issues of importance for marginalized resource poor farmers. I learned from many mentors and colleagues. Harold Watson, Jeff Palmer, Nathan Henry D.V.M, Jethro Adang, Lisa Guliban, Le Thi Thanh Tan, Nguyen Van Nguyen, Rick Burnette, to name just a few. At North Carolina State University Dr. Deanna Osmond, Dr. Wendell Gililand, Dr. Jot Smyth, and Dr. Maurice Cook were instrumental in my initial foray into graduate work.

I would like to thank all those who assisted me in Myanmar in completing this research. Some portions of this research are sensitive so they shall remain unnamed but without them this research would not have been possible. In addition, I would like to thank Representative Wes Watkins, the James White Scholarship, the OSU Graduate College Dissertation Fellowship, and the Choctaw Nation for providing funding for my research and graduate studies.

I hope that this research will play a small part in the empowerment of marginalized resource poor farmers in Shan State. These farmers have an important role to play in the development of a prosperous, stable, and equitable Myanmar.

Name: JOSHUA JASON RINGER

Date of Degree: December, 2014

Title of Study: A PHENOMENOLOGICAL STUDY OF INDIVIDUAL STRATEGIES
FOR REBUILDING FOOD PRODUCTION ABILITY IN RESOURCE
POOR POST-CONFLICT FARMING COMMUNITIES IN MYANMAR

Major Field: AGRICULTURAL EDUCATION

Abstract:

The impact of armed conflict upon small-holder agricultural production has only now begun to be closely studied (Verwimp, 2011). Upland communities in Southeast Asia have not been immune from armed conflict. In post-conflict or perpetual low intensity conflict situations policy makers have identified agricultural rehabilitation of small-holder food production (Christoplos, Longley, & Slaymaker, 2004) as vital for preventing economic collapse, encouraging internally displaced persons (IDPs) to return to their rural communities, and to reintegrate former insurgents into viable rural livelihoods. This issue has been studied at the regional and country level but few studies have looked at this issue from resource poor small-holder farmers' perspective (Shinn, 2010; Verwimp, Justino, & Bruck, 2007). This qualitative study documented the experience of resource-poor farmers who had experienced armed conflict in northern Shan State, Myanmar. Thirty-four resource-poor farmers and six agricultural advisors were interviewed using semi-structured interview methods. The study was conducted over a three month period in 2013. Two research questions guided the study with the first being "What are the experiences of farmers' when adapting food production systems after conflict in Northern Shan State?" and the second being "What factors influenced the experiences of farmers when adapting food production systems after conflict in Northern Shan State?" The study revealed eight themes that described the reality of the post-conflict environment and small-holder strategies to cope and recover food production capacity. The themes were, armed conflict is always with the farmers; loss of animals and seed stock; loss of local markets; forest as refuge; fear of government and militias was mitigated by family networks; large agribusiness control land and employment; prolonged conflict causes movement to safe areas and neighboring countries; rebuilding food production. These findings reveal the need for policy makers and agricultural advisory services to modify their assistance strategies and services to better match upland resource-poor farmers realities and adaptation strategies. This study affirms the reality that armed conflict will continue to be a problem for marginalized resource poor farmers. These findings point toward valuing decentralized diffusion systems that empower farmers to participate and guide their agricultural development.

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CHAPTER I

INTRODUCTION

Background

Development agencies, both public and private, have realized the vital role that agricultural development plays in assisting rural communities stabilize and rebuild food production systems during the post-conflict recovery process (Kock, Harder, & Saisi, 2010; Bhatia, Goodhand, Atmar, Pain, & Suleman, 2003). Organizations like the United States Department of Agriculture (USDA) and the United States Institute of Peace (USIP) have specifically affirmed the role that agricultural extension has in peace building (USIP, 2012).

Agricultural development is an idea that has been in place since the first agricultural extension system was developed in the U.S. (Swanson & Rajalahti, 2010). Attempts to assist lesser-developed countries in developing their agriculture has been a component of development assistance efforts since the 1950's (Christoplos, 2010). The belief was that development of industrialized nations followed a linear progression from a society based upon a predominately agrarian base to an economy based upon industrial production (Peet & Hartwick, 1999). A functioning and effective agricultural extension system maintained and funded by the government was understood as an integral part of this development (Cristoplos, 2010).

Since the 1950's, Western aid for lessor-developed countries had focused upon improving the national agricultural extension system (Swanson, 2010). The national agricultural extension system was seen as a necessary component in the effort to develop the agricultural production of agrarian communities (Swanson, 2010). Lessor developed countries (LDCs) have developed their agricultural extension systems at the encouragement of western aid agencies. In this process LDCs have faced several issues (Cristoplos, 2010). Christoplos and Farrington (2004) described the following issues that hampered development of effective extension systems. One issue was decreasing funds for maintaining and expanding the needed efforts in Agricultural extension systems. The second issue was the difficulty in engaging marginalized producers. A third issue was how to offer effective agricultural development assistance to agrarian societies that had been devastated by armed conflict.

In order to better understand the current application of agricultural development and agricultural extension to peace building, it was important to understand some of the current responses to the problems facing agricultural extension specifically and agricultural development in the broader sense. The three different approaches demonstrate the need for continued research into understanding how farmers adapt to conflict.

The Modernizing Extension Advisory Services (MEAS) program was an initiative of the United States Agency for International Development (USAID) (Swanson, 2011). The USAID program focused upon adapting agricultural extension systems to a more pluralistic system. It was influenced by the U.S. extension system and European systems of agricultural advisory services (Swanson, 2010). The USAID MEAS approach focused upon defining focused goals and guiding principles for extension. The USAID MEAS program defined

development as the need for better access to services and collaboration among farmer producer groups. The program developed out of the realization that funds for government extension services were decreasing even as the need for government extension services had increased. The program focused upon creating new ways in which government extension services could help coordinate the activities of private businesses and non-government organizations (Swanson, 2011). USAID MEAS also had an emphasis on developing farm to market value chains because of the need for viable markets for farmer’s products (Swanson, 2011).

Fig.1. Key Functions of an Effective, Comprehensive Agricultural Extension System

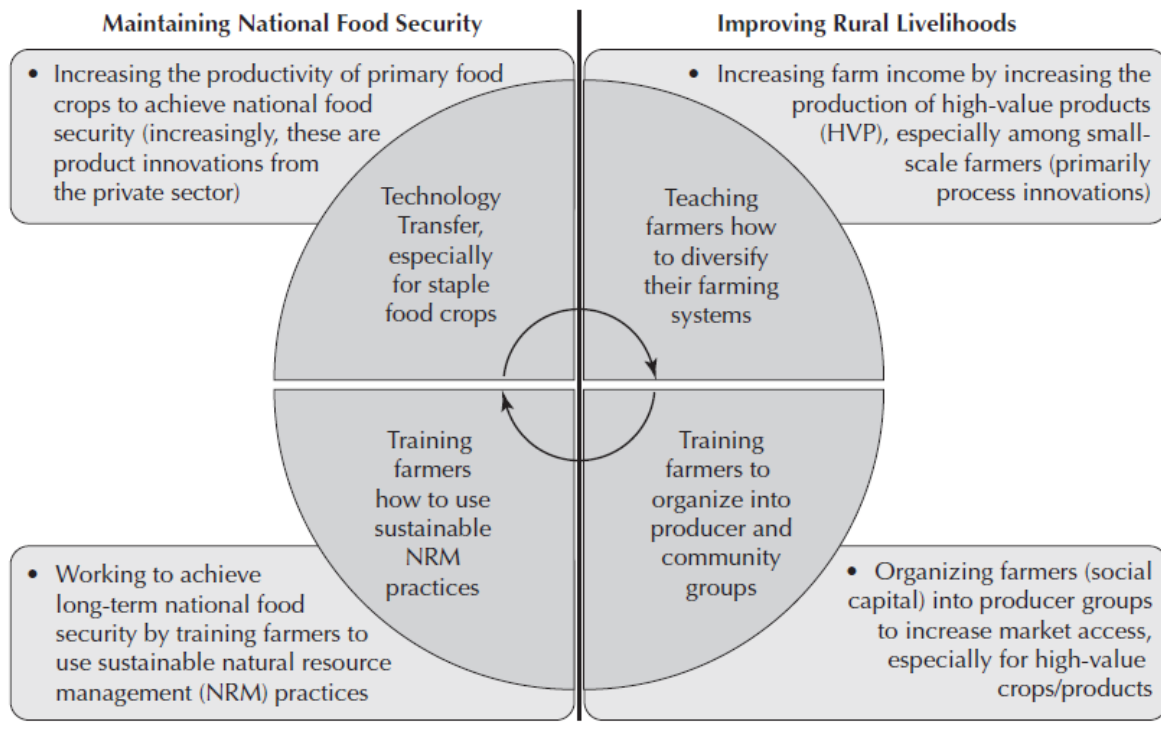


Fig. 1 Adapted from Swanson, B. and Rajalahti, R. (2010, p. 7). *Strengthening agricultural extension and advisory systems: Procedures for assessing, transforming, and evaluating extension systems*. Agriculture and Rural Development Discussion Paper 45, World Bank, 1

The British agency for development, Department For International Development (DFID), developed a framework for agricultural development. This framework brought together community and institutional development concepts from best practices learned from work in the 1970's and 1980's (Hamilton-Peach & Townsley, 2003). This framework was called the Sustainable Livelihoods Framework (SLF). This framework was developed in response to the challenges faced in agricultural development in Africa (Hamilton-Peach & Townsley, 2003). This framework was also a response to the need for more holistic development frameworks that focused upon all the conditions that kept local communities from developing their agriculture. SLF guided development practitioners to focus upon all the factors inherently important in improving agricultural development practice (Malual, 2008).

A third approach to addressing agricultural development approaches was the approach of pro-poor, participatory extension, and farmer-led extension. This third approach was similar to the SLF framework but focused upon farmer participation as a way to develop small-holder agriculture in a healthy and focused manner. The approach emphasized the need to involve all stakeholders in the process of developing their agricultural capabilities. The pro-poor agricultural extension approach recognized that ownership and empowerment of marginalized agricultural stakeholders was needed in order for agricultural extension activities to be most effective (Christoplos, 2010; Scarborough, Killough, Johnson, & Farrington, 1997).

The three approaches have been used in addressing how agricultural extension activity should adapt in post-conflict situations. Since 2001, agricultural extension activities have focused upon post-conflict situations in Afghanistan, Iraq, South Sudan, and DR Congo

to name a few places (Goodhand, 2006; Malual, 2008). The agreement between the approaches' emphasizes integrating the participation of farmers within decision-making activities. The USAID MEAS approach showed the importance of involving farmer interest groups and focusing upon women as important producers (Swanson, 2011). The SL framework echoed this and added the need to look at all the factors that affect small-holder farmer livelihood (Malual, 2008). The Pro-poor movement emphasized the need to engage farmers' participation in extension and agricultural development activities (Scarborough, Killough, Johnson, & Farrington, 1997). The convergence of opinion meant that it was especially important to hear the voice of farmers who have experienced armed conflict.

The understanding of how farmers and agrarian societies were affected by armed conflict is growing as a body of research. Generally the focus was upon "initial responses" including security, transformation of the conflict dynamics through justice and reconciliation, and "fostering sustainability" (ASUS, 2002 & Collier, 2010). The research was then used to guide post-conflict agricultural development strategies. In spite of a growing body of research, there is little research that has documented farmers' experience in recovering from armed conflict (Shinn, Ford, Attaie, & Briers, 2011). I have set out to add to the literature the voice of the farmer's and the situations they face. The research can provide greater understanding of how agricultural extension systems can work together with farmers recovering from armed conflict.

Statement of the Problem

Agricultural Extension and private advisory services have an essential role in assisting communities that are recovering from armed conflict. The research helps further the food security and conflict management initiatives of several organizations that are concerned with improving post-conflict recovery. The organizations include the Howard Buffet foundation, which specifically focuses on meeting the needs of agricultural resource development for smallholder farmers who are underserved (Howard Buffet Foundation, 2013). The Howard Buffet Foundation (2013) website makes a clear connection between conflict and hunger and how resolving food production issues are vital for a country to prevent conflict. The United States Institute of Peace is another organization that emphasizes the importance of assisting rural populations recovering from conflict (USIP, 2012). Understanding how to more efficiently work with and facilitate food production recovery after conflict is crucial for communities after the devastation of armed conflict (Goodhand, 2006).

Purpose of the Study

The purpose of this phenomenology study was to understand the experiences of resource-poor individuals adapting recovery strategies to rebuild their food production systems after disruption by armed conflict. As decision makers and practitioners read through the experience of the lived experience they will be able to see patterns that emerge from the experience.

A secondary purpose of the study was to add additional information about a poorly understood area of human experience. Decision-makers and practitioners should be able to

feel empathy for those who have experienced this conflict so that farmers can be engaged in the process of redeveloping the food production systems that sustain farming communities.

A third purpose for this research was to make the voice of marginalized farmers heard. Linda Tuhiwai Smith (2012) states that the voice of the marginalized can be oppressed by the manner in which research is conducted and presented to the greater research community. With that in mind this research has been conducted to faithfully represent the concerns of the marginalized farmer (Chilisa, 2012). Part of faithfully representing the concerns of the people is to make their voice heard through research. I believe that if this research has done that then it has achieved its purpose.

Research Questions

1. What are the experiences of farmers when adapting food production systems after conflict in Northern Shan State?
2. What influences the experiences of farmers when adapting food production systems after conflict in Northern Shan State?

Definition of Terms

Agricultural Development – The process and practice of improving localized agricultural systems ability to provide sustainable sources of human and animal food (Goodhand, 2006).

Agricultural Extension – “all the different activities that provide the information and advisory services that are needed and demanded by farmers and other actors in agrifood systems and rural development.” (Christoplos, 2010, p. 2)

Agricultural Rehabilitation - “bringing the need for relief to an end, establishing sustainability in agricultural livelihoods and production, processing and marketing systems and helping prevent and preparing for the possibility of further disasters and emergencies.” (White, 1999) in Christoplos, Longley, & Slaymaker (2004, p. 8)

Complex political emergencies – “conflict within and across state boundaries, political origins, protracted duration, social cleavages, and predatory social formations. Goodhand & Hulme (1997) in Cristoplos, Longley, & Slaymaker (2004, p. 7).”

Decentralized Diffusion System – “innovations spread by horizontal networks among near peers in a relatively spontaneous fashion. Innovations are created by certain local lead users and may be re-invented by other adopters (Rogers, 2003, p. 397).”

Innovation System – “a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behavior and performance. (World Bank, 2012, p. 2)”

Key Farmer - farmers who have developed influential recovery strategies that rebuild post-conflict community and food production systems (Scarborough, Killough, Johnson, & Farrington, 1997).

Key Player - The key player is someone who is a vital connecting node within a social network that is “optimally positioned to quickly diffuse information, attitudes, behaviors and/or to quickly receive the same.” (Borgatti, 2006, p. 22)

Opinion Leader – “The degree to which an individual is able informally to influence other individual’s attitudes or overt behavior in a desired way with relative frequency” (Rogers, 2003, p. 301).

Post-conflict – A time period that begins once a ceasefire agreement is signed between warring parties and open armed conflict is no longer occurring (Goodhand, 2006).

Social Capital – “Community structure, trust, and family networks (Dronberger, 2013, p. 30).”

Limitations of the Study

This study is limited to describing the experience of farmer adaptation in one administrative district in the Shan State of Myanmar. The study is limited by the effect that I had as the researcher, an American citizen and an outsider, on the farmers being interviewed. This was alleviated through careful initial discussion with the partnering organizations and reassurance by those partners of my intense effort to be neutral (Patton, 2002).

Assumptions of the Study

The study assumes that farmers utilize adaptation practices as a method of surviving and recovering from armed conflict (Harford, 2011; Rogers, 2003). It is also assumed that farmers will also be available for access during the post-conflict time from 6 months to 5 years after armed conflict has ceased. The situation on the ground revealed that many farmers had experienced recent conflict as recent as only two weeks previous to the interview date. Other farmers had not directly experienced conflict for at least twenty years in their memory but armed conflicts had occurred within only thirty kilometers of their farms. All the farmers

who were contacted by the researcher had relatives that had experienced conflict within the five year time frame.

It was assumed that the farmers would be accessible to the researcher. It was assumed that the farmers would answer truthfully and that through the language translation that the data would be faithfully captured. A basic assumption of the study was that through qualitative interviewing that the “perspective of others is meaningful, knowable, and able to be made explicit” (Patton, 2002, p. 341).

Significance of the Study

The United States experience of attempting to rebuild two post-conflict countries in Afghanistan and Iraq have resulted in policy and decision-makers consistently returning to realization that a country’s ability to produce food and engage it’s predominately agrarian population is essential for lasting peace and development (Robertson & Olson, 2012). The experience since 2001 has resulted in a renewed interest in the role of agricultural extension education and how it can engage marginalized communities. What has frustrated decision-makers and development practitioners is that often farmers have adjusted to monetary inputs but not utilized the inputs in the manner that was intended by the development entity (Christoplos, Longley, & Slaymaker, 2004). This indicates that farmers’ real needs are not being clearly understood. The findings of this research provide information that shows how one set of farmers have adapted to armed conflict and the issues that are relevant to them.

How farmers have adapted during conflict and what strategies have been most effective have rarely been studied (Shinn, Ford, Attaie, & Briers, 2012). Shinn, Ford, Attaie,

and Briers (2012, p. 29) emphasized that it is “important to study post-conflict scenarios and to focus on the roots and means of resolving agricultural problems.”

Barron, Diprose, and Woolcock (2012, p. 28) made the observation that “understanding violent conflict and identifying ways to prevent it have become major preoccupations of the international development enterprise.” Even though this has become a major focus, the mechanisms and factors that lead to the failure of post-conflict development is not well understood (Barron, Diprose, Woolcock, 2012).

The paradox of war or armed conflict is often that the violence of armed conflict is highly destructive but that it is also associated with social creativity during the period of conflict and during post-conflict periods (Cramer, 2006). So there is an expectation that understanding the dynamics of armed conflict and how marginalized peoples experience is vital. Christoplos, Longley, & Slaymaker (2004) emphasize the vital need for agricultural services in conflict situations when they stated. “The need is enormous, not only for recovery, but also transformation. If there is anywhere that organized support to technological change is needed, it is in places where former livelihood strategies are no longer viable. (2004, p. 24)”

CHAPTER II

Review of Literature

Introduction of Literature Review Process

The literature review process helps describe the setting in which the phenomenon of recovering food production systems is set. The literature review process followed was described by Creswell (2011, p. 81) as a process in which key terms were identified like opinion leaders, post-conflict recovery, farmer adaptation, and countries that had recently experienced conflict like Myanmar, Mozambique, South Sudan, DR Congo, Iraq, and Afghanistan. Literature was selected that shed light upon the phenomenon from many different viewpoints. These articles were then critically evaluated for emerging themes and organized to match those themes. The importance of the literature review is that it places this study in the comparison with other literature written about this phenomenon. Creswell (2007, p. 102-103) emphasizes that the literature review in a qualitative study promotes “dialogue and understanding”, can “fill a void in existing literature”, and “assess an issue with an understudied group or population (p. 102). The author has also considered the issues that arise when Westerners study non-Western subjects. The literature is predominately written from a Western mindset and therefore care has been taken to consider the mindset of those non-westerners being studied by the researcher (Chilisa, 2012).

Literature Themes

Armed Conflict: A Disruptive Force upon Agricultural Communities

The effort to promote agricultural extension activities throughout the developing world began in earnest as agricultural development programs were implemented as part of post-World War II recovery plans (Green, 2012; Peet & Harwick, 1999; Moyo, 2009). Examples of this include the United States Point Four program which was implemented under U.S. President Dwight Eisenhower (Rostow, 1985). Since the end of hostilities in World War II in 1945 there has been a succession of armed conflicts that have broken out in developing world countries (Goodhand, 2006). It has been clearly documented that these armed conflicts have set back the efforts of countries to rule themselves in a manner in which all the citizens of the country had hope for peaceful development (Collier, 2009; Goodhand, 2006; Acemoglu & Robinson, 2013). Collier (2003) describes the armed conflict as “development in reverse” (2003, p. 13). Many authors have covered this topic, in particular Collier (2008). Collier (2003) described some of the main effects of armed conflict. These impacts include non-combatant displacement (Collier, 2003, p. 2), high mortality (Collier, 2003, p. 2), and increased poverty (2003, p. 2). Additional impacts include the impact on neighboring countries including refugee’s that flee to neighboring countries causing increased disease and food insecurity (Collier, 2003, p. 3). Armed conflict also often creates un-controlled territory in which regional illicit drug trade expands into (Collier, 2003, p. 3). Rice (2007, p. 45) made a strong connection between poverty and the insecurity in a country. Rice said “Poverty fundamentally erodes state capacity – by fueling conflict, sapping human capital, by hollowing out or impeding the

development of effective state institutions and markets, and by creating especially conducive environments for corruption (Rice, 2007, p. 45).”

Often development and agricultural extension personnel work for a situation where there is no conflict. Yet in the literature there are those who study conflict management have concluded that conflict is inescapable (Mohammed, 2007). The point is made by that conflict is the “The deep underlying difference between parties whereas disputes are the specific differences that emerge on particular occasions (Lu, 2006; Mohammed, 2007, p. 3884).

Walker & Daniels (1997) described by interpersonal conflict and societal conflict as having “three interrelated dimensions” which include “substance or how things are; procedure or how things are done; and relationships or how people behave. Mohammed, 2007, p. 3884).” This breakdown of conflict could be related to understanding how armed conflict affects agricultural communities in that the substance is how conflict is fought out and resolved, what procedures are done by the different actors in this process, and how this affects the relationships between the armed actors and those in agricultural communities.

A summary of conflict effects of armed conflict on agricultural communities in sub Saharan Africa by Marijke (2009) and Bozzoli & Bruck (2009) included marketing network destruction, lack of reliable transport which minimized market involvement, population decrease by 10-15%, cattle/ruminant population decrease, cessation of animal raising because armed actors were stealing the livestock, low corn yields due to lack of

inputs, per capita food production much lower compared to pre-war levels, small-holder farmers reduce the amount of land farmed, and a focus on producing subsistence crops.

Armed Conflict Dynamics

Armed conflicts seem simple on the surface in that it is seen as two or three factions fighting with each other of control of resources or power. The seeming simplicity on the surface hides the complexity of the issues that are dealt with by farmers at the micro level, at the household and village level. Conflict complexity can also challenge the common assumptions that westerners have about what is best for the civilians that are engulfed in the conflict. Collier (2009) note that “democracy does not always lead to more accountability and legitimacy and less political violence (Collier, 2009, p. 24).” Collier (2009) noted that in fledgling democracies there often is more conflict that can return to open civil war than in comparable authoritarian regimes. Green (2012) said that the reason for this is that in any society there is a power balance between all the actors in the state. In a democracy the opportunity to control power is available to more actors. The result is a struggle that takes longer to calm and solidify. Green’s explanation helps explain some of the complexity that occurs. The reality though is that armed conflict has a strong negative effect upon agricultural development and agricultural food production at all levels and especially at the micro-level (Verwimp, 2007; Jorgensen, 2006; Green 2012). There is no question that armed conflict has great destructive impact upon agricultural communities even if the end result is more equitable power relationships for actors at the micro-level (Green, 2012, Collier, 2003).

(Brainard, Chollet,& LaFleur, 2007) discuss the idea of a doom spiral whereupon “conflict increases infant mortality, creates refugees, fuels trafficking in drugs and weapons, and wipes out infrastructure (2007, p.4).”

Brainard, Chollet, & LaFleur (2007, p. 5) note that there are “specific conditions” that increase the chance of conflict. These were listed as “deteriorating health conditions, corrupt governments, and inadequate institutions (2007, p. 5).”

Williams (2009) discussed the role that the threat level of violence has upon a community. If the low-level conflict was intermittent market bombs then the villagers were more likely to stay in their communities. If the conflict consisted of incidences of gun battles then the threat level was deemed high and the coping mechanism was to flee. This example occurred in Nepal. The findings of that report also showed that if the farmers had mainly mobile livestock like cattle they were more likely to migrate away from the conflict. This was especially the case if there were many reports over the radio of violence. Marijke (2009) and Thornton (2007) describe a similar coping strategy among livestock dependent households in Rwanda and in Eastern Africa.

An important armed conflict dynamic is that the impact of armed conflict upon agricultural communities is not uniform throughout a post-conflict country or a region experiencing a complex political emergency (Collier, 2009; Kalyvas, 2006). Stathis Kalyvas’ (2006) in Barron, Diprose, and Woolcock (2011, p. 31) Civil war logic theory states that “participation in and experience of violence vary within a conflict, with local patterns of engagement driven by local incentives for participation.” In addition it is noted that other research has also shown that for some in agricultural communities,

refusing to engage in armed conflict activities like being hauling materials for armed combatants or refusing to send soldiers to fight with the armed groups can be just as dangerous as being involved in the hostilities (Barron, Diprose, Woolcock, p. 31).

The main interest focus of this study concerns the impact that armed conflict has upon farmers and their ability to produce sufficient food for their families and to provide food for local and regional markets. This focus is upon the micro level view of conflict.

