Qualitative Social and Economic Monitoring

Round Two Report

June 2013

World Bank & Myanmar Development Research

Commissioned by The Livelihoods and Food Security Trust Fund

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Acknowledgement

We would like to thank Australia, Denmark, the European Union, France, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom and the United States for their kind contributions