Conflict as a regular occurrence in the cycle of the human condition

Before moving on to looking specifically at the impacts of armed conflict on rural communities one more point needs to be made about armed conflict. It is accepted in counseling and understanding of interpersonal dynamics that conflict between individuals and social groups is normal and will always be present (Martz, 2010). The effort is made in counseling individuals in proper ways to handle conflict in a manner in which it is internally and externally healthy and productive (Martz, 2010). Could this hold true also for armed conflict in societies? Our natural assumption is that armed conflict is not a normal occurrence in societies but the author considers that it is possible that armed conflict is a natural recurring event that occurs as societal actors make an effort to reset the social order as they prefer. The regularity in which countries dissolve into armed conflict even after many years of peaceful development and productivity makes it seem as if armed conflict will always be a part of the human condition. Even within the natural world there has been a rethinking of the role that catastrophic events like floods and fire play a role in rejuvenating rivers or prairies. Malard, Uehlinger, Rainer, and Tockner (2006) & Shrestha et al. (2014) describe how floods are a natural event that demonstrates

the pulse like nature of river systems and how essential these flood events are for rejuvenating the river system. This assumption of peace as the normal state of events and armed conflict as the anomaly can blind the observer to the fact that reoccurring armed conflict bracketed by periods of relative peace is actually the normal cycle. Research by Scott (2009) of the hill peoples of mainland Southeast Asia indicates that the hill peoples developed their agricultural systems around the reoccurrence of armed conflict from neighboring villages and the agricultural based societies around the river deltas. This understanding of armed conflict as a part of the human condition that is a reoccurring event at both the individual and societal level is vital for understanding the viewpoint of farmers affected by conflict.

The mirroring of the natural environment with the human condition and conflict among humans specifically is confirmed by the Brainerd, Chollet, and LaFleur (2007, p.6). The scarcity of natural resources and environmental stress can cause extra demands upon states when citizens are lacking resources or perceive that distribution is unfair it can lead to people to react violently to settle the issue (Brainerd et al, 2007, p.6).

Types of Armed Actors

Who are the persons that are involved in the conflict environment that farmers face? Jorgensen (2006) discusses the issue of the projection of power by the dominant majority group into villages of the minority group. Even though the show of power is not physical, the threat of physical violence by outsiders can force change within the community. Verwimp (2007) said that “in order to understand conflict dynamics and its effect on society, we have to take seriously the incentives and constraints shaping the

interaction between the civilian populations and the armed actors” (Verwimp, 2007, p. 307). Verwimp explains that these conflict dynamics depend upon the “type of armed actors and the characteristics of the civilian population and its institutions” (p. 307).

Part of understanding the types of armed actors is understanding that some individuals in the society and community are able to substantially benefit from the ongoing conflict situation. Eide (1997) described the emerging concept of conflict entrepreneurs. Eide stated that these were “individuals or groups who seek to manipulate conflict situations to serve specific political (and economic) objectives, often manipulating historical considerations of identity in order to mobilize others (Christoplos, Longley, & Slaymaker, 2004, p.11)” A similar concept is the idea of “Predatory economic actors” is described by the United States Institute for Peace (USIP/PKSOI, 2009). USIP/PKSOI (2009, p. 11-231) described predatory economic actors as a group or individual who engages in or directly benefits from illegal economic activity that promotes violence and/or undermines efforts for good governance and economic development.”

Characteristics of the Civilian Population

The civilian population develops numerous coping mechanisms to deal with conflict. A study looking at the intersection of poverty and conflict by Justino (2009) showed civilian populations usually cannot avoid participation in some manner with the local armed groups. Justino found that the local people use the armed forces as a way to “preserve and protect their economic status” (2009, p. 315). In addition, it was found that household participation in assisting the armed groups depended on two things. The first

was how poor the household was and the second factor was how susceptible the household was to violence (Justino, 2009). It was found the poorer households tended to become more involved in supporting armed groups. Households who were surrounded by violence also tended to become more involved in supporting armed groups (Justino, 2009). The following characteristics were typical of many countries in sub-Saharan Africa after many years of intermittent conflict (Bryceson, 2000). The overall theme of describing what had happened to rural agricultural communities was the following:

“Amidst high levels of material uncertainty and risk, rural populations have become more flexible in finding off-farm labor, spatially mobile and increasingly dependent on non-agricultural labor. Diversification out of agriculture has become the norm; diversification has included migration among (especially younger) men, and the sale of home-making skills among women (Christoplos, Longley, & Slaymaker, 2004, p. 11). Diversification has led to many new opportunities, “but has also brought high levels of financial and personal risk, and threatens traditional agrarian and family values (Christoplos, Longley, & Slaymaker, 2004, p. 11).”

Characteristics of Institutions in Armed Conflict Areas

In the past decade there has been a growing understanding of the importance of having healthy institutions in order to keep civil society stable and allow the growth of stable democracies (Acemoglu & Robinson, 2012). An institution is defined predominately as an organization of the state or sometimes in private. What Acemoglu & Robinson (2012) have emphasized in their research is that the nature of the institution is important. Extractive institutions like plantations or large scale commercial agricultural

supported or enabled by the state can help increase the amount of social tension in the community (Acemoglu & Robinson, 2012). This social tension can lead to more outbreaks of conflict. Theisen (2008) noted that resource poor individuals often have little recourse in alleviating the underlying causes of the conflict with larger, more powerful entities. Continual renegotiation of power and efforts to change ones social status means that conflict is sure to break out (Barli, 2005). Barron, Woolcock, and Diprose are blunt in stating that “If development can be characterized as the continuing renegotiation of power, institutions, and resource allocations, then local violent conflicts are all too often the means by which such change is negotiated (2011, p. 40).”

In order to help communities to heal within it is vital that local institutions be preserved as much as possible. Hedman (2009) discusses this issue in a study of the post-Tsunami reconstruction of Aceh, Indonesia. There is a social cost and a setback when government ignores the local institutions when attempting to rebuild devastated areas. This applies to conflict areas also. Nakaya (2009) discusses the problems that peace-building aid can cause to local communities. The aid is meant to assist but it often distorts and can overshadow local institutions. Ongsiapco (2007) described the positive effect of a participatory program in conflict areas of Mindanao, Philippines. This study showed that effective programs can help rebuild communities by encouraging the reformation of local institutions even in displacement centers. In addition local institutions can be encouraged by the empowering of displaced villagers by having them participate in guided visits back to their communities so they can assess the viability of returning to their farms once conflict has subsided. Vinck, P. (2006) describes the importance of reconciliation processes in order to affirm peace and provide justice to

villagers who have been the victims of one actor or another in armed conflict. This occurred in northern Uganda. Ghosh, S. (2009) discussed the important role that non-government organizations can have upon village institutions. Varshney (2002) has shown that underlying informal civic associations helps explain the likelihood of violence between ethnic groups. At times these informal civic associations can lead to reducing the likelihood of violence or can increase it.

Conflict Destruction of Social Networks

Understanding how conflict destroys community social networks is important for knowing how to help farmers rebuild their food production systems. Nigel (2009) discussed the issue of livelihoods in a conflict setting and how relationships can be changed greatly by conflict. These changes in relationship can upset the social order in a community where these relationships had previously provided stability that allowed food production systems to be maintained.

Another important key for helping communities recover is the reconnection of agricultural networks that have had important linkages broken due to conflict. This is a vital component of rebuilding social capital in an agricultural community. Woolcock and Narayan (2000), Green (2008), and Tilman, Naude, and Verwimp (2011) described the vital role that networks and small business play in agricultural communities that are in conflict. Conflict can destroy vital marketing networks and creates great changes in profitability from one area to the next. Verwimp (2007) cited a study on northern Mozambique that showed that there is an urgent need in post-conflict settings to “consider better reconstruction and social safety nets in post-conflict settings, by building

on the strengths of the surviving farmers rather than introducing newer, high-risk activities such as cotton production” (p. 311).

Conflict and Markets

Christoplos, Longley, & Slaymaker (2004) described several factors that occurred to agricultural production, consumption patterns, and markets during chronic conflict (2004, p. 11). These factors included “insecurity may prevent access to farms and markets for the timely implementation of key tasks; expanding urban populations due to displacement may affect market demands and may lead to intensified peri-urban production that competes with rural producers; changing household composition (due to death, abduction, displacement or migration) may reduce family labor; the loss or depletion of financial assets may limit access to agricultural inputs; displacement may force farmers to abandon their farms and/or production output altogether; access to land, labor and other inputs may be limited in places of refuge; agricultural outputs may be forcibly extorted by warlords or local militia; formal input delivery systems may cease to function; changes in the local economy (either related to conflict or relief food supply) may render staple food production unprofitable (though other crops may become very profitable); and over-exploitation of land may have long-term negative consequences for the natural resource base (Christoplos, Longley, & Slaymaker, 2004, p. 11).”

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Paul Collier and his colleagues emphasized that economic recovery is vital during the post-conflict stage (Collier, 2009). The analysis that was conducted in their study showed that post-conflict aid helps pay for rebuilding and for it helps reduce inflation. Conflict causes average people like small farmers to lose confidence in the national currency. With subsistence farmers who are not as engaged in the market economy this may seem like a minor issue because they have little cash. But actually because they have small amounts of currency if it loses value then they lose the ability to buy important items like seed, small farm tools, and inputs like fertilizer. Another issue of importance mentioned by Collier is the need for skills training. Often these skills such as construction or equipment repair are lost during prolonged civil war through lack of practice (Collier, 2009). The conclusion is that development agencies and governments should take care to not let inflation climb and focus on skills training.

Adaption and innovation does occur at the farm level even during conflict. Robinett (2008) and Eakin, Tucker, and Castellanos (2006) described how this adaptation occurs and also points to the importance of assessing the strength of social networks and working to strengthen them. As part of this proposed research social networks will be mapped out as interviews are conducted and analyzed in order to understand the role that social networks play in farmer adaptation strategies. Snapp and Pound (2008, p. 48-49) emphasized that in order to support agricultural innovation capacity development needed to be undertaken to assist farmer communities. To encourage innovation takes a commitment from both government entities and non-government organizations. In many

conflict areas these outside actors have worked to encourage local innovation, adaptation of existing technologies, encourage local institutions, and reconnect agricultural networks. Understanding the response of communities to these outside attempts will provide guidance on the processes to follow in order to better assist communities in conflict.

Conflict Impacts and Effects

Further discussion of the experience in Mozambique showed that the impact of the war upon the local population was substantial. Mozambique was a Portuguese colony. The country achieved its independence in 1975. A civil war began in 1977 between the Frelimo party and the rebel group called Renamo. This war ended in 1992. (Bozzoli & Bruck, 2009).

Approximately 70% of the population was rural before the war and although the war displaced close to 30 % of the population by war's end the proportion of the population still living in the rural areas was still 70% of the overall population. The main crops for subsistence are cassava, cashew, and maize. One of the main cash crops in the northern part of the country is cotton. (Bozzoli & Bruck, 2009).

Examples given by Bozzoli & Bruck were that populations decreased in some provinces by 10 – 20 percent. Cattle, which were important to rural livelihoods, had decreased by a million animals. Corn production was 1/3rd that of the southern and Eastern Africa average yield per hectare (Bozzoli & Bruck, 2009; Cunguara & Darnhofer, 2011). This was still the case in 2005. It was estimated by the ministry of agriculture that four years after the war had ended that per capita food production was

still 90 % of the level it was at the start of the war in 1977. One of the effects of the war described by Tschirley and Weber (1997) was that small-holder farmers reduced the amount of land they farmed, focused on producing subsistence crops, minimized the market involvement due to the lack of reliable transport, and stopped raising animals because much of the livestock had been stolen by combatants during the civil war.

South Sudan is another example of a country that has been recovering from armed conflict as a result of the effort to break away from northern Sudan. The impacts of war have made South Sudan the latest example of a country that has received extensive aid efforts to stabilize the new nation but has already seen a return to intermittent warfare. The description that follows shows the devastating impact that conflict has on rural societies.

The region of southern Sudan was embroiled in over ten years of civil war before a comprehensive peace agreement was signed between rebel groups and the Sudanese government in Khartoum in 2005. The region became self-governing that year and in 2011, after a referendum, became the independent country of South Sudan. The peace that has ensued is still tenuous and the new country of South Sudan is faced with many challenges (Toh & Kasturi, 2012). Malual (2008) noted that most all livelihood and human resources were destroyed during the long civil war.

Toh & Kasturi (2012) reviewed the current state of the South Sudan post-conflict recovery. What they found was that most human indexes were incredibly low compared to other countries in Sub-Saharan Africa. Large numbers of combatants needed to be reintegrated into civil society but many do not want to return to rural subsistence farming.

Zyck (2009) describes the vital issue of reintegration of former combatants into agricultural communities in Afghanistan and a similar dynamic.

Many government officials were former rebel officials with limited education and experience in guiding government administrations. Toh & Kasturi documented a new approach that is emerging among those organizations providing foreign aid. This new approach relies less on a “discrete, sequential approach” (p. 204). Instead this approach prioritizes “early interventions in policy reform, economic recovery and growth while securing and maintaining peace.”(p. 204). The reason for this focus is “sound economic policies, robust economic growth, and rising income are vital for reducing the risk of a return to conflict” (p. 204).

Another problem found by Toh & Kosturi (2012) was that aid absorption capacity is limited. For example only 15-30% of the percent of the dispersed aid was actually utilized by government entities (Toh & Kasturi, 2012, p. 215). This problem with aid absorption issues is that aid in the form of funding is bottle necked because of lack of administrative capacity to disperse funds effectively. This makes sense in a new country like South Sudan that had little previous human capacity in administration. At the same time the authors noted that there are many bureaucratic layers that have developed that impede aid flow and slow down project approval. This is an issue that can be alleviated by aggressive training in “lean” and “effective” administration, but the aid community must realize that aid given past the true amount of capacity of the government administration is not helpful and only leads to corruption and increase of bureaucracy. Once aid agencies are able to receive permits to operate it was noted that there is a problem in finding capable partners who can implement projects in an effective manner.

This again is an issue of human capacity limits. Aid agencies must take the approach that they will train and build human capacity themselves from existing communities because if they don't they will find they have pulled capable administrators and staff members from the government by salary incentives. Other areas of need specifically focused on the road infrastructure. It is still broken down and in need of repair. Feeder roads are needed as are rebuilt markets.

Zeledon (2010) described the effect of the Sandinista and contra war and its aftermath in Nicaragua and the causes of deforestation in the forest regions. These regions were in conflict and the impact that outside revolutionary influences had upon the local people was great. The local method of managing lands in common broke down as communities were uprooted by the conflict. In addition many of the local young men and women joined the revolutionary movements of the contras and of the ruling party of the Sandinistas. When the conflict ended these young people settled down in their native areas but did not have the necessary skills to preserve the resource base of the forest.

This literature showed that the effects of armed conflict can persist for years after the conflict occurred. It also shows that often assistance is not directed at the issues that are most important for resource-poor farmers.

Post-Conflict Recovery: Outside Assistance

Common approaches to assist farmers in post-conflict recovery have been captured in a description of the approach in Mozambique to post-conflict recovery. Some of the common approaches do not reflect the realities of resource-poor farmers. One example is the promotion of cash crops. Information from Bozzoli & Bruck's (2009)

study in Mozambique implies that a cash crop can decrease family income and so caution should be taken in promoting cash crops. It was recommended that a three prong effort should be made (Bozzoli & Bruck, 2009) for agricultural development work to assist poor families. The three prongs to the approach are that basic safety nets should be enhanced to protect the poor from shocks to the farming system. This could include food for work schemes. Development organizations should work to “enhance the returns to existing” food production efforts. The longer term part of the approach is to improve education opportunities, agricultural markets, and “new crops or agricultural services. (p. 394)”

Cungarao and Moder (2011) surveyed the impact of studying the agricultural extension services and found that for those farm households that received assistance averaged a 16% increase in income. At the same time, the authors noted that the extension service was understaffed and focused disproportionately on wealthier farmers. The reasons given for the focus on wealthy farmers was because they were easier to access and had resources like credit to follow through with technical recommendations. It still appears that the poorest farmers still do not have enough infrastructure or access to credit to take advantage of extension recommendations.

Outside Efforts to provide best practice for agricultural development with resource poor farmers.

As agricultural development practice has improved since the 1970’s there has been a greater understanding of the need for specific practices that target resource poor farmers specifically. Farmers who are well connected with many resources are able to

take advantage of opportunities in food production and agribusiness opportunities. Resource poor farmers are not able to take advantage of opportunities because of the lack of access to resources. Christoplos & Farrington (2004) described two main issues the poor face that make their situations uniquely different than resource rich farmers. The first issue is that the poor face “substantial transaction costs in accessing their means of production, in adding value to their produce, and in accessing markets for it” (p. 5). The second issue facing poor farmers is that most “policies, institutions, and processes” (p. 5) are not easily accessed by the poor nor designed for them. It is also important to understand that livelihood strategies of the poor are “dynamic, complex, and diverse” (p.6) and it is often difficult for outside development actors to design development interventions that will have a positive impact upon resource poor farmers. In light of these difficulties one of the specific roles that agricultural extension and agricultural development can play concerning resource poor farmers is “to help people make better choices – through the supply of information and enhancement of their capacity to process information and to act on it – thereby reducing the transaction costs involved in productive activities or livelihood options.” (Christoplos & Farrington, 2004, p. 5). The literature indicates then that agricultural development that is pro-poor has both a technical training aspect and a facilitation aspect which concerns the social processes that make food production development effective.

Kabeer (2002) described an effective concept for outsiders wishing to positively bring about agricultural development to conflict affected populations. It is the concept of “safety nets” and “safety ladders” in which the safety net provides assistance in acute crisis times (Christoplos, Longley, & Slaymaker, 2004, p. 29). These safety nets are

needed to prevent human suffering and starvation. Once the acute issue is settled it is important to then shift to “safety ladders” which are ways that outsiders assist in “providing opportunities to accumulate assets and build more resilient livelihoods for those affected by a livelihood shock (Christoplos, Longley, & Slaymaker, 2004, p. 29).” It is in transitioning to safety ladders that outsiders have difficulty in doing correctly in a manner that truly provides opportunities that marginalized agricultural communities can take advantage of (Barett, Reardon, Webb, 2001).

A framework for carefully crafting pro-poor extension and agricultural development that has been useful in Africa is the Sustainable Livelihood Framework. This frame work was developed by DFID. Christoplos & Farrington (2004) describe the livelihood assets as financial capital, human capital, natural capital, physical capital, and social capital.

Figure 2 Livelihood Assets Diagram

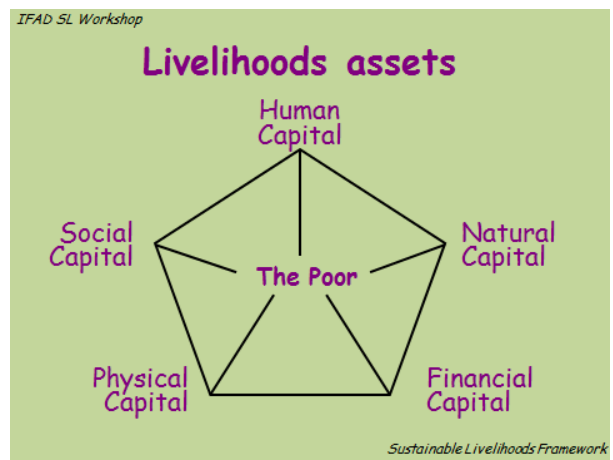


Figure 2. Livelihood Assets Diagram Adapted from Hamilton-Peach, J. & Townsley, P. (2010). Sustainable Livelihoods Analysis Framework. IFAD SL Presentation. Retrieved at <http://www.ifad.org/sla/framework/sla.pdf>

The framework is based upon the understanding of the assets that an individual has. The framework is useful for estimating the assets that an individual or community has. The Livelihood assets are then placed within a larger framework that describes the external issues relevant to their sustainable development. This framework is shown in Figure 3.

Figure 3. Sustainable Livelihoods Framework

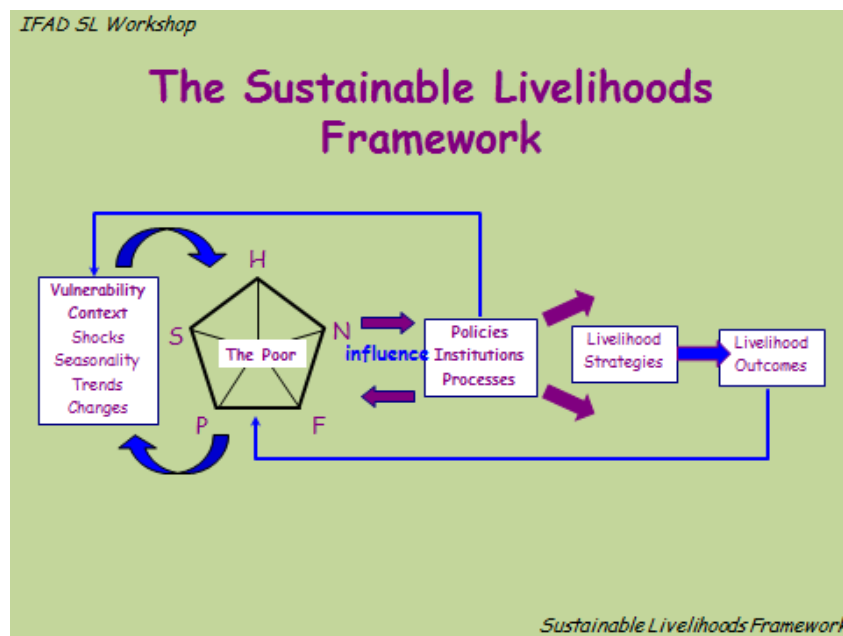


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The farmer is subject to vulnerabilities which include shocks, trends, and seasonality. The ability of the farmer to then have influence and access to policies, institutions, and processes translate into Livelihood strategies in order to have livelihood outcomes. The Livelihood outcomes could include “more income, stronger voice, reduced vulnerability, improved food security, and more sustainable use of the natural resource base” (p. 4). Positive livelihood outcomes feed back into the core livelihood assets and the process is repeated.

The sustainable livelihoods framework is a useful framework for understanding the true impact of the post-conflict strategies that have occurred in Mozambique. Mozambique has been touted as a successful case of a country that has recovered from armed conflict. The assumption is that food production has recovered and resource poor farmers have benefitted from this increased food production. Otherwise there would be unrest among the rural poor in which subsistence agriculture is their main livelihood.

In describing the livelihoods of South Sudanese Malual (2008) emphasized that small-holder Sudanese farmers were primarily dependent upon agriculture and livestock raising. Malual (2008) studied the activities of several aid organizations in southern Sudan using the sustainable livelihoods framework. This framework has been used by many aid agencies in South Sudan because it is seen as especially useful for helping in the reintegration of returning displaced persons creates conflict with those who remained in their communities. The conflict concerns efforts of all community members to reestablish their livelihoods so that each household can be sustained. The reintegration of combatants was noted as vital for helping farmers and farm communities rebuild their agriculture (Collier, 2009).

Agricultural development and agricultural extension activities in post-conflict recovery countries often follow what is commonly proposed in countries that are recovering from conflict. The following description of agricultural development practices that have been initiated to help resource poor farmers in Mozambique food production systems illustrates some of these efforts.

African governments have followed common agricultural practice in order to develop agricultural production. This three part approach to agricultural investment was described by Bingen, Serrano, and Howard (2003, p. 409-410) as

1. Contract/business interventions that are profit driven
2. Project/Technology-based activity that focuses on the introduction or promotion of a new or improved technology or set of practices.
3. Process/Human Capacity interventions that concentrate on the development of human skills and social capital, including support for collective self-help capacity.

An example given by the authors (Bingen, Serrano, and Howard, 2003) in Mozambique was where the third intervention focused upon helping farmer's organizations improve capacity to manage finances and market their products. These interventions required a three year process but the outcome of the projects were members of the organizations were seeing greater financial return on their cash products. In comparing the three interventions the slowest and most time-consuming was the focus upon human capacity but this was the most likely to lead to sustainability of the intervention.

Cunguara & Darnhofer (2010) studied the impact of four different improved agricultural technologies on household income. This survey was conducted in 2005. The four technologies were improved maize seeds, improved granaries, tractor mechanization, and animal traction. The results showed that overall there was not a benefit to household income for any of the new technologies. The authors noted that there was a drought during 2005 which could have skewed the data. Using propensity scores Cunguara & Darnhofer were able to show that improved maize seeds and tractors did improve incomes but only for those households that had convenient market access. Their conclusion was that policy makers needed to address road infrastructure and market access issues to assist poor household affected by war.

The recommendation from this study was that “agricultural development programs should invest in key non-price factors such as improved technology, transport infrastructure and farm capital, and strive to help farmers better deal with risk” (Heltberg & Tarp, 2002, p. 122).

Information from Bozzoli & Bruck’s (2009) study implies that a cash crop can decrease family income and so caution should be taken in promoting cash crops. It was recommended that a three prong effort should be made (Bozzoli & Bruck, 2009) for agricultural development work to assist poor families. The three prongs to the approach are that basic safety nets should be enhanced to protect the poor from shocks to the farming system. This could include food for work schemes. Development organizations should work to “enhance the returns to existing” food production efforts. The longer term part of the approach is to improve education opportunities, agricultural markets, and “new crops or agricultural services. (p. 394)”

Cungarao & Moder (2011) surveyed the impact of studying the agricultural extension services and found that for those farm households that received assistance averaged a 16% increase in income. At the same time, the authors noted that the extension service was understaffed and focused disproportionately on wealthier farmers. The reasons given for the focus on wealthy farmers was because they were easier to access and had resources like credit to follow through with technical recommendations. It still appears that the poorest farmers still do not have enough infrastructure or access to credit to take advantage of extension recommendations.

Myanmar is a country that has been mismanaged for over twenty years by a military dictatorship (Pick & Thein, 2010). The country is now experiencing explosive growth in the number of development organizations that desire to assist in the development of rural communities throughout the country as the country opens up to a more democratic process (Rieffel & Fox, 2013). The review of literature indicates that there have not been studies conducted that describe the farmers experience of recovering from armed conflict. The military regime discouraged in-depth research of post-conflict areas and only now have allowed more access to these areas (Pick & Thein, 2010).

In all these options it is important to consider what is the best manner for outsiders to assist. Evans (2004) described “processes of deliberation” as more effective than “importing organizational blueprints that are best practice from outside (Barron, Diprose, & Woolcock, 2011, p. 9)

Post-Conflict Recovery: Farmer Strategies

The understanding that farmers use adaptation strategies with new ideas and technologies more than solely adoption strategies was suggested by Rogers (2003) but the idea has been more clearly explained by Harford (2011). Harford (2011) suggests that farmers who successfully adapt use a three phase process. In the first phase a farmer will try a new innovation of their own or from the outside. From experience the farmer will expect that some of the ideas will fail. Secondly, the farmer will try and make the failure small enough to be economically survivable. Finally the farmer will follow the innovation closely enough to make sure that the farmer knows when they have failed.

Efforts have been made to find the most important models and strategies that farmers use in coping with armed conflict and rebuilding. Goodhand (2006) and Bozzoli & Bruck (2009) discussed several farm household production theories that provide information on strategies farmers use to manage the risk. Ethnic farmers in the mountainous areas of Shan State and neighboring countries have long utilized shifting agriculture as an agriculture of flight to protect themselves from marauding groups of armed soldiers (Scott, 2009). Other works have indicated that farmers do utilize adaptation practices as a way to recover and adapt (Scott, 2009; Scott, 2001). Scott (2009) describes groups like the Karen, Shan, and other mountain dwelling ethnic groups as having developed cultural practices that allow them to incorporate refugees from the lowland paddy states who have fled from armed combat or being forced into ad hoc military units. In response these groups would flee into the mountain areas, be assimilated, and then through diligent involvement in village agricultural activity become an economically viable part of the community (Scott, 2009). Another example of

adaptation practices is noted in Scott (2009, pg. 205) in which the Hmong ethnic people, who are an agrarian people, waged persistent warfare with successive Han Chinese governments over control over southwest China. Hmong farmers were driven into higher elevation areas and consequently adjusted their farming practices from growing upland rice to growing corn (2009, pg. 205). Corn is better adapted to growing at higher elevation and therefore made more sense as an adaptation practice since the farmers were forced into high mountain ranges where the Han Chinese would not follow.

One of the concerns concerning strategies is how farmers faced the price risks inherent in being involved in markets. One of the strategies explained by Heltberg and Tarp (2002) that Mozambique farmers utilize in times of market fluctuation and risk is to plant more cassava. Cassava is a safer crop than maize or a cash crop like cotton because it is drought resistant and is easy to store. Relying on cassava means that a subsistence farmer will reduce the risk of running short on food. The tradeoff for the farmer is that there is little cash value to cassava in Mozambique so the farmer subsists but does not have a marketable product if there is excess.

Bozzoli & Bruck (2009) used economic analysis to assess the impact of the war on household welfare. This was defined as “a household’s command over market and non-market goods and services at the household level” (p. 378). This study specifically looked at households in two provinces in which a cash crop, cotton, had been encouraged by the government. One province had been a cotton growing area before and the other had not. These two provinces were in northern Mozambique. The findings of this study showed that households that focused on on-farm activities, as opposed to looking for off-farm labor or marketing opportunities, improved their household welfare. If the

household focused on subsistence activities their household income decreased but their overall food consumption did not decrease. An important finding of this study was that households that grew cotton had 31% less income, 16% less total consumption, and 19% less food consumption compared to households that did not grow cotton (Bozzoli & Bruck, 2009).

At the same time, studies in Mozambique showed that off-farm labor was an important strategy of farmers. One of the concerns in the literature concerning small-holder farmers is a rising inequality between farmers who have been able to take advantage of the marketing and credit opportunities and those farmers who are still isolated and unable to access credit. The importance of off-farm labor for poorer households has often been underestimated (Cramer, Oya, & Sender, 2008). The assumption is that only better off farms would be connected to opportunities for off-farm employment. In the case of Mozambique, Cramer, Oya, and Sender (2008), emphasized that poorer farmers relied upon off-farm laborer to gain resources during times of drought and stress. The lesson to be learned is to work toward increasing opportunities for poorer farmers to find opportunities to gain off-farm employment at commercial farms and other rural enterprises.

A study from Ahmed et. Al (2001) showed the following coping mechanisms of pastoral households in the Horn of Africa. In response to outside stress the households moved to places of where pasture and water were relatively better; diversified herds to improve resilience to the outside stress; split and dispersed herds; dispersed resources and assistance from relatives; generated food stores; sold non-livestock assets; looked for

income generation from non-pastoral activities; and reduced food intake and changed their diet composition (Christoplos, Longley, & Slaymaker, 2004, p. 13).”

It was noted by Sanmann, K. (1997) that one strategy that Kachin farmers in northern Shan State utilized to preserve wealth was through the accumulation of livestock. Often farmers would resist sale of the animals in order to preserve the livestock so that the livestock asset would be available to be sold when the family was in an emergency time.

Another common strategy followed by marginalized resource-poor farmers in northern Shan State is the cultivation of illicit drugs with the protection or coercion by armed militia groups (Transnational Institute & Paung Ku, 2013). The opium poppy is highly adaptable to the high elevations and variable high mountain climates (Transnational Institute & Paung Ku, 2013; Anderson, 1993). Opium is one of the ultimate cash crops and used by farmers in this area for hundreds of years as a “cash crop to solve food security problems and to improve livelihoods (Transnational Institute & Paung Ku, 2013, p. 3). In spite of the hope for high return the opposite is often true as the following quote indicates, “poppy cultivation is strongly linked to poverty, and is driven by several socio-economic and security-related factors. As an EU statement outlines: “illicit drug crop cultivation is concentrated in areas where conflict, insecurity, and vulnerability prevail. Poor health, illiteracy, and limited social and physical infrastructure reflect the low level of human development experienced by the population in these areas. (2013, p. 2)”

The most effective methods have yet to be described in Myanmar. This study will help fill the gap in the literature concerning farmers' recovery from armed conflict.

Farmer Participation: Vital Component of Effective Post-Conflict Recovery

There has been a strong emphasis on farmer participation as vital for post-conflict recovery. This can be seen in whatever agricultural extension methodology is used whether it is the more traditional U.S. based cooperative extension model (Swanson, 2009), farmer – led extension methods (Christoplos, 2010), the Sustainable Livelihood Assets approach (Malual, 2008), or the agricultural innovation systems approach (Davis, Ekboir, & Spielman, 2008). In addition to this, there has also been a turn in peace-building theory and practice that emphasizes a focus upon empowering local organizations to be engaged in peace-building (MacGinty & Richmond, 2013). The empowerment of local people is important and is similar to the concept of Green (2012) of “active citizenship.” Active citizenship is defined as “the combination of rights and obligations that link individuals to the state, including paying taxes, obeying laws, and exercising political, civil, and social rights (Green, 2012, p. 451). Green explains that “active citizens use these rights to improve the quality of political or civic life, often through collective action (2012, p. 451).” Active citizenship is the long-term result of participatory methods with farmers, which is to include their voice in political and civic decisions about their short-term and long-term futures (Cristoplos, 2003; World Bank, 2012; Requier-Desjardins, 2013).

There are still difficulties in being truly participatory though. Malual (2008) noted that aid agencies are focused on a bottom-up approach of sustainable development but

still do not involve enough participation of local communities in their activities. Malual's study is hampered in that he utilized reports of a select number of aid agencies. He did not survey communities directly for their perspective. Regardless, this shows that likely the aid agencies were not ready or willing to help work with communities in a participatory manner and instead pushed ahead with project activities. This could be an issue of aid agencies focusing on their "burn rate" (meaning efforts to spend a certain amount of money by a certain date). This problem has occurred in Afghanistan and can lead to higher corruption and not involve marginalized communities (Shinn, Ford, Attaie, & Briers, 2012).

Positive action to assist agricultural communities can be taken to assist in rebuilding social institutions, reconnecting agricultural networks, and empowering farmers to adapt and innovate within their farming systems. Erskine and Nesbitt (2009) discuss ways in which participatory agricultural research can promote positive agricultural recovery in these communities. Parker, M. (2006) discusses some of the positive steps taken to support communities in the midst of conflict. These actions are positive but would be greater informed by more solid knowledge of the social dynamics of the community.

Snapp and Pound (2008, p. 48-49) emphasized that in order to support agricultural innovation capacity development needed to be undertaken to assist farmer communities. To encourage innovation takes a commitment from both government entities and non-government organizations. In many conflict areas outside actors work to encourage local innovation, adaptation of existing technologies, encourage local institutions, and

reconnect agricultural networks. Understanding the response of communities to these outside attempts will provide guidance on the processes to follow in order to better assist communities in conflict.

Theoretical Framework

This research follows a qualitative research design which follows the principle of emergent design (Creswell, 2007). Creswell (2007) described emergent design as a research framework in which the format and structure of inquiry and data collection will be flexible in order to capture data that emerges from the research. This flexibility in the design structure is what enables a qualitative researcher to better describe poorly understood phenomenon. This design is also based upon inductive inquiry which has been defined as, “from the ground up, rather than handed down entirely from a theory or from the perspectives of the inquirer” (Creswell, 2007, p. 19).

The diffusion theory of Rogers (2003) has traditionally been the theoretical base that undergirds agricultural extension practice. Rogers diffusion theory will be the starting point in which this issue will be viewed but as the farmers experience emerges other theories will also be explored that help explain the phenomenon. Rogers’s theory is particularly useful in describing the role that opinion leaders have in the diffusion and adapting of new innovations. Rogers described how agricultural change agents needed to involve opinion leaders in the process of diffusing innovations.

Roger’s (2003) defines diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system (2003, p. 35).” Rogers describes the components of diffusion as “an innovation that is

communicated through certain channels over time among members of a social system (2003, p. 36).” The initial component is the innovation which is the “idea, practice, or technology (2003, p. 36)” that is considered new to the recipient community or target population. Rogers (2003) describes how with most new innovations or technology that there are two parts including the hardware, which is the actual technology or practice and the software which is the proper method or process in which to use the innovation. Included in the understanding of the technology are the attributes of the technology that relate to how the technology is perceived or understood by the target population (Rogers, 2003). Included in describing the technology is the amount of reinvention that can occur which can often be important for adoption of an innovation. (Rogers, 2003, p. 36)

The second component of the diffusion process is the communication channel which is used by a change agent, extension agent, or fertilizer salesman to convey messages to the target population. Roger’s Diffusion Theory (2003) emphasizes that adoption of an innovation most often spreads among people who are more like themselves as opposed to individuals who are not similar. Lionberger (1972) described the role that intermediaries can play in helping farmers adapt new technologies to their farming system. These change agents described by Rogers (2003) and Lionberger (1972) bridge the differences between different groups which helps with diffusion of an innovation.

The third component of the diffusion process is the time that is taken for an innovation decision process to occur. As part of this process there is adoption or rejection of the innovation (Rogers, 2003). During the time in the process Rogers (2003) described

five adopter categories with labels for each category ranging from the earliest adopters called innovators to the last or non-adopters called laggards.

The final component of the diffusion process is the social system. Rogers (2003) emphasizes the understanding of the social structure and the role that culture has on the acceptance and rate of adoption of an innovation. Important to this study is the issue of opinion leaders and the role that opinion leaders play in easing or blocking the diffusion of an innovation. Change agents are important because they are tasked by an implementing agency or government agency to bring about change in the agricultural production system. Roger's (2003) describes the important role they play in helping the diffusion of an innovation. As part of the decision making process there are three different types of decisions taken in the acceptance or rejection of an innovation (Rogers, 2003). These include optional decisions, which are made by an individuals, Collective decision, made by collective agreement, and finally authority innovation-decisions which is a made by a few authoritative members of a community or a region (2003, p. 38). Included within the social system component of the innovation diffusion decision is the consequences for a target population which Rogers describes as the "changes that occur to an individual or a social system as a result of the adoption or rejection of an innovation (Rogers, 2003).

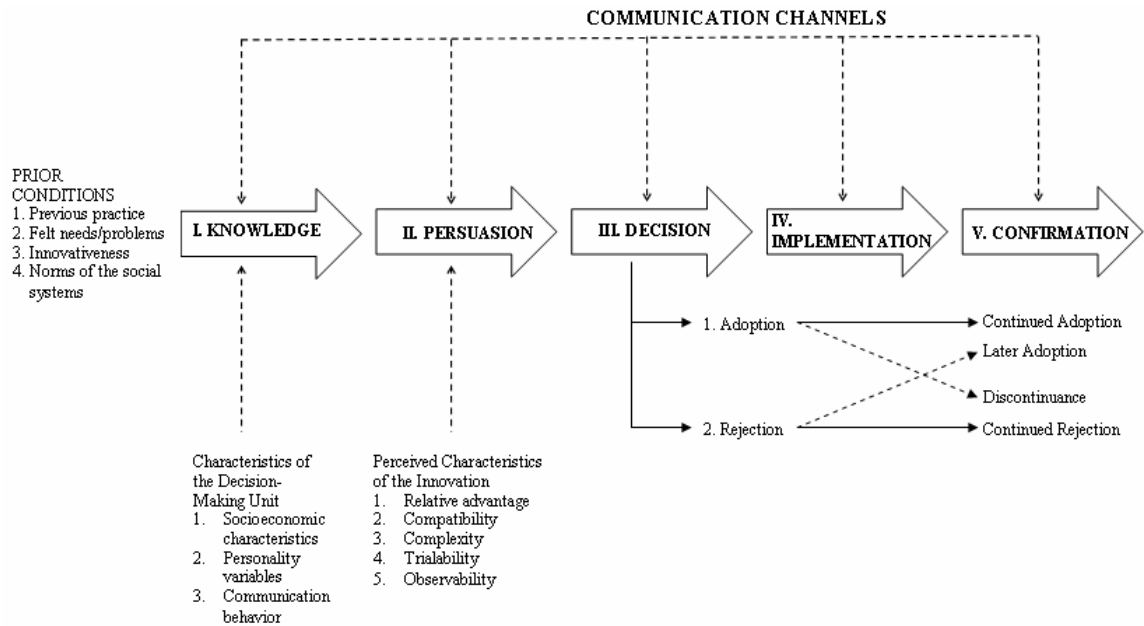


Figure 4. A Model of Five Stages in the Innovation – Decision Process by (Rogers, 2003, p. 170). Adapted from Rogers, E. M. (2003). *Diffusion of innovations*. (5th ed.). New York: Free Press.

Everett Rogers (2003) diffusion theory emerged out of research conducted by Ryan and Gross (1943) to study the diffusion of hybrid seed corn (Rogers, 2003, p. 55). From this initial study by Dr. Bryce Ryan at Iowa State University applications were then made to other agricultural innovations (2003, p. 55). These initial studies lead to the development in the Diffusion on innovation theory which was researched extensively during the timeframe from 1945 to 1960 (Rogers, 2003). Rogers (2003) wrote the first book upon the subject in 1962. Confirmation of the theory has come from other field of studies such as Anthropology, Sociology, Education, Public Health, Communication, and Geography (2003, p. 45). Roger’s Diffusion theory has shown applicability to not only agricultural development and extension efforts but also within the business world, especially concerning understanding the diffusion of new products and services in the marketplace (Aleke, Ojiako, & Wainright, 2011).

Understanding the experience of resource-poor individuals in recovering and rebuilding their food production systems need to start with Rogers's diffusion of innovation theory because the approaches of both government extension agencies and public and private development organizations utilize the diffusion of innovation as their theoretical underpinning (Swanson & Rajalahti, 2010). Even as current agricultural extension and advisory systems have critiqued the diffusion of innovation approach (Cristoplos & Farrington, 2004; Scarbough, Killough, Johnson, & Farrington, 1997), on closer examination the theory is robust enough to encompass the current agricultural extension and innovation system paradigm of decentralized systems. This is illustrated in Rogers (2003) discussion of decentralized systems (2003, p. 397) and the advantages and disadvantages of decentralized systems as compared to centralized diffusion systems (2003, p. 398-399).

Criticisms of the diffusion of innovation theory include the pro-innovation bias that is inherent in extension and agricultural development systems that seek to modernize agricultural production (Rogers, 2003, p. 106). Pro-innovation bias is the assumption by the change agent or agency that the innovation is good for the target population (Rogers, 2003). Rogers rightly concludes that the result of this bias is the perpetuation of "unintended consequences (2003, p. 448)" for the target populations of which the resource-poor tend to suffer the most from the negative consequences (Jorgensen, 2006; Goodhand, 2006). A second criticism is the individual-blame bias in which individuals or groups of individuals within a target population are blamed for failure or unwillingness to accept an innovation (Rogers, 2003). This is especially relevant among resource-poor farmers who often are strongly encouraged to adopt agricultural practices or technology

that they cannot afford nor have the resources to use most effectively (Barron, Diprose, Woolcock, 2011; Longley, Cristoplos, & Slaymaker, 2006). A third critique of the technology transfer or “diffusionist” model (Coudel, Devautour, Soulard, Faure, & Hubert, 2013) is that it fails to take into account that “farmer networks of dialogue and work are the source of knowledge creation” and the technology transfer approach does not take indigenous knowledge networks into consideration as an important component (2013, p. 24). Other authors emphasize that while there is validity in the technology transfer paradigm that there is a need for extension methods that emphasize “greater interaction and dialogue, and acknowledges the farmer’s expertise in identifying problems and selecting options for improvement” (Scarborough, Killough, Johnson, & Farrington, 1997, p. 25). Rogers (2003) mentions the need to take into account the indigenous knowledge networks that farmers rely upon but for too long in the early years of technology transfer this was not emphasized to the extent that it should have been (Swanson, 2011).

The focus of this research is not diffusion of innovations from outside government and non-government change agents but will instead the diffusion of innovations from influential farmers to other farmers within the community. In Roger’s theory the opinion leader could be a farmer or a non-farming village leader (Rogers, 2003). Since the focus of this research is how influential farmers adapt and then influence other farmers the term “key farmer” will be used for this proposed research.

A second theoretical insight is the concept of the “key player” from Borgatti (2006). The key player is someone who is a vital connecting node within a social network that is “optimally positioned to quickly diffuse information, attitudes, behaviors and/or to

quickly receive the same.” (2006, p. 22). The term key farmer could also encompass the term “innovation brokers” or “catalytic agents” which is terminology used in describing the building of agricultural innovation networks for developing agriculture (World Bank, 2012, p. 46). Drawing from these different insights the definition of the key farmer used in this study are farmers who have developed influential recovery strategies that rebuild post-conflict community and food production systems. This research investigated if adaptation emerged as a key component of the recovery strategy and if informal farmer groups were formed as part of the recovery strategy.

A third theory that provides understanding to post-conflict agricultural recovery is Blake and Mouton’s (1964) Dual Concern Theory. The dual concern theory says that in dealing with interpersonal conflict people have two primary motivations (Mohammed, 2007, p. 3884). The first primary motivation is “the desire to obtain one’s own goals (concern for production) versus the desire to retain interpersonal relationship (concern for people) (2007, p. 3884).” It is likely that in conflict situations and in post-conflict recovery that resource-poor individuals are constantly balancing these two concerns with varying emphasis on each.

Several additional theories come from the disaster literature (Dronberger, 2013). Couch & Kroll-Smith (1994) described the Consensus Crisis Reactions of a community in which crisis brings about consensus within a community and galvanizes the community towards positive action to alleviate a crisis (Dronberger, 2013). Non-economic shocks can lead to community social capital enhancement where quality of life improves or returns to the status quo (Coach & Kroll-Smith, 1994; Drabek, 1986). Closely connected to this theory in the opposite direction is the theory of Corrosive

Community Reactions (Freudenberg & Jones, 1991 in Besser, Recker, & Agnitsch, 2008) to explain community response to crisis. In this case, shocks to the community create corrosive community reactions where there is a decrease in community quality of life and a decrease in social capital after shock (Besser, Recker, & Agnitsch, 2008). Also in the disaster literature is Mayunga's (2007) discussion of resilience and vulnerability. Dronberger (2013) summarized Mayunga's definitions in the following way. Resilience is the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events." while vulnerability is the "potential for harm to the community and relates to physical assets, social capital (community structure, trust, family networks), and political access (ability to get government help and affect policies and decisions). Vulnerability also refers to how sensitive a population may be to a hazard or to disruptions caused by the hazard (Dronberger, 2013, p. 30)." These theories in the disaster literature relating to consensus crisis, corrosive community, resilience, and vulnerability apply to communities facing the hazard of conflict or persistent low-level conflict.

A final theory of importance to post-conflict recovery for resource-poor individuals is Conflict Management Theory (Hamad, 2005). Conflict management theory makes the assertion that conflict, whether at the individual or community level, is always present and can only be managed. It is opposed by interpersonal conflict resolution theories that assume that conflict can be resolved in such a way that it can become nonexistent (Mohammed, 2007). Hamad (2005) describes ways five important approaches that individuals or affected parties take to resolve conflict (Mohammed, 2007, p. 3884):

1. Forcing approaches – one sided efforts to dominate the process of decision making.
2. Legalistic approaches - by people using written contract or arbitration to resolve or avoid conflict.
3. Smoothing Approaches – emphasize commonalities and minimize or suppress group differences.
4. Compromising Approaches – determining acceptable solutions which allow some degree of satisfaction for the differing parties.
5. Problem solving Approaches – confront problem directly with a problem solving attitude even though parties views must be modified

This conflict management theory has strong explanatory capacity for how farmers develop strategies in the post-conflict recovery phase.

The researcher used phenomenology which is an emergent design (Moustakas, 1994). As the understanding of the phenomenon emerges it is important to identify the appropriate theories that match what has emerged from the research activities. These theories will be identified in chapter five in order to see if the major themes converge or diverge with important theoretical understanding of the phenomenon under study.

Summary

The review of literature has revealed important aspects of the phenomenon of rebuilding food production systems after armed conflict has subsided. The literature shows that armed conflict is a disruptive force to agricultural communities. Examples from sub-Saharan Africa show that these effects can have long lasting effects on

marginalized farmers. The dynamics of armed conflict are complex and although humanity often desires for armed conflict to be permanently eradicated it is clear that armed conflict occurs regularly when the right conditions present themselves. In these complex political emergencies or unstable post-conflict situations individuals who are conflict entrepreneurs or predatory economic actors can cause additional obstacles to farmers as they seek to rebuild livelihoods. In this literature review insights were gained about the civilian populations in armed conflict situations and the impact of armed conflict on local institutions that agricultural communities are sometimes dependent upon. Social networks are negatively affected by conflict as it tears at the social capital that has been built up. Markets also constrict or disappear completely due to conflict.

Outside efforts to assist marginalized resource poor farmers were outlined and some of the difficulties encountered in pursuing effective assistance. Evidence of farmer strategies for recovering from armed conflict were examined with the understanding that more often than not farmer strategies did not match the aid assistance provided by outside actors. The culmination of the literature review indicates a consensus among researchers that farmer participation is essential for effective post-conflict recovery. In spite of this understanding in principle, research showed that in practice there is little published response about farmer participation and strategies in post-conflict situations. There is published research concerning the social dynamics of resource-poor rural communities in post-conflict recovery, there have been few studies that have looked at the recovery strategies of resource-poor farmers in rebuilding their food production systems.

In the theoretical framework numerous relevant theories were identified as having potential for matching with the emerging data from farmer interviews. These theories

included Rogers (2003) diffusion of innovations, key player (Borgatti, 2006), dual concern (Blake and Mouston, 1964), consensus crisis reactions (Couch & Kroll-Smith, 1994), corrosive community reactions (Freudenberg & Jones, 1991), resilience and vulnerability (Mayunga, 2007), and conflict management theory (Hamad, 2005). These theories will be compared with what emerges from the data that emerged.

CHAPTER III

METHODOLOGY

Introduction

This chapter describes the process taken to conduct a qualitative phenomenology study of marginalized farmers who were recovering food production after experiencing armed conflict. The research design and questions are described. As a phenomenology is focused upon describing in rich detail the “lived experience” of persons who have experienced the phenomenon the study participants will be described (Patton, 2002; Creswell, 2007). The study setting will then be described. Also important to a qualitative study is a reflexivity statement which is an “embracing by myself, the researcher, of my own biases and subjectivity” in order to improve the quality of overall research (Roberts, et al., 2011, p. 4). The data collection methods are described along with the data analysis procedures. Finally, ethical and quality assurances are described in order to reassure the reader of the steps followed to produce quality results that were true to the study participants’ experience of recovering food production after armed conflict (Patton, 2002; Tracy, 2010).

The key themes in the study are the adaptation strategies of key farmers and the importance placed upon association with other farmers within the community as part of those strategies. Through the use of qualitative evaluation methods the definition of

adaptation recovery strategies and of informal farmer association will be defined by the key farmers who are interviewed. Patton (2011) described the qualitative process of allowing the definitions and important phenomenon to emerge from the stakeholders as the evaluation progresses. Through this process the voice of the farmers will emerge. Qualitative methods are also extremely useful in “identifying key mechanisms that trigger, sustain, or resolve conflict” (Barron, Diprose, & Woolcock, 2011, p. 272).

Research Design

The qualitative methodology used followed phenomenology methodology which was described by Moustakas (1994) and Creswell (2007) as useful for describing in depth the experience of individuals. Creswell emphasized that the “important point is to describe the meaning of the phenomenon for a small number of individuals who have experienced it” (2007, p. 131). The use of phenomenology in studying issues related to conflict situations have been used by other researchers such as a study of resource allocation and stability in Afghanistan by Minami (2011) and in the study of child soldiers in Africa by Murphy (2011).

In a phenomenology the interview protocol is anchored by two main questions (Creswell, 2007). Moustakas (1994) described the first question as “What have you experienced in terms of the phenomenon?” and the second question as “What contexts or situations have typically influenced or affected your experiences of the phenomenon?” (Creswell, 2007, p. 61). In following this protocol the research questions were “What are the experiences of farmers when adapting food production systems after conflict in

Northern Shan State?” and “What influenced the experiences of farmers when adapting food production systems after conflict in Northern Shan State?”

Bamberger, Rugh, & Mabry (2012, p. 293) described the gathering and use of qualitative data is for the “purpose of understanding” as opposed to quantitative data which has the “purpose of explaining.” These authors emphasized there are conflict and power struggles inherent in social interactions and the views of different stakeholders tend to diverge on issues so qualitative methods help to explain those views and welcome the outlier data as valuable. Patton (2011) described chaotic, complex environments as situations where qualitative study methods are appropriate and effective. This is because many of the variables/ themes are hidden by the chaotic environment. Qualitative data helps draw out the important issues as the participants see them (Patton, 2002). Post-conflict situations fit the definition of a chaotic and complex environment (Spoor, 2004).

This is a qualitative study and does not attempt to be prescriptive of what occurs with farmer adaptation in other provinces or countries. This means that the consumers of this research cannot assume to take the themes from this phenomenology and state that all other farmers have these same experiences when they experience recovery from armed conflict. The readers of the research findings will be encouraged to make application to their own experience and context (Patton, 2002). The study is useful in seeing patterns that emerge that the readers can then apply to contexts that they are also studying. Patton (2002, p. 584) notes the discussion about whether qualitative inquiry can be generalizable. Patton emphasizes the notion of Guba and Lincoln (1981) that transferability is the preferred term to use. Carried within the term transferability is that the similarity between contexts decides how applicable lessons learned in the study

context apply to the reader's context (Patton, 2002, p. 584). This illustrates the limitations within applying the research findings to other locations. The research findings do provide valuable insight into the phenomenon, which can guide further research as general patterns can be seen.

Study Participants: Population and Sample

Population

The subjects for study were farmers who had been identified by government officials, business men, and development workers as a key farmer. Key farmers were both male or female and someone who was identified as a farmer who is influential through innovation and/or adaptation of the food production system. Trust was developed through ongoing relationships that were developed through the partnering non-government organizations and agribusiness. Because the researcher was also providing agricultural extension expertise to the organizations the research was seen as part of the work of the NGO and agribusiness. By relying on the long-term relationships already built with the local communities the researcher was able to be seen as a trusted outsider entering the community and this led to overcoming potential barriers to open communication. From the researchers experience there were usually two to three influential farmers within a farming village that have been innovators or could identify the farming innovators. The subjects were defined using the diffusion theory terminology of Rogers (2003). The most useful term was of opinion leaders and the idea of innovation brokers or innovation catalyst from the World Bank (2012). The unit of analysis is the individual but with the understanding that in Asian cultures the individual and their

boundary with those within the familial household is not as defined as in western cultures (Peterson, 2004). The researcher was guided to key farmers by non-government organizations and the agribusiness. The key farmers were found within communities in one administrative area in Shan State, Myanmar.

Thirty four farmers were interviewed for this study. A general typology is useful for the reader to relate to the lived experience that is described in the findings. Five women and twenty nine men were interviewed. The predominance of men relates to the fact that most of the representatives of households were men. According to the culture of the ethnicities interviewed it was culturally appropriate that the male representative of the household was the specific individual who was interviewed. During the interview process at least eight of the interviews took place in family homes where other members of the family, including wives and grandmothers, would listen intently and also offer input during the interview process. This speaks to the generalization that Asian households see the experience as in a group setting. Other interviews occurred in the major town of Lashio because the interview locations were not accessible to me or my research assistant. In those cases often it was the male head of household who had made the dangerous journey out of their village, through differing zones of militia and government military control, to the major regional town.

There were three main groups of farmers interviewed. Older men from approximately 50 – 90 years old who had long years of experience farming and often had been members of some of the conflict forces. A second group ranged from 35 – 48 years of age and consisted of individuals who were key farmers who also held leadership positions in different civil society organizations or were key farmers as part of non-

government aid and development organization development programs. A third group were younger people that had not migrated to other countries like China or Thailand for work and were relying upon farming as their livelihood. In addition to the 34 farmers interviewed, six individuals who worked closely with farmers were interviewed to further deepen the understanding of the experience of the farmers. These individuals included a village school teacher in a farming community, agricultural advisors working for NGOs, a college student, forestry officer, and a local agribusiness person. See Table 2, page 94 for more detail.

Sample

The sampling procedure is based upon focused interviews with 34 individual farmers. Creswell (2007) recommended that phenomenological studies should include enough interviews until the data saturation point is reached. This is the point at which the experience of the individuals as shared through the interview process begins to sound the same as all the previous interviews. This means that new information is not likely be gathered if further interviews are conducted. Creswell (2007) indicated that 5 – 30 individuals should be enough to reach this data saturation point.

Study Context

The country selected for this study was Myanmar. Myanmar was chosen because it has a long history of ongoing conflict with a large percentage of rural people. Extensive efforts have been implemented by aid agencies in improving agricultural production among marginalized communities (Rieffel, 2013, Mar. 13). Myanmar is also a country that is in the top two in the world in the production of opium, second only to Afghanistan

(UNODC, 2011). Marginalized farming communities are often caught between programs to eradicate and replace opium production and informal encouragement to continue or increase illicit production of opium. Myanmar has been included on the United Nations list of Lessor Developed countries (UNCTAD, 2011). Myanmar has a very high economic vulnerability ranking of 37 (UNCTAD, 2011, p. 129). Myanmar has high levels of corruption as ranked by transparency international (Rogers, 2011, Dec. 1). Myanmar is predominately Buddhist but Myanmar does have a significant minority of the country that practices Islam and Christianity. The post-conflict location was Shan State in an administrative region in which conflict has ceased at least six months (one growing season) but no more than five years after the cessation of armed conflict. This timeframe was chosen because the food production system and the memories of food production system recovery was still remembered in clear terms. This time frame was selected because it is a recommended time frame for the experience to still be vivid in individuals' memory (Barron, Diprose, & Woolcock, 2011; Nojumi, Mazurana, & Stites, 2009).



Figure 5. Map of Shan State. by Asia Pacific University (CartoGIS Maps Online – ANU). (2005). Shan State. 05-057b_Burma_Shan_state.jpg. Retrieved from <https://www.google.com/search?q=Mapofnorthernshanstate>.

The sustainable livelihoods framework provides a format for describing the study context of Northern Shan State. This framework describes five asset areas in which sustainable livelihoods are built upon. These five asset areas are human, natural, financial, physical, and social capital (Townshley & Hamilton-Peach, 2007).

The people of Northern Shan State consist of a mix of ethnic groups who had coexisted for hundreds of years (Than, 2005). The majority group consisted of the Shan, who traditionally occupied the paddy land in the valleys. This was the best area for producing paddy rice varieties. Other ethnic groups included the Wa, Kachin, Palaung, Karen, the Bhama, ethnic Muslims in the larger townships mainly of Indian descent and Muslims from Rakhine state, lowland Burmese people, and ethnic Chinese. The population of Myanmar was estimated in 2008 to be fifty eight million people (Steinberg, 2010). Northern Shan State population was estimated at 1.6 million people (Modins, 2005). The population density was listed as seventy five people per square mile (Modins, 2005).

The topography can be described as rolling hills surrounded by mountains (Baroang, 2013, May). Northern Shan State is on a plateau punctuated by mountain peaks and mountain ranges that separate Shan State from the Irrawaddy river floodplains to the west and the higher mountains to the east that lead into China. It is a crossroads that is bisected by the road from Mandalay to Lashio, the regions administrative capital, and then the road continues to the border town of Muse that is the gateway to China. The soils are generally fertile (Davis, 1960). The climatic conditions include a pronounced dry season of four to five months and a long rainy season of six to 8 months (Davis, 1960). The main growing season began when the rains started in June (Food Security Network, 2012). Crops like corn and upland rice were grown during this season along with rain fed paddy rice. Legumes and vegetable crops were grown during the winter growing season in fields close to rivers and streams and larger bodies of water (Davis, 1960).

The economy of Northern Shan State was supported by both large scale and small-holder agricultural production in the vast plateau and cross-border trade that occurred between China and Myanmar. This trade and the overall economic production of the area was stunted and disrupted by intermittent armed conflict and numerous armed groups that indulged in rent-seeking from local business and traders (Than, 2005).

The physical capital is described by Townsley & Hamilton-Peach (2007) as the infrastructure and tools and technology that the people have at their disposal. The transport system consists of a few main paved roads that were the main arteries that connect Lashio to Muse on the road to China, Lashio to Mandalay, Lashio to Kachin State to the northwest, Lashio to Tauynggi in southern Shan State, and Lashio to eastern Shan State. These roads were predominately two lane roads that had heavy traffic. Some of the roads were frequently washed out in landslides or flooded during the rainy season. The people in the main cities had intermittent internet connection and cell phone access was available although the price was high.

Land ownership had traditionally followed the practice of swidden cultivators or shifting cultivators across the hill areas of the Golden Triangle (Anderson, 1983). This type of land ownership was typified by loose arrangements between different farmers within the community (Henley, 2014). Each family would have several fields around the village that they would have the right of use for farming and grazing. This type of farming required several fields because while one field was being farmed the other fields were in various stages of fallow (Anderson, 1993). These various stages of fallow allowed for natural vegetation to regrow and through nitrogen fixation by plants and the

accumulation of plant biomass the soil fertility would be replenished (Davis, 1960). Each field being farmed would be between one to two hectares (Anderson, 1993).

Years of conflict and specific government and insurgent militia policies had shaken the traditional land ownership system (Henley, 2014). Several of the causes of land displacement were heavy taxation, land confiscation, forced labor, restriction of movement, and food insecurity (Ibiblio, 2010; Altsean Network, 2014).

Chinese and local farming equipment were available in the main city of Lashio. It was less available in other areas with more difficult access. Electricity was available in the main city and larger towns but power outages were a daily occurrence which made it difficult to use electricity in processing industries (Henley, 2014).

Northern Shan State could be described as a complex political emergency because there is conflict within and across state boundaries. Northern Shan State had many divides between armed groups, a protracted duration of the conflict, social cleavages between the different ethnicities and divisions within ethnic groups, and finally predatory social formations (Goodhand & Hulme, 1997).

The roots of the current conflict can be tied back to the uneasy relationship between ethnic minorities who lived in the buffer regions in the mountainous areas and plateaus of northern Shan State (Scott, 2010). When the British colonized Myanmar beginning in the 17th century the British military and colonial administrators found the ethnic minorities like the Shan, Kachin, Karen, and Paluang ethnicities very willing to enlist in colonial regiments and fight to subdue the Burmese population who were more resistant to British rule (Steinberg 2001). The Japanese invading army drove out the

British military and colonial administration during World War II (Than, 2005). The foundations of a modern era Burmese Government was begin in the effort to throw off British rule as Burmese nationalists allied themselves initially with the Japanese (Steinberg, 2001). When the Japanese were defeated the British reasserted control over Burma only long enough to legitimize the new Burmese Union under the General Aung San (Maung, 1971). This initial union set up a structure in which the minority groups would have a place in the ruling of the country and their colonial militias to be included in the national military. This uneasy step of uniting all the different groups in Myanmar was shattered by the assassination of General Aung San and his cabinet in 1947 (Steinberg, 2010). Since that time northern Shan State has been affected by rebellions of different ethnic groups and attempts by the Burmese government (later the Myanmar government) to exert control over all areas of Northern Shan State (Walinsky, 1962; Steinberg, 2001).

In the early nineteen fifties each ethnic group had their own governing body that was pushing for independence from a national government that was majority controlled by those of the Bhamo ethnicity (Maung, 1971). Later these groups splintered within each ethnicity so that each ethnic group had several insurgent militias of differing philosophies, religious beliefs, and viewpoint on how to interact with the national government (Steinberg, 2010). Government policies made it difficult to engage in work. The institutions in place have been buffeted by conflict and transitions that have occurred in the Myanmar government's governing style over the past thirty years (Ekeh & Smith, 2007). The government has strengthened its hold upon the major city and towns but there were still areas which were considered black areas (Steinberg, 2010). These black areas

were places in which travel was restricted, rebel militias had heavy influence, and the peace was kept by tenuous cease-fire agreements (Lintner & Black, 2009). In these areas there had been a major increase in the use of illicit drugs (opium) and later synthetic illicit drug production (methamphetamines) in order to fund insurgent militias (Lintner & Black, 2009). Figure 6 demonstrates the differing sectors of influence in Northern Shan State.

Areas under the control of ceasefire groups and pro-junta militia groups

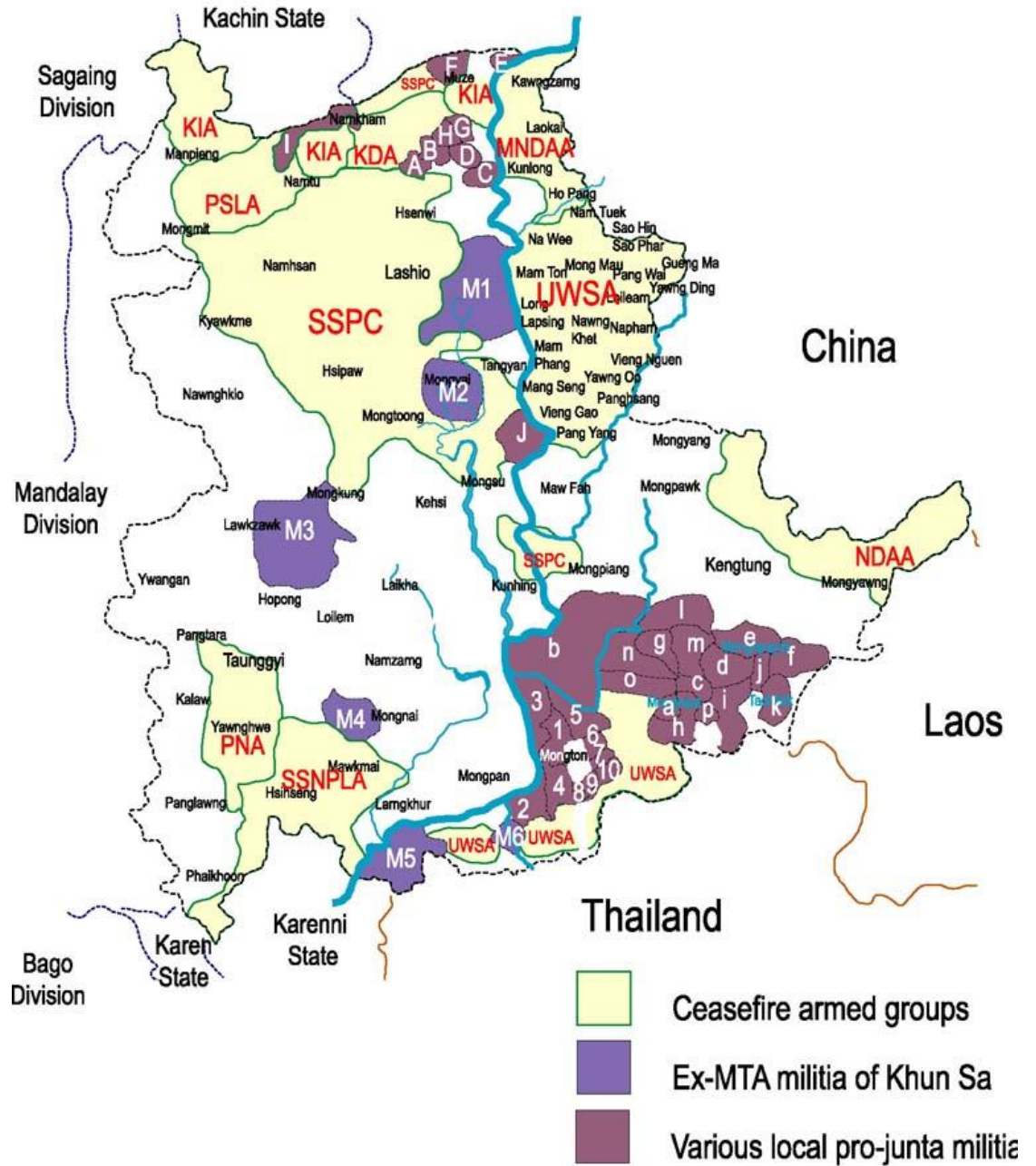


Figure 6. Areas under the control of ceasefire groups and pro-junta militia groups. by Shan Herald Agency for News (2009). Areas under the control of ceasefire groups and pro-junta militia groups. Retrieved at www.shanland.org

The armed conflict that occurred in northern Shan State consist of both insurgent militias fighting the government and fighting each other (BBC, 2010, Sept. 16; BBC, 2009; Sept. 12). These conflicts occurred because of the insurgent militias and ethnic independence movement leaders refuse to comply with government efforts to incorporate these citizens and militias into the national government (Than, 2005). Another major cause of the conflict is due to the fight over natural resources and tax income that could be earned through border trade and control of industry like mining (The Nation, 2013, June 28). With the continued integration of Myanmar into the Association of South East Asian Nations (ASEAN) there were increased opportunities for developing power through river dams and exporting this power to Thailand and China (Than, 2005). These reasons were enough to cause the Myanmar government to push for increased control of the border areas that were controlled by insurgent militias (BBC, 2009, Sept. 12).

Reflexivity Statement

As a researcher uses qualitative methods like Phenomenology it is essential for the researcher to explain their bias and impact upon the research (Tracy, 2010). This is so because the researcher is considered the instrument (Patton, 2003). Initially when I began this study I assumed that there would be much more innovation occurring after post-conflict. Reading of literature indicated that this could be the case but as I began interviewing I was forced to reconsider my assumptions. Each evening as I reflected

through journaling during the data gathering phase, I became more aware of how much destruction prolonged intermittent conflict has upon marginalized communities. I also had to empty myself of all the outside written critiques and television reports about Myanmar by Burmese exiles, human rights workers, and outside governments. It is not to say I doubted the veracity of many of the reports but that for me to truly listen to what marginalized farmers were saying, I needed to express my bias through reflexive journaling so that I could conduct and analyze interviews with what Patton described as a “neutral stance (2002, p. 51).”

As the instrument of research I have unique experiences and training to conduct a phenomenology study of marginalized resource poor farmers (Moustakas, 1994). Listed below are several of the experiences and training that I have that prepared me for this study;

- Education in agricultural education and extension methodologies during my undergraduate and graduate studies and continued study and research in the area of participatory farmer to farmer methods.
- Fifteen years of experience implementing agricultural extension programs among marginalized ethnic minorities in the southern Philippines, northern Vietnam, northern Thailand, and advising local organizations on such programs in eastern Shan State and southern Lao PDR.
- In fifteen years of agricultural development experience I have learned three languages useful for my work. These languages are specifically Thai, Vietnamese, and Cebuano. This language learning experience and thousands of hours in discussion with marginalized resource poor farmers in Southeast Asia has helped

me develop a skill in conducting quality interviews and information gathering and sharing discussions.

- Conducted a phenomenology concerning the experience of agricultural development in a conflict zone in Afghanistan and field research in northern Thailand.

Data Collection Methods

Relationships were developed with three non-government development organizations (NGO) and one local agribusiness in Myanmar. Introductory meetings were arranged through email dialogue with these organizations (3 NGO's & 1 agribusiness). Initial meetings with the national offices of the organization provided vetting of the researcher's purpose, interview protocol, and confirmation of individual and organizational rights and boundaries. Through this relationship connections were made so that access could be gained into an administrative area in which it was a post-conflict situation and had on-going agricultural development/extension activities. Follow up meetings with the regional offices of the organization finalized the interview process with key staff members and project farmers.

The organizations provided access to at least ten villages within that administrative area in which at least 15-20 key farmers could be identified to be interviewed. The researcher utilized information from the agricultural development component of the organization's that was focused on villages that had experienced armed conflict in the past five years. I evaluated whether the organization had modified or was utilizing agricultural extension methodologies that were effective for assisting farmers recover their productive capacity. Using a snowball technique the most influential and

adaptive farmers were identified that had experienced conflict within the previous 5 years. The research team then interviewed 34 key farmers in selected target villages focused upon the topic of how key farmers had adapted their food production systems after armed conflict.

1. Analyzed of existing literature on post-conflict food production recovery in Myanmar using process tracing methodology (George & Bennet, 2005).
2. Qualitative data collection using interviews, key informants, observation, and photographs (Tracy, 2010).
3. Qualitative data analysis using within-and-between case analysis and constant comparative method (Patton, 2002).
4. Triangulation phase in which findings are compared, reconciled, and integrated. If differences were found that do not match, I reviewed the data and if further interviews were needed I followed up with additional interviews. As each interview was conducted the interview recording was transcribed, translated into English, and coded. The information was then analyzed. This process was undertaken within country. Additional follow up was provided
5. Initial analysis was completed and results were presented to key stakeholders in a format that was useful to them. This step is referred to as validation (Moustakas, 1994) and is the process of allowing subjects of the study to confirm or modify their input to the research. Patton (2002) described a process of providing validation in a group setting as an appropriate method of validation.
- Final output was a dissertation study which documented the lived experience of farmers who had recovered food production after experiencing armed conflict.

The study also documented the factors that influenced the experience of farmers who had rebuilt food production capacity after armed conflict in Northern Shan State.

Interview Protocol

The semi-structured interview protocol was developed by the researcher. This interview protocol was then approved by the Oklahoma State University Internal Review Board. Because of the sensitivity of the research topic and the potential societal and political risks the researcher was approved for receiving participant verbal consent only. This helped protect the rights of the participants, the researcher, and the organizations involved. This approved interview protocol was then utilized in Myanmar.

Phase 1: One state was selected in Myanmar. The administrative region of northern Shan State is one of three administrative regions within Shan State. Northern Shan State was where there was an agribusiness in which to partner with and three non-government development organization with ongoing agricultural development projects. Project surveys, reports, and evaluations were gathered by me to provide background information through a web-based search. This data was analyzed and synthesized into a report on the current situation of the post-conflict farm production system and local farmers before the researcher arrived in-country. This informed the researcher and informed the modification of the interview protocol. Once the researcher arrived in country and received all necessary initial approvals one research assistant was selected and trained by the researcher and expatriate agribusiness advisor using methodology from Patton (2002), Creswell (2007), and Chilisa (2012). At that point the second phase of qualitative data gathering began.

Phase 2: Through discussions with the agribusiness and the NGOs a list of 10 key farmers spread throughout the administrative region was made. This list included both farmers within project areas and areas where there was not any project activity. This list was compared with other NGO's lists of influential key farmers. Additional discussions took place with at least one other development organization concerning influential farmers in the administrative area. From these discussions a list of 15 key farmers was made. Using the relationship that had been built by the development organization these 15 key farmers were interviewed in depth using a semi-structured interview guide. Using the snowball method additional influential farmers were identified. After each interview this information was compared against the list that had been identified with other farmers. This method yielded 34 individual farmer interviews for the study that covered ten villages. Moustakas (1994) indicates that an interview population of 30 ($n = 30$) provides sufficient data for an in-depth phenomenology. Creswell (2007) recommends five to 30 individuals in order to reach data saturation point. After approximately twenty farmers were interviewed I believed that data saturation point for this study has been reached but I needed further confirmation using additional interviews so that the interviews were spread more or so evenly across three ethnic groups (Kachin, Wa, Shan).

Phase 3: In order to provide background data on the community history of armed conflict and post-conflict recovery, village oral histories were developed where possible through interviews with the key farmer. This provided information, in combination with the background data, in order to better understand the context in which the phenomenon was experienced.

The semi-structured interview procedure was undertaken by the interview team of myself and trained research assistant. If the person being interviewed did not speak the language of the research assistant an additional person such as an agribusiness member or NGO staff member assisted with the translation. The interview team obtained permission to audio record the interview from the community leader and the key farmer. The interview took place in the home or in their fields without other community members present when possible. The interviewer asked the questions in a relaxed conversational style and the second person in the team carefully took shorthand notes. The initial questions concerned basic questions about the farmer's farming system and expertise. The researcher initiated the interviews by discussing the desire to help improve agricultural production through interaction with the farmers using agribusiness. The researcher also included an additional question asking how an agribusiness could most productively work with small-holder key farmers like interviewee. The result of this interviewing design was that it embedded the research questions within topics that were of interest to the farmers. This served to break down potential barriers that easily develop when asking questions about a sensitive topic like the experience of post-conflict farmer production recovery. The lead interviewer memorized the main questions to be asked and went deeper on reoccurring themes that were repeatedly mentioned. The notes and audio recordings were taken in the native language (Shan, Wa, Kachin and Burmese) by the research assistant. From these shorthand notes and recordings transcriptions were typed in the native language. These were then translated into English as the researcher worked with the research assistant. After each interview there was a quick analysis with the interview team and debriefing. This served as a member checking exercise (Creswell,

2007). Through that exercise additional themes were discussed in following interviews with care taken to ask the core questions in the approved interview protocol. Throughout the process care was taken to protect the identity of the individuals interviewed and that the interview audio recordings and transcripts were in password protected hard-drives.

Data Analysis Procedures

Qualitative data consisted of the interviews conducted with farmers. The phenomenological method relies upon rich thick description describing the essence of lived experience for a select number of individuals (Moustakas, 1994). The main data relied upon 34 interviews with farmers who had been affected by armed conflict and were considered innovative by local people. This data consisted of taped interviews that were transcribed and then coded according to modification of the Stevick-Colaizzi-Keen method of analysis of phenomenological data (Moustakas, 1994, p. 121-122).

This data consisted of taped interviews that were transcribed and then coded according to modification of the Stevick-Colaizzi-Keen method of analysis of phenomenological data (Moustakas, 1994, p. 121-122). The method was modified by Moustakas (1994, p. 121-122) according to the following steps.

Step One - Gather Data – Organize Data

Step Two - Horizontalization: delimiting to invariant units or meaning units

Step Three - Clustering the invariant constituents into themes

Step Four - Individual textural and individual structural descriptions

Step Five – Composite Structural Descriptions

Step Six – Synthesis of Textural and structural meanings and essences

These levels of analysis allowed for the data to be developed into emerging themes.

Supporting data consisted of interviews with ten individuals who provided triangulation and confirmation of data from the interviews from farmers. This data was also analyzed through the same method and utilized to develop themes. Additional supporting data was gathered through analyzing recurrent themes in newspaper articles.

These transcriptions were analyzed using NVIVO10® and coded for significant themes. These codes were compared across interviews in order to find the recurrent themes of the experience. The constant comparative method by Strauss and Corbin was utilized in analysis (Creswell, 2007).

The steps in data analysis begin with going through the interview transcriptions and “highlighting significant statements, sentences, or quotes that provide an understanding of how participants experienced the phenomenon” (Creswell, 2007, p. 61).

The next step was to cluster these statements into themes. Moustakas (1994) then recommends that these themes are used to develop a description of the setting and of the common experience concerning the phenomenon that the individuals experienced. These themes and significant statements were combined to describe the essence of the experience of recovering and adapting the farming production system after armed conflict.

Ethical and Quality Assurances

In order to increase the validity of the qualitative research methodology triangulation was a core strategy in the research design. Bamberger, Rugh, & Mabry (2012, p. 298) defined triangulation as a “strategy in which deliberate attempts are made to confirm, elaborate, and disconfirm facts and interpretations.”

In order to build trustworthiness in the data gathered the following procedures were followed as outlined in Lincoln and Guba (2000) evaluative criteria for naturalistic inquiry. The Trustworthiness table is taken from Jennison (2011, p. 68), used to “outline steps taken to ensure trustworthiness and validity” (Jennison, 2011, p. 68).

Table 1

Trustworthiness Table

Technique	Results	Examples
Prolonged Engagement	Gather accurate, “wide scope” data Relationships built on trust Rapport with participants Recognize patterns	Entered the field June 14, 2013 and remained in the field till August 16, 2013.
Persistent Observation	Accurate and in-depth data Recognize relevancies from irrelevancies Recognize inaccuracies Purposeful, comprehensive and meaningful investigation.	Observe individuals, groups, and interactions both formal and informal. Interacted with farmers of different levels, NGO workers, agricultural extension workers, government officials, and foreign aid workers.

Triangulation	Verify data by comparison	Used several sources of data including interviews, field notes, photos, project documents.
Referential adequacy	Garnering data points – a “slice of life”	Observed farms and ongoing projects, NGO annual reports Check for bias and protection of participants Informal discussions with research assistant, main agricultural contact, other researchers and NGO workers
Peer Debriefing	Discovering alternative explanations Explore emerging understanding and themes	
Thick Description	Provide data base for transfer ability Provide a vicarious experience for the audience/reader	Thick rich descriptions of settings, culture, participants, informal interaction, and data gleaned from study.

Note. Adapted from “Trustworthiness Table” by Jennison-Smith (2011). *Third culture kids: Transition and persistence when repatriating to attend university*. (Doctoral Dissertation) p. 68. Oklahoma State University, Stillwater, Oklahoma.

It is difficult to gain access to key farmers in post-conflict because of the high level of mistrust (Barron, Diprose, & Woolcock, 2011; Nojumi, Mazurana, & Stites, 2009). To gain access the researcher is highly dependent upon development organizations that have ongoing agricultural projects. This organization must be willing to assist by

using relationships built up with farmers in post-conflict villages. The researcher was also reliant upon a local agribusiness that was willing to host the researcher as an agricultural business consultant. Through careful consideration of the rights of research subjects as described by Patton (2002) and Creswell (2007) the researcher worked together with the organizations expat staff members, the local agribusiness advisor, and a contracted local researcher to gain the trust of the study subjects. Because the development organization already had ongoing work in the province and district there was a higher level of trust than if the researcher had entered communities alone. The expat staff members and the contracted local researcher were fluent in both English and at least one of the local languages that was used. In this area of Myanmar the local language was Shan, Kachin, and Wa. The government language used was English and Burmese. The concept of reciprocity (Patton, 2002) says that the researcher also provides some public good to study subjects. The public good that was shared by the researcher was agricultural consulting advice to the local agribusiness. The local communities and the key farmers wanted a short training seminar concerning corn production. I conducted two corn trainings as a way of reciprocation to those trainings in addition to assisting in finding needed agricultural equipment from the main city and bringing it to them.

Because of the potential sensitive political situation of asking questions the researcher and research assistant preserved the anonymity of the interviewed participants and was careful to avoid sensitive political topics if it was apparent that the information was damaging to the study subjects (Creswell, 2012, p. 285). In all cases the participants were asked if their picture could be taken. For those who allowed it care was taken by the researcher to not include names with the pictures to preserve the anonymity of the

participant. In some cases no pictures were taken during interviews and the names of the participants were not included because the organization or local agribusiness cautioned against it. The researcher was also careful to not broach political subjects that were not in line with the interview protocol out of respect for the local government.

This research project had an educational and capacity building component to it. This education component helped provide what Creswell (2011) and Patton (2002) describes as reciprocity or giving back. One research assistant was contracted to assist in conducting interviews, typing transcriptions, and translating transcriptions into English. The researcher trained the Myanmar research assistant in interview techniques, coached the assistant through the interview process, and provided on-the-job training in conducting participatory rural appraisal techniques (Kumar, 2003). The research assistant was a local who was hired as contract staff attached to the host agribusiness. This ensured that the research assistant had been properly vetted and had a working relationship with the agribusiness advisor who spoke the local language. The researcher also worked closely with the partnering project managers and staff to build greater understanding of agricultural extension methodologies and so that the research was well understood.

CHAPTER IV

Findings

Data Description

The phenomenological method relies upon rich thick description describing the essence of lived experience for a select number of individuals (Moustakas, 1994). The main data relied upon 34 interviews with farmers who had been affected by armed conflict and were considered innovative by local people. Table 2 shows the grouping of farmers according to ages.

Table 2

Interview Grouping Table

Group	Number in Group	Interview Number
Group 1 – Older Farmers	11	F4, F7, F9, F10, F11, F15, F26, F27, F28, F31, F33
Group 2 – Middle Age Farmers	16	F1, F2, F3, F5, F6, F8, F12, F13, F14, F16, F22, F23, F24, F25, F29, F30
Group 3 – Younger Farmers	7	F17, F18, F19, F20, F21, F32, F34
Group 4 – Other Individuals who work with farmers	6	S1, S2, S3, S4, S5, S7

Capturing the Essence of the location: Northern Shan State

Patton (2002) and others have noted that phenomenology tells the importance of the lived experience in a specific time and place. Part of understanding the essence of the lived experience is capturing a taste of what it feels like to be in the local place. The essence of the lived experience is hard to place for the reader unless there is a clear understanding of the cultural and social environment that the individual farmers find in their location.

Theme 1: Armed Conflict is always with us

This theme emerged as a major theme that to the outsider was not immediately apparent. As I began the first interviews, listened to the audio recordings post-interview, and reflected on what the participants were saying it became clear that the participants had experienced this all of their lives. Major events that moved their families were remembered but the daily intermittent conflict or the adjustments that were made daily to avoid potential conflict threat were seen as everyday occurrences. While these reoccurring events were concerning to me as a researcher and an outsider, it was seen as the normal way of life for the participants. As interviews continued it was clear that the participants could identify the armed conflicts events, actors, and threats around them but since they had always known this existence living in northern Shan State, it was not seen as anything different or special. Almost as if they were talking about the weather.

What follows are important quotes from the participants that illustrate the theme. One typical statement followed the quote that said, “It has been a very long time that we, the farmers have suffered the effects of conflicts.” This participant wanted to make it

know that conflict had been common from his family to the present. Another participant said that “There was a battle recently; around here in March and April this year.” Battles and skirmishes between the Government Military and the ethnic militias were remembered by the farmers. A participant said “I think it’s just normal and very simple for us to recognize the battle since, we, the villagers here have so many experiences of the battles.” This shows the coping and adapting ability of the farmers to this environment that was developed over time to continual exposure to conflicts. This was reflected in how sons and daughters saw their fathers and mothers adapt to this experience as they were growing up with this experience. This is illustrated in the statement, “Yes, if there was fighting, my father stopped going and getting firewood and would come back home. As I’m older and have more experience with the battle, I can easily guess the situation of battles.”

One younger participant who spent more time in the main city schools and would go back and forth to join their family at the farm noted that, “No, I didn’t face any battle field because the place where I live is not so far from the city. And battle and conflict usually took place just in the deep forest.” This shows that even those who have not been in a battle where they have had to flee were aware of where the most common areas are for conflict and battle. Another participant also made the point that the conflict was in the forest as this comment illustrates, “Since the conflicts are in the forest, the prices of corn and fertilizer are just normal. But in forest, or village in where conflicts had taken place.”

There is also a perception that this conflict is not like other conflict areas as this participant made the comment, “one thing I think is most of IDP camps here are not like IDP camps in other countries because our region, it’s situation, if conflict happens, it is

one day, two days, or one week, or two weeks. And after that time, they run away, they go to the camp and if conflict is not happening anymore in their area, they come back and they do their farming.” This understanding that conflict is always possible and adjusting to that way of life is further demonstrated by one participant who said “if there was a battle, the villagers or the farmers went and hid in the safe place and then they always checked about the battle condition. If it was safe, they would come back and continue their farming.” A different farmer shared the experience of his family and fellow farmers in saying, “We migrated one place to another in search of food and tested growing of crops like rice and corn. But nothing was implemented as the villagers were afraid of war.”

There was the common perception that even though there was general consensus that the conflict is bad for farming and the farmers who depend on their crops and livestock, there were statements like “I think the trauma is not a big problem because our regions have had fighting for a very long time, you know.” This was also the idea that certain areas were safe and the government military would protect the area. Another participant expressed the view that the farmers cannot do much about the issue in saying, “It’s not very concerning with the villagers, it’s just depending on the armed troops and military.” This statement illustrates that the farmers expressed resignation about the situation and believe that their farming being affected by conflict was really in the hands of the government military and the armed militia groups.

Theme 2: Forest is our refuge

An essential part of the experience of experiencing and recovering from conflict for the farmers in this study was finding an immediate refuge to flee to. Sometimes the farmers received warning ahead of time of the outbreak of conflict. This warning came from family members in insurgent militia groups, local traders, government officials or military members. The farmers had to judge when to leave. One participant stated that, “It’s depended on the battles” when they would run from the farms.

This gave the farmers sufficient time to make it to a refuge area. Other times the farmers had no warning and had to flee immediately. The overall theme was that for the small-holder farmers in northern Shan State was that they would flee with whatever they could grab and go into the nearby forest to escape either of armed forces that had surrounded or entered their village. The effort was on escaping as quickly as possible. There was a danger if they did not leave soon enough as evidenced by the comment, “Some people escaped and run to the safe place. Some were arrested and forced to be a porter to carry things.” Not only is there fear of being physically harmed but also the fear of being pressed into being a porter for either the government troops or the insurgent militia groups. Besides being caught in the cross fire of battle or being a porter there is the added burden of being forced to cook for the armed forces. Hence the urgency of the farmers and their families in fleeing as soon as the perceived threat was critical. When surprised by armed conflict erupting a farmer noted that “they just run when they heard firing; the gun’s voice or similar battle sounds.”

Most participants described the fleeing into the refuge areas as vital to their survival. One stated, “if there was a battle, the villagers or the farmers went and hid in the safe place.” And “Mostly, the battles happened just in the forest. But if the battle took place in village or around the village, the villagers had to go and run to the safe place, to the forest.” Other participants also emphasized fleeing to the forest as in this statement, “When the battle occurs, the villagers flee to the forest and hide for their safety. They could bring nothing with them, because they couldn’t help but emphasize their survival.” Another stated that, “They go and hide in the safe place not so far from their farm” and another said, “if there was a battle, the villagers or the farmers went and hid in the safe place.” All these statements taken together emphasize the common theme of retreating to a safe area to survive the conflict.

When the participants talked about what they could take with them there were varying responses but the common response could be summed up in the statement, “The farmers have to abandon their fields when the battle took place. They leave all their prosperities and try to find a safe place.” One participant described a time when there was sufficient warning of conflict but that there was still a loss as the “villagers had to sell all their prosperity to the businessmen like Chinese businessmen. They did this because they could not carry their produce and goods with them to the forest.”

In not all situations did armed conflict engulf their villages and force the villagers flee from their homes. Sometimes the conflict was in the forests surrounding the villagers as noted by one participant, “battle and conflict usually took place just in the deep forest.” Unfortunately, for the farmers their swidden corn fields and upland rice fields are also in the forest. This situation, although not as decimating as their homes being

destroyed, still caused economic damage and hardship. One farmer said, “Yeah, when the battles took place around this area, the corn production plunged for one year because no one dared to go outside the village or to their fields.”

Not all the farmers followed the same strategy of hiding in the forest. One farmer noted that “No, we didn’t run away, we just dug a hole and hide inside there.” Another farmer noted that “Yeah, some run to the forest, but some to their relatives who live in city.” This shows that in some cases the city is now seen as a refuge. The difference of whether one flees to the forest or to the urban centers could be dependent upon whether the villager is in an insurgent militia controlled village or in a government military controlled area. Regardless, if conflict strikes quickly and unexpectedly the immediate action most farmers experienced was to flee directly to the forest.

Some farmers remembered how they sustained themselves while in the forest area. One farmer noted that, “Yes, they have some people who go and find bamboo shoot.” Another made the comment that “they get from the forest bamboo shoots, or mushroom.” This forest was traditionally the safety net for swidden cultivators when they faced food shortages, crop failures, and need for nutritional supplementation to their diets. The experience of the farmers was that the forest could sustain them for short periods if they were not being pursued heavily by armed groups.

An additional component of the experience of fleeing to the refuge area was knowing when it was safe to return. This response describes the typical response, “if there was a battle, the villagers or the farmers went and hid in the safe place. And then they always checked about the battle condition, if it was safe, they would come back and

did their farming.” Those who experienced conflict knew that once the battle or conflict had calmed down they were then able to return to farming. Another farmer echoed this response in saying “The conflict usually did not last too long. Just for a while. And then they could start growing again.” One participant said that the some of the armed forces would “play a horn after the battles finished” to indicate the battle was done. Other farmers said that sometimes the conflict persisted and it was not safe to return to the farms. One said, “No, they don’t dare to go back to their places. They don’t return for one year, yes, almost two years.” Even when farmers returned it was often not the whole family but those who could take the risk. “Some people who come back for a while to their old village were especially men and youths.”

Theme 3: Fear of the government and militias mitigated by familial networks.

Discussion of fears brought on by insurgent militia actions and government military actions was a sensitive subject. As study participants discussed their experience of recovering and adapting their farms after armed conflict it became evident that family and personal networks were the main mode in which farmers coped with and managed risk inherent in a zone of intermittent conflict. The connections were not limited to family and included friends and relationships.

An essential part of this theme was the understanding that the farmers experienced real fear of both insurgent militias and the government military in the conflicts. The complex political and military situation in Northern Shan State meant that there was the government military as a force along with insurgent militias that fought against the military. These militias were predominately formed around ethnic identities. Then, to add

to the complexity there were also splits within these groups resulted in additional armed militia groups that identified along ethnic and religious lines as either Christian or Buddhist. The Myanmar government encouraged these splits as part of a “divide and conquer” strategy so that in many instances there would be conflicts in which one insurgent militia was fighting against another militia and the government military. The tendency for many of the militias to have separate ceasefire treaties with the government meant that some groups would be fighting the government while others would maintain a ceasefire. This complex situation had gone on since the 1960’s. The villagers had real fear of all of the warring sides in the conflict. One participant said, “villagers or farmers are always afraid of not only the ethnic troops but also the military government.” Another said, “So, the villagers, they need to struggle between armed group and military. Both sides are ready to fight at any time.” The villagers had to be continually aware of the differing sides and seemed to be caught between the warring sides. The was shown also in the comment by one farmer, “According to me, it’s just my opinions, it’s not always but sometimes, because of the armed group and military groups; but also the (ethnic group) people, according to my experience, most of the (ethnic group) people is also like that. Sometimes they need to struggle between these two groups. But sometimes, if the military and armed groups are ok, if they have no war, it’s so ok for them.” All of the respondents were members of minority ethnic groups so there could be a negative bias against the government military. Yet there were frank observations from some farmers that often the insurgent militias could be more disruptive and fear inducing. This comment demonstrated that. “We are more afraid of (insurgent militia) than the military government. As if the government found them guilty, we would go to jail but the

(insurgent militia) killed those who they don't want or who they think is guilty." Farmers in remote villages were usually in the buffer area between where the government military was willing to go and where the insurgent militias had their areas of control. It was natural that they would be caught between these two sides and have a healthy fear of either side.

In managing their situation the farmers talked about their connection to family members or relatives that they had in the military. This emerged as a nuanced tactic to mitigate or reduce the fear of being preyed upon or engulfed in a battle that could destroy the farmers' productive capacity and endanger their physical well-being. One farmer said, "Yeah, some villagers have their relatives in the military. So then, they hear and know when they can come back to their village." A family member in the military enabled the farmers to have an early warning of battles and when it was clear to return, as was the case with this farmer, "Yeah, they have some villagers in armed group. So they know when to get back. In addition, the battles mostly took place no more than a month. But it is very often."

Another key farmer described using personal connections to insurgent militia members to protect villagers. "Yeah, it depended on the personal social activities. I know some of the guys from the military. I asked help from them for the safety of the villagers. Moreover I organized and arranged the situation of the villagers like when not to go and hide or let's go to hide."

In other situations the conflict brought on by Government military action resulted in, "villagers run to other places for their survival and joined with the (insurgent militia

group). This response was typical if a farmer believed that they had a better chance of survival with the militia group or believed that they would be negatively treated by the government forces. Other farmers affiliated themselves with the government military as one older farmer indicated, “I’m the village leader in this area. I’m one of the elder people of (minority ethnic group). I was in the government military in the past. I had been a soldier for 21 years.”

In many instances, joining the military was not an optional choice as coercion in joining the military or insurgent militia forces was common throughout Northern Shan State. This harsh reality was reflected in the statement, “Yes, they have some villagers that move to other places. Because they are also afraid of being a porter, you know, yeah, they have to serve in the military. It has been ten families that have gone in the military for serving. And there’s no camp.” The harsh conditions these farmers and their families experienced meant that this tactic was rarely more positive than staying in place if they could. Another farmer stated, “If they were intellectual, they would be forced to work in military. That’s why the (minority ethnic group) villagers were not allowed to study by their parents or relatives.” In this experience the villagers are trying to reduce the desirability of their sons in being inducted into the military or the insurgent militia group. The parents are doing this even though the local trend is to encourage children to get an education. Another farmer explained how the farmers are to be in that “they have to be involved, they have to participate in armed group especially for male. So, they have to quite from the farmer field’s school and have to leave from the village.”

Another mitigation strategy shared by the study participants was relying on familial connections and understanding of the seasonality of the warfare. One participant

shared that “because the rebellion group also grows poppy like (Name of insurgent militia group), they don’t want to destroy the poppy crop the farmers were growing.” The farmers were growing poppy at the encouragement of the insurgent groups and selling it to those same groups. Because the insurgent militia group benefitted from the sale of poppy the militia insured that their battles took place after poppy harvest. One farmer stated, “but especially, the battle took place after the harvesting of poppy.”

At other times there was a strong connection between the insurgent militia and the farmers. One farmer shared that, “Before the battles they (the farmers) already know when the battles would take place.....No field was destroyed in the battle because most all the rebellion soldiers are also farmers. So there was no effect on the fields by the battle or conflict.” The common farming background between the farmers and the insurgents helped provide protection to farmers fields when it could be avoided.

Farmers also coped with the fear of the armed forces by relying on connections with farmers and family members in other villages. One farmer stated, “And then, after the battles, even though they have their place, the old place, they don’t dare to go because both sides; military and rebellion group, are ready to start again at any time. So they ask the other village to stay with them.” And that “the people in the village are willing to support these refugee’s.”

Theme 4: Loss of animals and seed stock

A strong theme was the difficulty in recovering from armed conflict and battles because of the loss of their animals and their seeds. This theme speaks to the destruction of the physical resource base that the farmers relied upon. In addition, to this issue of

resource base destruction was the inability to attend to timely tending, preparation, and harvesting of field crops.

Traditionally, animals are an important component of the upland farming systems of the farmers in northern Shan State. Buffalo, cattle, pigs, and chickens are usually found in the traditional household. These animals provide draft power, ready source of protein, a source of manure for the rice paddies, and an unofficial way for preserving and building household wealth. Discussions with the study participants confirmed the importance of animals in the farming system. One farmer confirmed this when declaring, “Yes, almost every house had buffaloes.” Other study participants described how chickens and pigs are common to every household no matter how remote.

The theme that arose was the loss of these important animals. One farmer said, “So, they don’t have time to get their rice. They don’t have time to get their buffalo. They just had to run.” The animals were left including valuable buffalo. When the farmers returned to the village after it was deemed safe there was the overwhelming realization that, “when they came back, they could not see their raising animals. Just their farm fields were left. All the animals were shot and made food by the soldiers -yeah, government soldiers and rebellion soldiers.” Another farmer returned to find that “Almost all the animals died by bombs. Some were killed by the soldier for the food. Moreover, the soldiers destroyed all their stored food and commissariats.” A farmer recollected how in his village, “For animal grazing, we grazed so many cows, buffalos and pigs in the past before the war. But they all were made food by the military government.”

Another group of farmer's, when they returned found that their animals had disappeared and were not sure who had taken them. As far as they could tell, "sometimes the military came and caught their animals and sometimes the armed group came." A farmer also had the same experience where "their grazing animals were killed for food of the soldiers." This response was the same as another who said that "The soldiers killed the animals, killed them for their food. But they don't know which side."

A farmer also noted that "Yes, they have. If the battle took too long, their animals like pigs and chicken could be the soldiers' food." Sometimes if the battle or conflict was short then the farmers would not be affected. One farmer shared, "Our animals were just normal. Nothing took place to the animals because the battles are not so big, only small." This indicates that the shorter battles that occur far from villages in the forest take a smaller toll on the animals of the farmers. The statement in which there was little effect concerning the animals was an outlier with the experience of the other farmers.

More often complete loss was experienced, similar to this farmer's experience, "But during the battles, we couldn't grow crops well and graze well too. It's because the military government saw our growing crops were good, they would conspire to destroy almost all the plants we had grown. Animals also. First they asked for two or three buffalos and pigs for their meal to the village leader. But behind the eyes of the villagers, they captured our animals and made food." Another farmer described, how "a lot of animals disappeared. Some were killed by the soldiers. Some are taken by the government, military government soldier. Not only animals but also all the fancy clothes and other things were taken, yeah, the soldiers took almost all their property." Other farmers in their headlong flight from the pursuing armed forces said, "At that time, we

had to run out to the other place and we could bring nothing with us because not only our houses, our farms and our animals but also our clothes and cooking pots were on fire.”

Another farmer also expressed how everything was lost saying, “No, we could not even bring our cooking pots.”

Some farmers focused on the loss of their main food energy source. Across all the ethnic groups in northern Shan State the food source is rice. Both paddy rice and upland rice are grown. These two crops are produced in a different manner, with one being grown in paddy fields and submerged through part of the plant life cycle, and the other remaining dry on hillside farms. The end result though of both types after harvest is rice that provides most of the farmers’ dietary energy. The farmers’ life is dependent upon raising a rice crop, harvesting the crop, storing the grain, and then eating this rice throughout the year. The farmer also preserves the seeds for the next years planting. Some of these varieties are unique to their villages are local district. Most of these farmers do not have excess rice as they are in a subsistence level of production. The farmers’ strategy is to produce enough rice for their own food needs for the year. Then additional fields are planted to corn or another crop that can be held in reserve to feed to pigs and chickens or sold for cash to purchase essential items. For these farmers, the loss of their rice stores or the loss of their standing fields of rice can be devastating. This puts into context the following statements.

A farmer described his experience of being forced to feed and host armed groups from both sides in their village. The farmer said” Once, when not only the military but also the armed group came through the village, the villagers had to cook the rice and treat them (armed groups) with a good meal. According to their experiences, now fifteen sacks

of rice is gone.” Along with being forced to be a porter, the burden of having to feed large numbers of armed forces leaves the farmer’s food stores decimated.

The farmers also have long-term perennial crops that are also lost. One farmer related how the farmers in his village lost rubber trees and fruit trees that they had planted. “They lose them. They lose all the plants. They lose their lands and all their prosperity.” Rubber trees require investment and seven years to reach initial production. Most of the fruit trees also require three to five years to reach productive stages so the loss of this investment can be truly devastating to farmers trying to develop more productive farms.

When the farmers are faced with conflict they face the prospect of loss of their animals and of their grain stores and seed stock. They also face loss because they are not able to complete timely planting and harvesting activities. It has already been mentioned how family relatives or friends in military and insurgent militias warn of impending battles. In addition the insurgent militias are often dependent upon the local populations for their food and refrain from initiating conflict during key harvesting times. Still, there are times when battles are not delayed until after the harvest or government military has a scorched earth policy of denying grain and foodstuffs to the insurgents. It is during these times that the farmers face livelihood destruction and loss of all grain for the year.

One farmer described this experience, “The farmers have to abandon their fields when the battle takes place. They leave all their prosperity and try to find another safe place. But when they came back, some of their fields and food stores were destroyed. If the battle took place in the growing season, there would be nothing to do for the farmers.”

Another study participant described headlong flight into the forest, “As they run to the forest, they could not take care of their farm, their animals, and their corn fields, so their lands were destroyed by their animals and or wild animals from the forest.” In this case the inability to watch over the ripening rice and corn fields resulted in animals and even the farmers own animals that had broken loose, eating all the grain.

A farmer stated, “Yeah, they don’t dare to go sleep to their fields. And also, they could not make preparation for their fields at that time. For another one (village), some people could not harvest at that time. Mostly the battles take place on the harvest time.” It is common practice for farmers to stay in simple structures they have built to watch over their fields during the last two weeks before harvest. This prevents wild animals from destroying the grain. During armed conflict these farmers were not able to do that.

Not only was there loss of animals, rice stores, and seeds, there was a loss of communal/national resources like important hard woods of many species and the prized hardwood species of teak. A forestry officer who had familial connections on both the government military side and the insurgent militia side said, “There was side effect on the forest when the battles took place. Because they could not look after the forest and then some groups are already in the forest that cut down and steal some wood and teak illegally, you know. And they sell to the China or Thailand.”

Theme 5: The market is gone.

A theme that emerged in the discussions was how market opportunities disappeared as a result of conflict. Resource poor farmers living in villages have difficulties in engaging in markets during peacetime. Yet, it is an important part of

farmers' ability to avail themselves of needed cash. Common strategies in northern Shan State are to sell excess grain crops or specifically plant a cash crop with hopes that the market will supply buyers when the crop is harvestable. Other farmers respond to contract farming invitations to plant specific cash crops promoted by buyers in expectation that the promised purchase price and quantity will be realized. Some farmers in remote areas plant illicit cash crops like poppy; that is grown for opium production. This has been encouraged for decades by insurgent militias. Another opportunity that some farmers have is as labor on agribusiness plantations. These are the main ways that resource poor farmers in northern Shan State take advantage of the market.

Armed conflict can result in farmers losing their cash crops or excess grain that they intended to market. One farmer described the following experience, "We, the villagers got big trouble as the military government organized and controlled all the products and goods. The only reason was they were afraid of the villagers supporting the --- (insurgent militia). Moreover, we had to be afraid of --- (insurgent militia) because if we didn't supply the rice or other foods such as meat and vegetables something like that, we could be killed. So, we didn't show all the rice and food to the military and we hid the food in the ground in order to supply --- (insurgent militia). The villagers could not even eat freely." This experience illustrates how the villagers are stuck between two armed sides and had to give away all their marketable produce.

A study participant noted how unstable the prices were for the products they were trying to sell. "The problem I think is prices are unstable. For everything, every crop, not only corn are the prices unstable."

The farmers deal with prices that drop as the traders that come to the village realize the farmers must sell their produce quickly or risk losing it all. The traders take advantage of the situation. This quote helps explain the situation, “When the battle took place, the prices for everything was very low. And the villagers sell all their prosperity to the businessmen like Chinese businessmen.”

Another difficulty that is part of the recovery experience is that transport for farm goods and for villagers to make it to market towns is difficult or cut off because of the conflict threat. One farmer said, “Meanwhile, I was in the militia with the other villagers. At that time not only import but also transport was cut out.” Another farmer described how the ability to market their products had not yet recovered, “Because of the transportation, it’s very difficult for the trader. Most of the trader they can’t go into these areas. Yeah, too much time, too hard. But most of the traders, they just stay in the main town, they come and buy and sell in the main town.” Another farmer in a remote village described that they grew corn in the past just for the feeding of animals. But just a few people came to their villages and bought corn by using horses.” This method of using pack horses is the only way the remote villages in conflict zones can get any produce out. The farmer described how, “the villagers, themselves, they can’t sell to the town. Just some people came to their villages by horses, carried by horse.”

The fear of conflict also means buyers and traders will not risk traveling the rural roads to purchase the farmers produce. A farmer described a high value crop that could not be sold, “Yeah, it has a high cash value and but we have difficulties to trade; to sell; there’s no access to market.” Another study participant described the situation of the farmer in the context of not having buyers, “I think the main need, the essential need is a

trader who trades from the village to the city because we don't have a buyer. Yeah, I mean although we can grow very good crops, we don't have a buyer or trader. So that, most people don't dare to grow crops." Another farmer said that, "It's impossible for them to sell to the city- not only because of the battle, but also because of inadequate products to sell." A village farmer leader said, "business men that live very far away from those areas where battles took place will not come back to trade."

For the remote villages the lack of access and coercion by insurgent militias mean that the cash crop that is often grown is poppy which is illegal in Myanmar. One farmer described the remote village cash crop in this way, "they can get from the forest bamboo shoot or mushroom. But you know, they grow poppy rather than corn."

Off-farm employment on large agribusiness plantations is an additional way that farmers supplement their livelihoods during lull times in their farming season. It is an example of the growing off-farm labor market. When armed conflict occurs this opportunity is lost. One farmer was asked what happened when there was a battle near the Chinese farm plantation; did the Chinese run away? The farmer responded, "Yes. All the Chinese businessmen were run away to the China. For example, the battle took place in ----- (district name); it's not so far from China." The result was that farmers could not earn money during that time. During times of conflict the farmers noted that they lost opportunity to work and earn cash.

Theme 6: Big Agribusiness/Government Military/Insurgent Militia's control land and employment.

A strong theme that emerged was large agribusiness and the government military controlled much of the best agricultural land. This has been encouraged by the Myanmar government both at the local and regional level. The insurgent militias appear to have a weaker hold on land except for a few exceptions. The militias do expect to collect protection money from the few agri-business' that are able to operate where they are located. The common explanation of farmers is that an influx of foreign businessmen has driven up land prices. Large plantations producing a variety of agricultural plants for the Chinese market is the trend. The common theme discussed by farmers was that they did not have access to land. Many farmers also were constrained because they lived in areas where the government military had appropriated land for security reasons and concentrated the farming populations into villages near the main roads. These farmers then have to rent land from the military.

Study participants explained that the armed conflict was the precursor for their displacement from their traditional farming lands. Many mentioned a government policy to move farmers. A farmer explained, "According to our region, in the past around 1990, the military forced everyone to combine in one region. Before that, there were a lot of separated villages; small villages. Then they combined into one village; into a big village. So, that's why they have to let their homeland, their farm land remote to the new region to the new location or new village. That's why they became landless farmers." Another farmer related a similar experience, "Yeah, the difficulty is around 1990, they combine in one region and then they (farmers) have to leave their farm lands, their forest areas. At

that time, now, after combination in ----- (local region), I think, this depended on the conflicts. So, the military want to cut out area between military and armed groups. This is the strategy. After that, many lands are abandoned. So, many company and many wealthy people take this land for company fields. This is the one reason of landless families.” The farmer has made the causal connection between conflict, military strategy, and wealthy businessmen filling the vacuum created by forced movement of the farmers.

Other farmers that had been resettled found that they relied on the government military to rent them land. One farmer said, “All our growing lands are not our own. The military lend it to us to grow corn.....But they have to pay back the land tax” The common practice the farmer shared is that they have to pay a fixed amount of corn yield per acre each season. Another farmer shared that, “The upland land is also borrowed from the military. But in the past, all that land was owned by the villagers. The military seized all the land.” Now the farmers must make official requests to farm the land that they had farmed before, “we ask permission to do agriculture in our old land.” Another farmer described the experience in his village, “They lost their land because of the armed group and military. Although the war is stopped, they are still staying around those areas where they’d been fighting. So, for the villagers, if they want to go to their farm land or if they want to go to their work, it’s not ok for them. Mostly, they lost their farm land.” The loss of this land has caused many farmers to rethink how they can adjust to the land, “Another problem is that the government seized all the ----- (ethnic group) land and then sold to the company. So, if the ----- (ethnic group) villagers want to work using their intellect, they have no knowledge. And also if they want to farm, they have no land for farming.” This farmer expressed the harsh reality that they lived with every day. “Yeah, in the past,

every person has farms before the government military base was established. The government military seized all the farm land and gave the villagers the other places. Yeah, after the villagers cut and clean all the farm areas, the government military seized again those places and sold them to the Chinese businessman.”

Farmers responded to the restricted access to land by growing only high value items in their house compounds. Farmers expressed that they did not receive corn growing expertise from the government military who rented them the land. There was also the expressed feeling that there was not land available to them. A study participant was asked if they had new land to go to and the participant responded, “No, no, we don’t have any land.”

The companies arrive when it appears that the conflict is winding down. A farmer said, “The Chinese company just came after the battle finished, yeah; a ----- (commodity) Company is the newest; it just come in the beginning of the year.” This situation was similar to another area where the farmer said, “There’s no farming for the local people in this area since the Chinese businessmen came and bought almost all the land.” The farmer related how that now the farmers work on the Chinese business farms.”

Other farmers also see that local village officials are also an important part of making the land transfer and seeking the highest payment for land. A study participant said, “Yes, as much as I know, lands are decided by the local authority. If you give some bribe to them, then you can buy land as much as you want. It is very easy. All the lands are decided by the village leader.”

Some farmers understand that the problem is not just a local issue but also in other parts of Myanmar. Another farmer expressed concern that the land is not cared for well by some of the wealthy businessman. A farmer said, “last year, Chinese came here and grew watermelon at one the farm which they rented. They put much more fertilizer than it’s directed to put. So that, the farmers’ lands has been destroyed by this way.”

One aspect of control is the rent seeking that occurs mainly by the insurgent military forces. One farmer shared about “they have to pay tax to the armed troops. Because of very far away from the city, the government doesn’t dare to go there. So, they don’t have to pay the government.”

A significant part of the experience of farmers in northern Shan State is the opportunity to find employment with large agribusiness farms. In general, the farmers regret the loss of land holdings they possessed before major conflict periods but have accepted the reality that the opportunity to earn cash is the result of the many large business farms. The resource poor farmers are aware of the wage’s that are paid at the different plantation farms. One farmer noted the greater wage on the farms near the border with China. The farmer said, “the pay is good, they mostly use the Chinese Yuan. That’s why, the money is higher and the labor fee is higher than this area.” Another farmer said, “After the cease-fire, the farmers just grow crops as they normally do. They have no money to plant fruit trees or rubber. If you see the rubber fields, you know that it’s owned by the Chinese businessman. And some farmers go work on that Chinese Businessman fields to get money.”

On the plantation farms the farmers commonly worked in work crews and weeded, applied fertilizer, and harvested. Some companies would also use contract methods, “The company loans money to farmers who own land. The company gives them some favor in building a road, loans for fertilizers and something like that. Later, the farmers have to pay back the money they borrowed within three years.” Some companies also provided technical assistance, as this farmer shared, “The company helps the farmers with growing; gives advice about how to grow, how to fertilize, until harvest.”

When the people would work there would be opportunity for both men and women to work on the farm. A farmer did see his experience of working on the farm as a positive experience. The farmer said, “Yes, it’s a good experience for me, because I can learn new farming methods.”

Another farmer saw the benefit of the farm plantations because it brought more opportunity for trade with traders from China. The farmer said, “They can’t say exactly that the prices are good or not. But if the gate of the Chinese border opens, they get high price, a good price.”

Theme 7: Prolonged Conflict causes movement to safe areas and neighboring countries.

This theme was focused on the difficulty of maintaining productive farms when there was reoccurring conflict. There is also difficulty in finding an outlet for productive employment for the young people. The trend is young men and women leaving northern Shan State and moving into neighboring countries like Thailand and to the border region

with China to seek employment. They would then send proceeds back to the families that remain in the country.

This trend of movement to safe areas is evidenced by the following comment from a study participant, “Mostly in ----- (neighboring administrative region), the villagers were traumatized about not going back to their village. So that, they go and find other places and built the new village.” Another farmer shared, “We migrated one place to another in search of food and tested crops like rice and corn. But nothing was implemented as the villagers were afraid of war.”

Some farmers found it difficult to move to safe areas. A farmer said, “It’s difficult to find a new land. As my experience, we asked other villages to share their land. But they are not supposed to get the land and to stay there. Finally, some people just went back to their old place. But some people went to a refugee camp.” A farmer talked about new villages being formed in safer areas than where armed conflict was occurring, “almost all the villages was destroyed after having conflicts. And then the villagers from those villages became refugee. Then, all the villagers are organized and then they built a new village.” Other farmers tried to reestablish a farm but found that it was difficult, as one farmer shared, “but because of this situation (armed conflict), most of the villagers, they left their homes and their villages. They moved village by village, village to village.” Some farmers in becoming involved in political processes and this meant that they could no longer remain in the rural area between the government military and the insurgent armed forces. A farmer shared this experience, “I took responsibility as a representative for the ----- (political party) here, then I didn’t go back to my town. I just live here ‘till now.”

A part of moving to safe areas for many farmers is to move to the city or the peri-urban area around the city. One farmer talked about the experience of the farmers in his village, “Some people find and rebuilt a new village, but some people just go and work in the city.” Another study participant shared about the generational experience of being uprooted from traditional farming lands, “Before most of the ---- (ethnic group) people lived in Northern Shan State, especially who live in Lashio township areas_ they came from ---- (administrative region) close to China’s border. Most of the people, they came from ---- (administrative region) and they separate out all around Northern Shan State and especially to this Lashio township. So, because of the civil war, they left their home, their farmland like that; they left all.” Another study participant shared about the effect conflict had upon their life. “It’s a big problem for them. So they become migrant workers and daily workers. It’s the life of the --- (ethnic people) who live all around this area.”

The other part of the experience of farmers affected by conflict is the movement of whole farming families or the working age adults and young people moving to neighboring countries. One farmer talked about how after conflict neighboring farmers fled to China or Thailand to escape conflict. Another farmer said, “What could they do? So the ---- (ethnic group) people flee to Thailand and also people flee to China. Some came back but some did not come back.” A farmer talked about the same experience in his village, “Yeah, they have no land to grow. So then, some people sold their house, their compounds and then fled to Thailand. They have no leader standing by the ---- (ethnic group) people.

An older farmer who experienced armed conflict more than once talked about his children, “I have six children. The eldest one is in ---- (insurgent militia army). My third son is now help with the refugee in ----- (administrative region). My daughter goes to work in China.” This is very typical of the experience of farmers in northern Shan State. The younger men have decisions to make about what they will do. One farmer said, “After dropping out of school, some guys went to Thailand and China. Since, their families couldn't afford for their daily eating. But some are still helping their parents with the growing crops.” One farmer explained about how his son made the decision to go to another country. “They just got 2,000 kyats for a day from that company. It’s not enough for our family’s eating. So, they decided to go out to Thailand.” The young men and women who go to other countries have the ability to make enough money to send back to their families as this farmer shared, “I saw some young men in this town have gone abroad for work and they sent money back to their families.” As the farmers and their children are more aware of opportunities and there are safer opportunities to travel across borders they can take better opportunity of becoming migrant workers. This study participant shared, “Yeah, in the past, in our regions, we have conflicts. But in the past we did not have awareness of how to connect with town areas or abroad to Thailand. But today, many young people, many young boy also girl, they have some awareness of how to connect with the town area people and they dare to go to Chinese or Thailand or town areas. So, this is some solution for their difficulties.”

Theme 8: Rebuilding Food Production

This theme emerged as farmers described their practices and efforts to rebuild food production during times of post-conflict and intermittent conflict. The general

components of this theme were animals, crops grown, new methods, preserving the resource base, beneficial social structures, and market interaction.

Farmer faced the struggle of rebuilding their food production by borrowing money to have their animals again. They were able to raise animals by finding chickens, pigs, and purchasing buffalo. One farmer shared the experience of finding animals again, “we raised animals again, when we came back to our farms.” When the farmer was asked where the farmers got more animals he said, “Yes, they went and get from another place.” Another farmer described how a farmer gets more buffalo, “by borrowing the money, they bought new buffalo.” This indicates that borrowing money is important for replenishing animal stocks.

A second important component of recovering food production is having seeds and planting material to begin crop production again. Some farmers still had their original heirloom seeds. These farmers had been faced with conflict but were able to preserve enough planting material and they were also far from the city or major towns so they did not have access to seeds from companies. The farmer said, “The villages are very far away from city, so farmers just use original seeds.” A study participant described how the farmers from different villages would help each other. The participant said, “for example, if this village was destroyed by conflict, the other villages would help and look after the villagers from this village by supplying seeds and some foods to eat.” The farmers that needed help gladly took the seed as the farmer said, “they just grow whether the seed is good or not. They don’t know and they don’t care.” Then as their situation stabilized the farmers would begin to be more concerned about the quality of what they were growing,

“Yeah, they talked together which one was the better one. And then, chose the better one. They did not grow the bad one (seed) in the next year.”

Many farmers said that all the traditional varieties are gone. So they turn to using the seed that can be borrowed from other farmers or purchased from seed and fertilizer companies. This farmer experienced that saying, “It was not too difficult. We could easily find and buy seed from other villages. Before 2000s, we never heard about CP corn like 888, 301 something like that.” But other farmers now rely on seed companies for their corn production seed as one farmer stated, “CP Company and other companies like them lent them seeds and fertilizers. After harvesting they have to pay back the company with double interest.”

Farmers often began growing new crops after armed conflict had uprooted them. This farmer related, “They started growing new seeds like corn and rubber and tea like that in 2002.” Farmers also noted that in this area of northern Shan State farmers did not often plant cassava as a conflict resistant crop. The farmer said, “During my father’s times, they grew corn and rice. Rice was for eating. If there was not enough rice, they had to eat corn mixed with a small amount of rice. We planted only a little cassava, just two or three plants, just a little bit.”

A farmer noted that, “They don’t grow long term fruit because the land they grow corn on is not their land. But they grow long term fruit in their own compound.” Other study participants emphasized that farmers also need rehabilitation, “Some agriculture tools, buffaloes, and seeds will be needed to recover their farming. But first, we have to give some rehabilitations training or stress management training or something like that.

Food will be needed for them, during the starting of their recovering of farming.”

Another study participant emphasized that for farmers facing intermittent conflict there is a reluctance to plant anything long term, “they (farmers) are not so sure about their land; for example, when shall they have to flee? So they don’t dare plant fruit trees or long term plants. But we, the facilitator have to be good at persuading or presenting for them why they should grow long term fruits.” Often, local non-government organizations provides needed assistance to help farmers recover, “the ---- (local NGO) lent them seeds to recover their farming.”

Because uprooted farmers have to adjust to new soil types and other changed activities they often look to new methods of planting or raising animals. Sometimes they get more involved in marketing activities. There are still problems though as they adapt to new methods and agricultural inputs. A farmer shared the villagers experience of using fertilizers from China. The farmer said, “Some villagers don’t want to use the fertilizers from China. Because of the quality and it could destroy the soil after three to five years. That is the villagers experience. So now, they try to use Awba (Thai fertilizer brand) that’s from Thailand although it’s more expensive than Chinese fertilizer. By the comparison of using Chinese fertilizers and Thai fertilizers, they, the villagers recommend Thai fertilizers more than Chinese fertilizers. The farmers need good quality fertilizers. But they would not prefer to use organic fertilizer.”

As many farmers have been faced with the loss of land suitable for shifting cultivation and forced upon smaller land plots or renting land they have become more focused upon the natural resource base they have. It was noted by many study participants of the negative results of harvesting bamboo shoots for sell to itinerant

Chinese processing companies. The farmers described how there would be unsustainable harvesting of bamboo shoots until there would not be any regrowth for later harvests. Then the processing company would move to another location. The farmers realized the loss of an important food and cash source. In this example and with the examples of excessive inorganic fertilizer and pesticide use the farmers are beginning to express the need for preservation of the little resource base they have left.

Even as farmers are aware of pressing environmental and food security issues, the years of conflict have eroded away the traditional social structures that helped to provide communal preservation of forest resources or management of water resources. Many farmers expressed their initial attempts to rebuild social cohesion after conflict. Often this is done together with NGOs. One farmer explained how farmer field school's helped farmers to gain access to land, "Before the farmer field's school program, in the village they have a lot of landless farmers, landless families. After farmer field's school, they conduct and they cooperate with community leader or farmers' leader. And after that, they gained access to farm land. That's why some landless farmers, some landless families, they became the owners of small lands." Another study participant shared how farmers' groups were formed so that, "Yeah, the refugees are not together at the same place. The ---- (local NGO), composed a group to help them. The ----- (local NGO) organized financial support for the group.

An important finding confirmed that there was an impact in agricultural extension methods that are used with farmers affected by conflict. An example of this was explained by one of the study participants. The study participant said, "The villages are not the same; some villagers got stuck in battle, some just heard from the other villages

which were near or around them. Nevertheless, they all are already afraid of battles. But by establishing the farmer's field school, we can reduce the villagers' fear. If the farmer field schools were not there, the villagers would go to refugee camp." This finding shows the importance of rebuilding social cohesion when there is threat of conflict.

Farmers regularly engage with the markets more than many of them did in the past. This can cause problems as the following farmer relates, "Many farmers borrow money from corn traders. Then they had debt to pay back. Because they could not pay as soon as harvesting had finished they are caught in debt."

Summary

This summary is composed of the composite textural description of the phenomenon and a description of the essence of the lived experience of recovering and adapting after armed conflict.

Textural description

The textural description describes what the phenomenon is. The study participants revealed the experiences they had in rebuilding food production ability in post-conflict farming communities. In the composite description it should first be noted that armed conflict and its effects were a regular part of life in northern Shan State. This experience goes back for many generations and has impacts on every generation and how they farm and make their livelihoods. Because of this permanence of conflict every person in farming community is aware or subconsciously adaptive to adjustments in their farming practice. This is a reality. One short term strategy is to flee to the forest to survive. If given more time and close enough to a major city then flight is toward the city as the

place of refuge. The time of return is never known for sure but the fear of the government military and the insurgent militias is mitigated by familial networks. This is a long-term strategy that enables farming families to adapt and survive the ebb and flow of advance and retreat between the fighting forces. Another reality is the loss of animals and seeds for maintaining agriculture. The animals and seed stock are a way of accumulating wealth and the loss of it has great consequences. Besides the loss of life, this is one of the great losses to farming families which is one reason why armed conflict is so destructive to them. Another reality is that the market disappears for their goods. The marketing networks that were built up are severed as traders can no longer risk traveling up to where farmers can access them. Prices for products before the impending conflict drops as traders shrewdly take advantage of resource poor farmers. Another reality is that the effects of conflicts have moved farmers off their land and then the land is sold or leased long term to large agribusinesses for plantations to be developed. The result is that currently in northern Shan State many farmers struggle to find land for agricultural activities. Large agribusiness' also control opportunities for day labor activity. This is also a strategy that is employed by the farmers. The opportunity for off-farm employment provides farmers a way to have cash for improving their farming practice and to pay for the requirements of an increasingly cash based society. This opportunity for off-farm employment also prepares younger people for the intentional migration into neighboring countries. This two part strategy of moving to safe areas and moving to neighboring countries is important for the bringing income back to the farm family and also to provide opportunity for young adults. Finally, the farmers focus on recovering food production through rebuilding animal stocks, borrowing seeds from neighboring villages that were

not affected by conflict, trying new seeds and products from agricultural traders, rebuilding social organizations that provide support, and integrating themselves into the market.

Structural Description

The composite structural description is a description of how the phenomenon was experienced. The farmer experiences the onset of armed conflict through a growing sense of unease brought on by word shared from neighbors and other farmers that a conflict is impending. Around the cooking fire at night the possibilities are discussed and then dismissed to be mulled upon for another day. Then abruptly the sound of gunfire or armed figures appearing out of the jungle to become unwelcome guests that must be cooked for and become a pack mule to carry possessions and ammunition through the forests. If the farmer is lucky they escape with their family and a few prized possession grasped before fleeing from the increasing sounds of battle.

Into the forest they run, searching for a safe place to make camp. Searching for bamboo shoots and plants that yield nutrition they worry about whether their animals are gone and will their homes be burned, and who will gather the rice crop ripening in the fields. Finally after weeks they return cautiously to their homes to find their animals gone and the fields burned. Salvaging what they can from the burned remnants of their homes they walk to a relative's house or a friends whose house has not been burned. As the farmer begins rebuilding their lives they must search for seed to replant, and needing a buffalo for preparing fields and pigs and chickens to have livestock raising the farmer goes to search for work at a nearby plantation belonging to a large agribusiness. The

farmer harvests bamboo shoots to sell in the market town but finds that because of the conflict the traders have not returned yet and there is no one to buy the shoots. The farmer and his family discuss it and they decide they should maybe travel to their traditional areas but they find that most of the land their grandfather farmed is now being farmed by the Government military who owns the land. They will allow the farmer to plant corn but must rent the land each season. The farmer's son is now old enough to be drafted into the military and the insurgent militias have notified the farmer that the farmer's son should report to their remote base to begin his training. The son leaves the farm and travels to the city with plans to travel to Thailand to look for work. The farmer decides to return to this original farm and borrows hybrid corn seed and fertilizer from the fertilizer dealer in the main market town with the hopes that he will harvest enough corn at season's end to repay the dealer. Slowly the farmer works to rebuild the families livelihood always hoping that conflict does not return to his village or misfortune befall his son in a different country.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, & RECOMMENDATIONS

Introduction

This phenomenological study recorded the lived experiences of resource poor farmers in northern Shan State who had experienced armed conflict. These farmers were recovering their farming systems and adapting after armed conflict. The purpose of the study was to understand the experience of being uprooted by armed conflict and then having to survive in order to recover from the conflict.

The first research objective in this study asked what the experiences of farmers are when adapting food production systems after conflict. The second research objective asked what factors influenced the experiences of farmers when adapting food production systems after conflict.

The findings from asking these two questions illustrate how the experience of fleeing from conflict resulted in the realities of the situation and several strategies farmers used to survive and adapt in the post-conflict situation. As part of the results section there is a summary of the results followed by a discussion of the results. This discussion consists of comments about farmers adapting to low-level conflict, some ways in which farmers combine the rebuilding strategies, and small-holder farmer strategies.

The phenomenological method of inquiry allows for the emergence of themes from the participants lived experience. In presenting the data I have organized the discussion of the results, conclusions, and implications surrounding the eight themes that emerged from the data. This structure consists of an introduction which summarizes the theme from the findings. There is then a discussion of the conclusions, the implications for agricultural development and agricultural extension, and finally recommendations.

Important issues relevant to the discipline are discussed as a theme relates to it. The conclusion section consists of seven important topics for discussion. The first is how small-holder farmers adapt to armed conflict. Then there is reflection upon outside assistance and its impact on post-conflict adaptation. The third topic is a discussion of government assistance and how farmers perceived this assistance. The fourth topic looks at how non-government organizations play a role in the adaption process and strategy that farmers' use when recovering from armed conflict. Further discussion of the results is the role that agribusiness play both in a negative way and a positive way. The sixth topic of the results discussion is revisiting farmer strategies and how they have or have not influenced the political and governance system. The final topic is the vital issue of participation in post-conflict recovery.

With each of the themes there are implications for theory, research, and practice in light of the findings. There are implications for Roger's theory and those who are critical of Roger's theory of technical change. There are also important implications for research when working with small-holder farmers. Finally there is the discussion of practice which includes the topics of post-conflict agricultural development, agricultural education and training, and agricultural innovation systems.

Summary of Results

The data focused upon the major themes, composite textural description, and the description of the essence of the lived experience. The eight major themes that emerged from this phenomenological study were described in rich detail in chapter four. The major themes that emerged also revealed an understanding of whether the theme was a reality of the situation, a strategy employed by the farmer, or a mixture of the both. The three reality themes were that armed conflict is always there in the mindset of the farmers, the loss of animals and seed stock, and the disappearance of the market. The theme of large agribusiness and the military controlling land and employment was both a reality and a strategy. In addition to these four additional themes were strategies employed by farmers. The short-term strategy of going to the forest to flee armed conflict was reflected in the theme of the forest being a refuge. A longer term strategy theme was that the fear of the government and militias was mitigated by developing familial network connections with the government and the insurgent militias. Additional themes were that prolonged conflict cause movement to safe areas and neighboring countries and farmers' were adapting their food production systems.

The results need to be understood as relevant to the local context in which it was described. It is important to repeat that it is up to the reader to understand the patterns and applicable lessons that have come about through understanding the farmers experience and decide how the it can be applied to the readers context. This concept of “transferability” was discussed in (Patton, 2002, p. 584).

Essence of the lived experience

The essence of the lived experience is best described as the “wary opportunist.” The opportunist focuses upon any avenue open to preserving life and rebuilding it even if it means moving to the city or working as a day labor on a large agribusiness farm cutting weeds. The opportunist is wary at the same time because everything their parents experienced with armed conflict has been theirs also. They are cautious about forming new partnerships and feel helpless at times in adjusting the rapid change that is occurring. Each gain is tempered by the realization that at any time, armed conflict could break out again and reduce the opportunist to a farmer once again, fleeing with their family into the forest.

Theme 1 Introduction

The reality that armed conflict is always with the farmers in northern Shan State is reflected in the almost calm response to ongoing persistent low-level conflict. It is similar to the outlook of individuals in places of the world who experience regular occurrences severe weather. As a researcher I reflected on the response of the inhabitants of my home state of Oklahoma where tornados seasonally pose a very real threat of destroying property, altering the landscape, and causing severe injury and death. The local inhabitants see it as something that is not disconcerting but consciously adjust to be aware of warning signs from the community, the seasonal change, and the type of climatic conditions that can often bring destruction. Local inhabitants even prepare by expending money and effort to dig shelters. In the end, usually deaths occur to those who disregard the warning signs, like non-residents, or the poorest in the community who do

not have the resources to protect themselves through a shelter, a social network that prepares them for the correct action during these storms to ensure safety, or home insurance to rebuild in the aftermath of home and vehicle destruction. In the same manner the farmers of northern Shan State know when the dangerous times of the year are, the places to avoid during conflict, and are aware of the warning signs of imminent outbreak of conflict and destruction.

A pattern that emerged is an awareness of the warring sides and as the signs indicate the growing likelihood of conflict the farmers begin adjusting marketing and farming activities to cope with likely outbreak of conflict. This could even include a movement to the urban or safe areas like the forest as a safety precaution against armed conflict enveloping their village and farming areas. Then as the threat subsided the farmers gauge the additional signs in order to decide when they and their families would return to their farming areas.

In the following is a discussion of the connections to literature and what is already known about this phenomenon, the implications, and recommendations.

Theme 1 Conclusions

Many farmers learned from their parents the ways to cope with persistent conflict. Many had experienced conflict but it occurred mainly in the forest and the farms, not the cities. Conflict was recurrent but not for long periods of time, and when there was recurrent conflict the farmers would continue to move from place to place. There was still a fear of war. The farmers showed resignation that they did not have control over when

armed conflict would occur, since the government military and armed militia groups would initiate battles.

This trend that came from the data is similar to the corrosive community theory of Freudenberg and Jones (1991) that comes from the disaster literature. The difference in this situation is that unlike a natural disaster there is another person, namely the different forms of armed actors that continue to threaten another outbreak of armed violence. The signs of resignation, lack of trust, and the lack of initiative on trying new things speaks to the a negative community reaction that tears down social capital.

A second theoretical connection that matches with data from farmer interviews is with Mayunga's (2007) resilience and vulnerability theory. The farmers are showing some signs of resilience but for the most part these farmers seemed to be showing growing vulnerability with each exposure to continued conflict and loss of social connections within the farming communities.

Theme 1 Implications

The implications are that opportunities for agricultural rebuilding are made more difficult as the farmers are reluctant to risk new opportunities because of the increasing vulnerability they face. A second implication is that the persistence of the threat of intermittent conflict has meant that the farmers have a resilient persistent to continue to survive in spite of the difficulties.

Theme 1 Recommendations

Development workers and extension personnel should seek to understand the vulnerability that is felt by farmers through participatory methods and begin working toward agricultural activities that respect that persistent resilience. Research efforts should be made to quantify the vulnerability that farmers face as this study revealed many themes but not a prioritization of the greatest vulnerabilities faced by farmers from their perspective.

Theme 2 Introduction

The mountain peoples of northern Shan State have traditionally seen the forest as a refuge in times of war and conflict (Scott, 2009). Farmers interviewed during this study confirmed that this response is still the case even when conflict occurs in neighboring forest areas. At times farmers have sufficient warning to flee into the forest and other times they were surprised by the sound of gunfire, dropped everything, grabbed their children, and ran into the forest. Two common fears were expressed, first of being immediately attacked and killed during an attack, the second fear was that of being forced to carry military equipment and food for the different warring sides. Within the forest the farmers had certain safe places where they knew they could retreat to. Fleeing into the forest meant the farmers lost their saleable goods or if they had sufficient warning they had to sell immediately to middlemen who paid below market value for the goods. Battles in the nearby forests would result in the burning of rice fields and corn fields. Even so, the farmers knew of forest plants that could sustain them, such as bamboo shoots, while they waited for the battles to subside. Another important skill was

understanding when it was safe to return to their homes and to care for their swidden fields.

Theme 2 Conclusions

The farmers still saw the forest as the refuge of first resort. Anderson (1993) described the forest as the provider of many food items, building supplies, medicinal plants, and refuge during times of armed troubles. The forest was also described by Scott (2009) as an important part of the traditional flight pattern of marginalized hill peoples who could go further into the forest for refuge. At the same time the forest was also the place where the insurgent militias found their refuge just as other resistance groups had in the past (Scott, 1990; Scott, 2009). So the forest is a place of safety but where armed conflict also comes from. Just one month before I arrived to begin data collection in northern Shan State an ethnic conflict along religious affiliations erupted in Lashio and continued for a week. The ethnic religious group that has traditionally been based in the downtown markets battled with another ethnic religious group and the downtown group fled the city to the neighboring forest areas under the protection and influence of an insurgent militia. This then is an example of a traditionally town and city based ethnicity fleeing to the forest for protection even as many marginalized farmers are beginning to see the town areas as safe areas. This is further confirmation that northern Shan State can be described as a complex political emergency.

One sign that the forest is beginning to be less seen as a refuge for some marginalized farmers as they have relatives in the relatively safe areas in and around the major towns. For some farmers who are closer to the larger towns flight to the city is a

viable option, especially if the armed actor applying pressure is more from the insurgent militias instead of from the military government. The farmers experience also indicates that part of their increased vulnerability is due to no longer having as much access or resource available in the forest. This trend is also related to theme six relating to the control of land being out of the hands of the farmers. This growing awareness that the forest is not as useful to the farmers as before seems to have raised some awareness among marginalized farmers that there is a need to preserve the access and natural products available in the forest. It is becoming apparently clear that through both government pacification efforts and opening of large scale agribusiness land leases throughout northern Shan State that the state/central government has been able to exert loose control over all areas in northern Shan State which is similar to what Scott has described as centralized state attempting to exert control throughout its boundaries (Scott, 1998).

Theme 2 Implications

The forest has been and is still important as a part of the marginalized farmers resource base. Along with a growing understanding of limitations of the forest resources these potentially puts marginalized resource poor farmers as viable partners in preserving forest resources for sustaining them and for environmental forest preservation against large commercial agricultural ventures which predominately replace native forest with plantations of rubber, fruit, and corn monocultures. Another implication is that although the farmers have a growing awareness of the forests as being a finite resource, armed conflict means that all actors, including marginalized farmers have unsustainably harvested from the forests as a way to keep each of their causes or livelihoods alive.

Theme 2 Recommendations

A potential preserver of the forest is marginalized resource poor farmers. As shifting cultivators who are used to gauging the fertility and burn value of standing native forest and gatherers of non-timber forest products they have an intimate knowledge of the forest. Careful implementation of community forestry management is a way to engage these farmers in preserving their resource base would be a way of preserving both the cultural traditions of the marginalized ethnic people and also the forests.

An important area to further understand is delving deeper into marginalized farmers understanding of their changing understanding of the forest as a resource base and what actual forest resources are still available for such preservation.

Theme 3 Introduction

The people of northern Shan State are guarded and careful about their comments concerning the government military and the insurgent militia groups. With conflict ever present in their lives there is always a concern bordering on fear of negative impacts from any of the warring parties. Marginalized farmers dealt with this issue by relying on familial networks to provide an early warning system and to negotiate for their village and fields being bypassed by impending battles. These networks also helped the farmers decide on which side to rely upon for protection and to find other villages where they could go for refuge during armed conflict.

Theme 3 Conclusions

Fear was an emotion that was expressed by farmers from the data. The reliance on family members emphasizes the importance of family members who can negotiate the complex political situations in northern Shan State. Some of these family members or important persons have worked their way into civil servant positions, soldiers in the government military, small business owners, and members of regional civic organizations. The fits within the theoretical background of Borgatti's key player theory where key players are key persons within a social system which are the key nodes that keep a system intact (Borgatti, 2006). These key players are often also opinion leaders as described by Rogers (2003).

Hamad's (2006) conflict management theory describes the ways in which conflict is managed by members of a social system. Marginalized resource poor farmers' use family members to mitigate the effects of armed conflict through smoothing and compromising approaches because they lack political power to use forcing approaches nor the social power and influence to use legalistic approaches.

The need for use of mitigation of armed conflict depends upon where the farmer is located within the northern Shan State. Kalyvas' (2006) civil war logic theory describes how conflict is localized in a patchwork of government military and armed insurgent militia. This means that each farmers experience will armed conflict will be different. This is important to understand when there is description of an armed conflict experience or lack of experience by a resource poor farmer in northern Shan State illustrates the idea that armed conflict in a complex political emergency can be variable.

Theme 3 Implications

The fear of both government military and armed insurgent militias means that the participants have a high amount of distrust toward outsiders who are attempting to develop new projects through the government. Outside development agencies will need to be cautious while interacting with marginalized farmers in order to build trust. Key farmers who are key players or opinion leaders are vital for identification in order to involve farmer participation in agricultural projects and developing equitable business ventures that involve marginalized farmers.

Theme 3 Recommendations

Agricultural development experts and government agricultural planners should consider what trust building activities they should encourage in order to engage with these marginalized farming communities.

Key players and/or opinion leaders should be identified and engaged in the early stages of agricultural program development in order to develop local enthusiasm and support for program activities.

Theme 4 Introduction

The loss of animals and seed stock was a particularly devastating theme that emerged from interviews. The data revealed that all warring sides saw the farmers standing and harvested crops and animals as an important spoil of war that they would take by force or ask villagers to prepare and provide to them. As the marginalized farmers are often living from cropping season to cropping season the complete loss of rice stocks for the year, all grain and legume seed for replanting, and livestock means starvation. The

farmers who lost livestock faced an uphill struggle to rebuild family assets. Their strategies to survive this loss was to borrow seed from neighboring family or friends; buy hybrid corn seed on credit from traders; flee to an internally displaced persons (IDP) camp and receive seed for replanting there.

Theme 4 Conclusions

The resiliency of marginalized farmers regarding their animal stocks is not very high. This is true because of the difficulty of moving livestock quickly during the quick onset of armed conflict. Carrying sufficient seeds to replant for the season can also be problematic. In this area the vulnerability of marginalized farmers as described by Mayunga (2007) is very high. The data shows that marginalized farmers identified their traditional valued resources as land, forest, family, cultural integrity, and traditional heirloom varieties. Marginalized farmers in northern Shan State lose one of their key resources when conflict actors destroy their standing fields of grain and legumes and take their animals. In this sense these farmers are very sensitive to this loss and vulnerable.

These farmers followed strategies of splitting their animals and dispersing them into the forest in hopes that later these animals could be found again by the farmer restart agricultural activities. This is similar to some of the coping mechanisms of pastoral herders in the Horn of Africa as described by Ahmed et al. (2001) in Christoplos, Longley, & Slaymaker (2004).

Theme 4 Implications

Without their traditional seeds and livestock marginalized farmers have lost an important resource that they have preserved for hundreds of years. Post-conflict development practitioners have recognized that farmers recovering from armed conflict often need seed for replanting. This was noted by Christoplos, Longley, & Slaymaker (2006). This assistance needs to be carefully considered because both the wrong seed can be provided and at the wrong time.

Theme 4 Recommendations

It is recommended that further research be conducted to look at the viability of using traditional seeds and heirloom varieties as seed assistance after armed conflict. Several non-government organizations are encouraging the development of seed saving groups among marginalized farmers. These groups could be relied upon to develop a network of farmer owned and managed seed producers that could supply displaced farmers in IDP camps. Further research should be focused upon the proper time to provide seed resources to farmers who are recovering from armed conflict. Research is needed to quantify the extent of livestock loss and the local breeds that are essential for marginalized farmers cultural and farming system activities.

Theme 5 Introduction

Northern Shan State has begun to emerge from decades of persistent low-level armed conflict and market opportunities with the rest of the country, China, and Thailand have begun to open up. Marginalized farmers have tried to access these markets but outbreaks of armed conflict result in the loss of those markets. When conflict occurs the

prices paid by middlemen drop and transport access is lost. For the more remote areas illicit drugs with all the inherent risks is the only marketable crop. For marginalized farmers closer to large plantations there is opportunity for off-farm employment but if armed conflict occurs near these plantations then the farmers lose this opportunity to make additional cash.

Theme 5 Conclusions

The markets in northern Shan State are not stable because of the ebb and flow of conflict. Marginalized farmers like those in this study have limited knowledge of the prices for the commodities they have for sell. They are also hampered by having only one buyer usually for their agricultural products. They are at a disadvantage when dealing with traders and middlemen who take the risk of venturing near localized conflict hotspots to offer to buy farmers products. The businessmen see an opportunity to offer the lowest prices for products to compensate themselves for the risk they believe they are taking. The risk involves their own bodily harm, the chance of losing their transport animals or vehicles, and/or confiscation of their newly purchased products. This issue in post-conflict zones was described by Eide (1997) as “Conflict Entrepreneurs” who are “individuals or groups who seek to manipulate conflict situations to serve specific political (and economic) objectives, often manipulating historical considerations of identity in order to mobilize others (Christoplos, Longley, & Slaymaker 2004, p.4).” These traders see an opportunity to achieve greater profits in exchange for the greater risks. This puts marginalized farmers at a disadvantage.

For the traders this tendency to take advantage of the price distortions due temporary spikes of armed conflict ties into Blake & Mouton's Dual Concern Theory (1964) where the traders deal with two primary motivations. The first is the "desire to obtain one's own goals (desire for business profitability). The second is the desire to retain interpersonal relationships (concern for people and strengthening the ability to leverage social capital that is built up through positive interaction) (Mohammed, 2007, p. 3884). It can be argued that because of devastated social networks within and between groups of marginalized ethnic farmers that former relationship links that would have increased the concern for people motivation has been severely weakened after years of intermittent low level conflict. This makes it even more difficult for marginalized farmers to strengthen ties to traders and middlemen.

Another issue related to markets is the illicit production and trade in opium. Marginalized farmers who live in insurgent militia controlled areas are often pressured to produce opium for sale to militias. The farmer in these situations has a similar dual concern dilemma that they must balance between producing poppy or not and between personal gain and what is best for the community. This becomes even more pressing as outside development agencies and the government military make it more costly and riskier to engage in illicit opium production.

Theme 5 Implications

It is important that marginalized farmers in northern Shan State need better information about the markets. They expressed that they are limited by not having consistent market access because the market disappears during spikes of armed conflict.

The movement of family members to the regional towns to find opportunity that avoids armed conflict is one way in which marginalized farmers are finding ways to gain access and knowledge of more equitable pricing. Even with better knowledge the farmers are still limited by having not having sufficient transport means to market their goods.

Theme 5 Recommendations

Further research should be conducted to understand the market changes that occur. Just like armed conflict there appear to be zones of differing impact depending on how close they are to the armed conflict zones. In addition the constraints upon traders and the risk they incur in operating near conflict areas should be studied. Further consideration should be given for how marginalized farmers can gain better access to the markets.

Theme 6 Introduction

The common theme of land and employment being controlled by big agribusiness, government military, and insurgent militias meant that marginalized farmers no less control over the land they had access to in order to sustain themselves with farming and raising livestock. This displacement had occurred recently for some and had happened decades earlier as the government consolidated dispersed communities of farmers into more densely populated villages along the major roads and outskirts of major defensible towns. The vacuum created by the movement of farmers meant that abandoned farmlands were then sold by government entities to large agribusiness. Taxes must be paid to both the government and to local militias depending on where the farmer was located. Farmers did see the benefit of learning new agricultural methods while working on the farms.

Theme 6 Conclusions

The loss of access to traditional farming areas by marginalized farmers is a theme that is repeatedly expressed in northern Shan State. The action of influential individuals within the foreign and local business community, insurgent militias, and government shows the concept of conflict entrepreneurs (Eide, 1997). These individuals have the political power and monetary means by which to take advantage of the vacuum created by armed conflict and the flight of marginalized farmers to IDP camps and peri-urban areas.

This trend of land acquisition has been seen as a growing problem in general for underdeveloped agricultural areas around the world. The voice of marginalized farmers from northern Shan State has indicated that this is a problem.

Even as the lack of access to arable land was expressed by many of the farmers interviewed and the agricultural advisors who help them, many farmers also expressed that in the changing environment of a semi post-conflict northern Shan State, that the opportunity for off-farm seasonal labor was becoming an important source of cash income for marginalized farmers. This confirms the same trend that was noted in post-conflict Mozambique (Bozzoli & Bruck, 2009; Cramer, Oya, & Sender, 2008).

Theme 6 Implications

Marginalized farmers in northern Shan State have a growing sense that they have been and continue to be pushed away from agricultural land that they believe belongs to them. I could sense a sense of frustration by both farmers and agricultural development

workers concerning land use. This issue will likely grow in importance as the Myanmar government encourages foreign agricultural investment.

As marginalized farmers take part in off-farm labor the issue of worker safety and equitable wages will become more important. There are signs that the Myanmar government is aware of the plight of marginalized farmers and will begin taking measures to encourage foreign business' to interact with their plantation and agribusiness laborers in a way that does not lead to more frustration on the part of the marginalized resource poor farmers.

Theme 6 Recommendations

Research should be undertaken to clarify the actual displacement of marginalized farming communities. The concern for the Myanmar government could be that with marginalized farming communities being displaced by armed conflict and then by loss of land to agribusiness uses these farmers will make their way to urban and peri-urban areas and overwhelm the capacity of urban local government and services to handle them.

Efforts to understand and quantify the agricultural education needs of plantation laborers could lead to higher take home pay.

Theme 7 Introduction

In addition to government encouragement of movement to safe areas the theme of prolonged conflict causing a movement to safe areas and neighboring countries was evident. The trauma of armed conflict meant that often farmers lost the desire to rebuild in their previous locations. The opportunity for young men and women was seen to be in

neighboring countries like Thailand and China. These opportunities are fraught with difficulties for the young men and women but in spite of the danger and exploitation that occurs it is seen as bearable compared to remaining in northern Shan State where the future is not bright for young adults.

Theme 7 Conclusions

The movement of farmers into peri-urban safe areas and the movement of young people is a strategy marginalized farmers have used to avoid armed conflict. It is a strategy that is risky for young people because most will be undocumented workers in neighboring countries. In addition the women can be caught up in prostitution enslavement where they cannot escape. Not only is the risk high the farm family loses the potential labor of the young people in the community. The result is that many marginalized farm villages in northern Shan State have hardly any young people from 16 – 30 years old. This loss of a proportion of the community and the risk involved in moving is similar to the corrosive community reaction theory of Freudenberg & Jones (1991) where social capital is lost after shock to the community.

This trend expressed by marginalized farmers is similar to what Bryceson (2000) observed in sub Saharan Africa. This trend included a diversification of income sources by “out migration of younger men from rural farms” and that this has resulted in “high levels of financial and personal risk that threatens traditional agrarian and family values (Christoplos, Longley, & Slaymaker, 2006, p. 11).”

Theme 7 Implications

The movement of marginalized farmers to safe areas means that these farmers are available for off-farm labor to work in small scale local business, local industry, and predominately as farm labor. This is the case because when moving to safe areas the farmers often are not able to find enough land to support themselves through their own agricultural production. Often these farmers can only produce backyard livestock, a home garden, and a few fruit trees to offset the need to purchase food from the local markets.

The strategy of younger members of the farm family migrating to neighboring countries is seen as a viable strategy for the family. The question is whether remissions from those young people back to the farm family is significant enough to sustain the family. Perhaps it is only seen as a way to preserve the life of the young person and build skills until such time as stable peace and opportunity is the norm in northern Shan State. This might be the case since the risk is very high for migrating young people.

Theme 7 Recommendations

The strategy of off-farm movement into safe areas by farmers should be further studied to understand the impact this has upon their livelihoods. Quantifying this movement and the advantages and disadvantages to the farm family would be useful in helping agricultural development practitioners know how to assist farm families when they make this difficult choice. It would also help aid agencies as they work in IDP camps and are developing policies towards reintegrating displaced marginalized farmers into their farming livelihoods after conflict.

The impact of the loss of the younger generation to work in neighboring countries has not yet been well understood as far as agricultural production. This is not only important for the individual farm households but also for the overall agricultural production capacity of northern Shan State.

Theme 8 Introduction

The final theme revealed that farmers had found ways to rebuild their food production after conflict. Although not an easy process many innovative farmers were able to find ways to borrow money or rely upon familial networks to purchase animals and find new seed to plant their fields. The seed that was purchased was often hybrid corn seed or vegetable crops like watermelons that could be sold to Chinese buyers. Often NGOs provided needed seeds for replanting fields. Further components of this theme were that farmers became concerned about the need to preserve what remains of their agricultural resource based. This was revealed in the concern about the unsustainable harvest of bamboo shoots and the extensive use of low quality chemical pesticides and inorganic fertilizers on agribusiness plantations and farmers' fields. The use of participatory agricultural extension methods like Farmer Field School was a reason why farmers in IDP camps and in unstable village situations were willing to return or stay in their farming villages. A final component of the rebuilding theme is that farmers regularly interacted with corn traders and other middlemen more than they did in the past. At the same time they felt disadvantaged in this interaction.

Theme 8 Conclusions

The action of innovative marginalized farmers in northern Shan State matches the innovation characterized by Roger's (2003) diffusion of innovations theory. These farmers could be described as "innovators" and "early adopters" of hybrid corn when viewed within their subgroup of marginalized ethnic farmers in post-conflict situations (Rogers, 2003, p. 282-283). Yet within the country of Myanmar and even in Shan State most of these marginalized farmers would be considered "late majority" and "laggards" when considering the most current farming technologies like hybrid corn production. Rogers (2003) described laggards as "the last in a social system to adopt an innovation and possess almost no opinion leadership (2003, p. 284)." Late majority" adopters were described as "adopting after the average member of a system....their relatively scarce resources mean that most of the uncertainty about a new idea must be removed before the late majority feel that it is safe to adopt (2003, p. 284)." Most of these farmers began growing hybrid corn because that was the only seed available to them and what the market was demanding. Even though these farmers were adopting hybrid corn their shared experience of corn growing and the opinions of agricultural advisors were that production was better than their traditional corn varieties but they could not yet match the corn yields of resource rich farmers and agribusiness growers.

An additional insight from Roger's diffusion theory is the idea of decentralized systems as having advantages for valuing indigenous knowledge systems (2003, p. 397). Rogers (2003) also described disadvantages to this type of system. In effect, because of the Myanmar government decision to reposition agricultural extension staff from the uplands area to the more productive lowland delta areas in the early 2000's, most of the

agricultural advising services comes from non-government organizations and agribusiness. As observed from the discussions with marginalized farmers the corn trader and seed and fertilizer dealer has become the key informant concerning agricultural innovation for these farmers. This shows the relevance of Borgatti's Key Player Theory (2006) in identifying the key person in a network. In this case the relevance is the role the agricultural input dealers play as agricultural information nodes.

The attributes of an innovation have changed as marginalized farmers have become more exposed to cosmopolitan influences through traders, movement to peri-urban areas, and relatives in neighboring countries. This has increased the ability of farmers to interact with these new innovations and deliberate amongst other farmers to weigh the applicability of new agricultural technology. This increasing sophistication in marginalized farmers is similar to Roger's discussion of innovativeness and adopter categories (Roger's, 2003).

Evans (2004) stated that in post-conflict agricultural development situations the importance of looking working with marginalized groups to encourage "processes of deliberation vs importing blueprints that are best practice from outside" (Barron, Diprose, & Woolcock, 2011, p. 9). An example of this is the efforts by aid organizations to promote certain agricultural practices that have great merit but are not particularly appropriate to the resources or farming system the marginalized groups are currently using. An example would be composting for soil fertility and encouraging organic production which might not provide sufficient returns on labor investment because of the lack of marketing options that provides a higher economic return. A more viable option that fits with the idea of deliberative options would be a "basket of agricultural choices"

offered to farmer self-help groups to pick and choose what works best for them (Horne & Stur, 1999, p. 22). This was encouraged as the most viable option for marginalized ethnic farmers in Lao PDR with encouraging results (Horne & Stur, 2003).

I was surprised at the understanding that marginalized farmers who were rebuilding their agricultural production capacity were aware and concerned about the impact of agrochemicals upon their family health, soil health, and the general awareness of the danger of pesticide residue on fresh vegetables purchased in local markets. There was a point of pride when the farmers served food from their own gardens that they could say it was chemical free. Part of this awareness is due to awareness building by NGO health and agricultural programs. But a large part of it is due to farmers close observation of their crop plants and soil productivity after agrochemical application. In addition there is a sense of awareness of forest loss and concerns over water quality. This awareness can be considered as outside agencies and innovation catalyst's look to encourage deliberative processes around sustainable agriculture production. As part of this complex of concerns about their environmental resources there is a concern about the loss of traditional heirloom varieties. There are some NGOs and a government research station that is actively working with marginalized conflict affected farmers to help research and field test indigenous grain varieties that could provide viable income producing sources. These NGOs working with marginalized farmers, through extension structures like farmer field schools, encourage a deliberative problem-solving process around these indigenous grains.

These efforts are a sign of resilience coming from the farmers and reflects the assessment of Christoplos, Longley, & Slaymaker that “agricultural systems display

remarkable resilience in chronic conflict, often providing a range of important coping strategies to rural populations (2004, p. 11).” These indications of rebuilding around intermittent conflict shows that with careful focus that useful assistance can be provided to marginalized farmers in a way that values their indigenous knowledge and is an “opportunity ladder that provides opportunities to accumulate assets and build more resilient livelihoods (Christoplos, Longley, & Slaymaker, 2004, p. 29).”

Theme 8 Implications

Agricultural development of the relatively conflict free zones is progressing due to the demand for agricultural products from the growing Chinese market and the regional market in Myanmar. The transition to growing hybrid corn by marginalized farmers provides the quickest route for cash income but is having some negative effects that must be considered. One effect includes the need for increased agrochemical purchase and application for optimized growth. Another impact is the loss of traditional varieties of corn, upland rice, and traditional legumes. These are being replaced by seed purchased from seed companies.

The approaches to encourage an effective decentralized diffusion system that values the indigenous knowledge systems of the farmers should be considered. This includes training agricultural advisors who are able to work together with marginalized farmers to encourage deliberative livelihood improvement strategies.

Theme 8 Recommendations

It is important to quantify the effect of agrochemicals upon farmers livelihoods and farming systems. The use of farmer field schools and working with farmer self-help

groups should be considered to improve the opportunities for equitable agricultural development.

Practitioners should consider working with innovative marginalized farmers to develop baskets of agricultural choices for farmers to incorporate into their farming systems. In addition helping farmer self-help groups develop agricultural products for local and regional markets should be considered.

Discussion

The conclusions are focused upon the following issues which include how small-holders adapt to armed conflict, a reflection on outside assistance, government assistance, NGO assistance. In this discussion there is also a concern about how agribusiness activities have both a positive and negative aspect to them. A return look at the farmer strategies that were described in the data deserves a look at how farmers influence the system they are in. The issue of participation in post-conflict recovery is discussed along with the qualifications that were revealed in the data.

Implications

Patterns and frameworks in which innovation and creativity and “productive failing” can occur should be explored. Less emphasis on best practice and more on practice that gets processes started and then assisting marginalized farmer self-help groups and farmer cooperatives. The implications of the study findings for theory, research, and practice are as follows.

Theory

This study showed the relevance of Roger's diffusion innovation theory, Borgatti's key player, dual concern theory, consensus crisis theory, corrosive community, resilience and vulnerability theory, and conflict management theory as applicable to marginalized farmers recovering from armed conflict.

Research

As an under researched area the issue of marginalized farmers recovering from armed conflict merits more research to further understand the dynamics of this phenomenon. It is recommended that future research include using mixed methods (Thaler, 2012; Barron, Diprose, & Woolcock, 2011). Thaler indicated "mixed methods enable us to tie the broader patterns revealed by quantitative analysis to underlying processes and causal mechanisms that qualitative research is better able to illuminate, examining and explicating the interactions of structure and agency (2012, p. 1)."

Practice

The implications for practice fall into three main categories. The three categories are post-conflict agricultural development, agricultural extension and training (Education), and Agricultural Innovation Systems. In all of these practices the belief is that it is "possible to establish a virtuous cycle wherein more or better (conflict-sensitive) development will reduce violent unrest, which in turn will bolster growth, reduce poverty, and enhance prosperity (Barron, Diprose, & Woolcock, 2011, p. 41)." It is in search of key components of a virtuous spiral that should guide our quest for positive

patterns of assistance in post-conflict agricultural development areas like northern Shan State.

Post-conflict agricultural development

Post-conflict agricultural development requires more research into the most effective ways to design appropriate responses to assist in agricultural recovery after conflict that does not cause the marginalized resource poor farmer to become even more vulnerable and impoverished. It is important to remember that armed conflict will continue to be an issue that must be engaged with. Barron, Diprose & Woolcock (2006, p. 42), summed up the challenge that faces agricultural development practitioners and policy makers by saying “Conflict then, is a constant companion on the road of both economic crisis and opportunity because it involves changing configurations of power and resource allocation, as well as challenges to existing interests, aspirations, perceptions, and expectations. Conflict, it would seem, is a necessary catalyst and an inevitable by-product of development. So understood, the development challenge thus becomes one not of limiting conflict per se but of managing it in constructive ways (2006, p. 42).”

The second important issue that must be considered in assisting agricultural recovery with marginalized resource poor farmers is the issue of shifting from acute emergencies during and immediately after conflict and to helping solve chronic agricultural development issues. This was discussed by Kabeer (2002) and Barrett (2002) with the illustration of the “safety nets” to assist in temporary crises and longer term “opportunity ladders” which marginalized farmers can then use to increase the resilience

of their farming systems and livelihoods (Christoplos, Longley, & Slaymaker, 2004, p. 29).

Another voice that speaks to the continued need for more research and improvement of agriculture development and practice are those from a forum of opium farmers from Shan State and neighboring countries. These farmers are predominately marginalized resource poor farmers who have little influence in their locations which could be defined as complex political emergencies with continued intermittent conflict. “Support for the farmers who are most marginalized including helping with the basic needs of the people, including alternatives to opium cultivation, including introducing other crops and improved farming techniques.” and “ local communities should have the right to decide and manage their natural resources. They also request help for developing sustainable farming practices to reduce deforestation, and awareness raising about alternative crops through community and religious leaders (TNI & Paung Ku, 2013, p. 8).

Agricultural extension and training (AET)

After considering the experience of marginalized farmers recovering from armed conflict I support the observation of Swanson and Rajalathi (2011) that the worldwide trend toward a more pluralistic agricultural extension service is a positive development for marginalized farmers. A country like Myanmar has had to make hard choices on its limited government budget for agricultural extension and development. Diversification of providers of agricultural services will continue as more aid groups enter Myanmar, and as large agribusinesses take opportunity to enter the market. As Myanmar government agricultural officials make decisions about how to focus effort it is important for them to

remember that marginalized farmers do need support to develop. The advice of Bryceson (2000) for policy implications in order to engage post-conflict rural populations is useful to consider:

- “• promote the development of human capital, equipping people with the skills to work in new environments;
- continue the search for appropriate, low-cost ways of enhancing agricultural productivity;
- undertake participatory assessments of spatially-based comparative advantage and provide services for this to be exploited (Christoplos, Longley, & Slaymaker, 2004, p. 11).”

Agricultural Innovation Systems

As a reminder, agricultural innovations systems are described as “network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behavior and performance (World Bank, 2012, p. 2).” In order to meet the needs of a more mobile population and understanding more of what the experience of marginalized farmers when they are recovering from armed conflict it is clear that international non-government organizations, international government aid organizations, and government entities should consider the advantages of encouraging agricultural innovation systems. These systems are more flexible in order to meet the needs of industrial agriculture and agribusiness needs along with providing appropriate networks for marginalized resource poor farmers.

This was the vision of the MEAS-USAID model described in chapter I but also enables the best components of DFID SL Framework and farmer-led extension models. In considering the U.S. Cooperative Extension model Rogers helps us understand some of the key core strengths of the model. These core strengths should be considered for designing and strengthening a more effective agricultural innovation system for northern Shan State. The core strengths as identified by Rogers (2003, p. 394). Are as follows:

- “Based on client participation in identifying local needs, planning programs, and in performing evaluation and feedback.”
- “Agricultural research activities are oriented toward the utilization of research results.”
- “Includes not only a systematic procedure for the diffusion of innovations from researchers to farmers, but also institutionalized means of orientating research activities towards users’ needs.”

Key additions needed with marginalized resource poor farmers is for a more decentralized system in which these farmers have a voice in the development agenda and the support to experiment with what works best for them.

As part of these decentralized diffusion systems there is the need for persons who are able to assist farmers in adapting innovations to fit their local context and integrating these innovations into production systems (Lionberger, 1972). This role could be filled in a lower cost way by equipping key farmers or key players with skills that allow them to function as a semi-official extension agent.

More research is needed to further understand the strategies of marginalized farmers in order to rebuild food production systems. What is clear is that innovative systems that match the reality of post conflict and complex political emergencies are needed. It bears repeating the statement by Christoplos, Longley, & Slaymaker (2004, p. 24) that “The need is enormous, not only for recovery, but also transformation. If there is anywhere that organized support to technological change is needed, it is in places where former livelihood strategies are no longer viable.”

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APPENDICES

Appendix A – IRB Form

Oklahoma State University Institutional Review Board

Date: Tuesday, May 21, 2013
IRB Application No AG1333
Proposal Title: A Phenomenological Study of Strategies for Rebuilding Food Production Ability in Resource Poor Post-Conflict Farming Communities in Myanmar
Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 5/20/2014

Principal Investigator(s):

Joshua J. Ringer 444 Ag Hall Stillwater, OK 74078	Nicholas R. Brown 458 Ag Hall Stillwater, OK 74078
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The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI, advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnnett Watkins 219 Cordell North (phone: 405-744-5700, dawnnett.watkins@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

Recruitment Script

Good morning, my name is _____

The purpose of my visit is to ask you to participate in an interview I am conducting to better understand the meaning of the experience of being a farmer rebuilding food production capacity after armed conflict. This study will provide valuable information that will be used to inform decision-makers and community workers who provide agricultural training and development activities in Myanmar.

The data collection process will consist of a one-hour interview with a short follow-up interview if necessary. Your participation in this study is strictly voluntary, but would be greatly appreciated. My goal in conducting this study is to create a report that will inform decision-makers who will be considering how to better work with farmers who have experienced armed conflict.

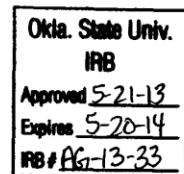
In no way will your answers influence your employment as your name and the name of your village assigned pseudo names.

Do you have any questions?

Would you be willing to give me an hour of your time to interview?

(If Subject agrees to participate) When is the best time and place for me to meet with you to conduct the interview?

Thank you for your time and attention.



Consent Form

Protocol Title: A Phenomenological Study of Strategies for Rebuilding Food Production Ability in Resource Poor Post-Conflict Farming Communities in Myanmar

Investigator: Joshua Ringer – Teaching and Research Associate – Agricultural Education, Oklahoma State University

Nicholas Brown – Professor – Agricultural Education, Oklahoma State University

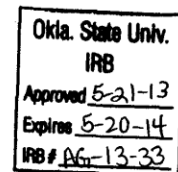
Please read this consent document carefully prior to your decision to participate in this research study. Thank you for giving your time to participate in this research study. Your participation is completely voluntary and there is no penalty for not participating. The purpose of this study is to understand better the meaning of the experience of being a farmer rebuilding food production capacity after armed conflict. It will provide valuable information that will be used to inform decision-makers and community workers who provide agricultural training and development activities in Myanmar. If you choose to participate, you will complete a one-hour interview with the following questions being discussed: (a) What was the experience like of rebuilding the food production capacity of the farm after armed conflict ended? (b) What outside interaction most affected the farmer's experience of following through with a food production strategy during the time of recovery? and (c) What meaning has this experience had for the farmer?

All interviews will be recorded, transcribed, and translated by a research assistant and will be viewed by myself, Joshua Ringer, and my advisor, Dr. Nicholas Brown. When transcription is completed the original recordings will be destroyed. Interview transcriptions will be used to prepare a written study report. Your name will not be kept with the recordings. At that point, all transcriptions will be deleted and removed from the researcher's computer. Original field notes will be stored in a locked file cabinet in room 444 of Ag Hall, a faculty office. You will be asked to review a copy of the transcript interview in your language within one week of your interview.

You reserve the right to discontinue your participation in the interview and research project at any time without penalty. Additionally, you will not be required to answer any question you do not wish to answer. By verbally giving your consent you are acknowledging that you have consented to participate. No known risks are associated with this study. If you choose not to participate, you will not be penalized.

Questions concerning the research study can be directed to Joshua Ringer via email at joshua.ringer@okstate.edu or Dr. Nicholas Brown via email at nick.brown@okstate.edu. If you have questions about your rights as a research participant, please contact Dr. Sheila Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405 744-3377 or irb@okstate.edu.

Signature of Researcher to confirm form was read and consent was given



Appendix B – Interview Form

Phenomenology Interview Protocol

Joshua Ringer

Demographics of the Subject

Name: (Subject will be given a pseudonym)

Age:

Educational Attainment:

Previous Farming or Agricultural Background:

Major Guiding Questions:

1. What was the experience like of rebuilding the food production capacity of the farm after armed conflict ended?

Sub-questions (if necessary):

- What was the first agricultural activity done after the farmer knew the armed conflict had ended?
- What were the difficulties experienced and how did the farmer solve those problems?
- What was the most important part of the food production rebuilding process?

2. What outside interaction most affected the farmer's experience of following through with a food production strategy during the time of recovery? (experience of being a farmer rebuilding food production capacity)?

Sub-questions (if necessary):

- How did the farmer perceive the relationship between themselves and villagers, and themselves and village opinion leaders?
- What previous agricultural experience in the farmer's life did the farmer draw from to help rebuild food production capacity?
- Have the farmer describe the most frustrating experience in rebuilding food production capacity.
- Have the farmer describe the most rewarding experience in rebuilding food production capacity.

3. What meaning has this experience had for the farmer?

Sub-questions (if necessary):

- Has this experience made the farmer more or less confident that future threats to food production could be dealt with successfully?

Appendix C – List of Individuals Interviewed

Total Farmers = 34

Total Supporting Interviews = 6

#	Description	Gender	Transcription-linked
F1	Farmer # 1 – Manager Middle Age Farmer	Male	TR 2
F2	Farmer # 2 – Extensionist Facilitator – Middle Age Farmer	Male	TR 3
F3	Farmer # 3 - Soldier – Middle Age Farmer	Male	TR 5
F4	Farmer # 4 - Village Leader – Older Farmer	Male	TR6
F5	Farmer # 5 - Former Village leaders Wife – Middle Age Farmer	Female	TR6
F6	Farmer # 6 - Community Org. Secretary – Middle Age Farmer	Male	TR7
F7	Farmer # 7 – Old Grandfather – Older Farmer	Male	TR 7
F8	Farmer # 8 - Rel. Leader – Middle Age Farmer	Female	TR 8
F9	Farmer # 9 – Experienced Corn Grower – Older Farmer	Male	TR 9
F10	Farmer # 10 – Corn Grower – Older Farmer	Male	TR 10
F11	Farmer # 11 – Corn Grower – Older Farmer	Female	TR 10

F12	Farmer # 12 – Corn Grower – Middle Age Farmer	Male	TR. 10
F13	Farmer # 13 – Corn Grower – Middle Age Farmer	Male	TR 10
F14	Farmer # 14 – AK-SS area – Middle Age Farmer	Male	TR 11
F15	Farmer # 15 - Soldier – Older Farmer	Male	TR 14
F16	Farmer # 16 - NGO Worker – Middle Age Farmer	Female	TR 15
F17	Farmer # 17 - Facilitator - Younger Farmer	Male	TR 16
F18	Farmer # 18 - Facilitator – Younger Farmer	Female	TR 16
F19	Farmer # 19 - Facilitator - Younger Farmer	Male	TR 16
F20	Farmer # 20 - Facilitator - Younger Farmer	Male	TR 16
F21	Farmer # 21 - Corn Grower – Younger Farmer	Male	TR 18
F22	Farmer # 22 - Corn Grower – Middle Age Farmer	Male	TR 18
F23	Farmer # 23 - Middle Man – Middle Age Farmer	Male	TR 18
F24	Farmer # 24 – Teacher – Middle age Farmer	Male	TR 19
F25	Farmer # 25 - Corn Rice grower Middle Age Farmer	Male	TR 21
F26	Farmer # 26 - Corn Rice grower Older Farmer	Male	TR21

F27	Farmer # 27 - Corn Rice grower Older Farmer	Male	TR 21
F28	Farmer # 28 - Corn Rice grower Older Farmer	Male	TR 21
F29	Farmer # 29 - Corn Rice grower – Middle age Farmer	Male	TR 21
F30	Farmer # 30 - NGO Worker – Middle age Farmer	Male	TR 24
F31	Farmer # 31 – Older Farmer	Male	TR 26
F32	Farmer # 32 – Younger Farmer	Male	TR 27
F33	Farmer # 33 – Older Farmer	Male	TR 28
F34	Farmer # 34 – Younger Farmer	Male	TR 29

Additional Interviews from Farmer supporting Individuals

#	Description	Gender	Transcription-linked
S1	S1 - Agribusiness Advisor	Male	TR1
S2	S2 - Businessman	Male	TR 13
S3	S3 - Forestry Officer	Male	TR25
S4	S4 - Village Kinder Teacher	Female	TR22
S5	S5 - NGO Worker	Male	TR23
7	S7 - College Student – Farming Background	Male	TR4

VITA

Joshua Jason Ringer

Candidate for the Degree of

Doctor of Philosophy/Education

Thesis: A PHENOMENOLOGICAL STUDY OF INDIVIDUAL STRATEGIES FOR REBUILDING FOOD PRODUCTION ABILITY IN RESOURCE POOR POST-CONFLICT FARMING COMMUNITIES IN MYANMAR

Major Field: Agricultural Education

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Agricultural Education at Oklahoma State University, Stillwater, Oklahoma in July, 2014.

Completed the requirements for the Master of Soil Science in Soil Science at North Carolina State University, Raleigh, North Carolina in 2000.

Completed the requirements for the Bachelor of Sciences in Agricultural Education at Oklahoma State University, Stillwater, Oklahoma in 1995.

Experience:

CEO & Rural Development Consultant – Indigdev LLC. – Stillwater, Oklahoma
- July 2012 - Present

Evaluation Research Associate – Oklahoma State University, Dept. of Agricultural Education, Communications, and Leadership – Stillwater, Oklahoma – June 2012 – December 2013.

Teaching Assistant - Oklahoma State University, Dept. of Agricultural Education, Communications, and Leadership – Stillwater, Oklahoma – August 2011 – May 2012.

Executive Director – Asian Rural Life Development Foundation (Thailand) – Chiang Rai, Thailand – September 2008 – November 2010.

Project Manager/Agricultural Education & Extension Specialist – Asian Rural Life Development Foundation Vietnam – Thai Nguyen, Vietnam, January 2001 – May 2007

Professional Memberships:

American Society of Agronomy

Association for International Agricultural and Extension Education

American Evaluation Association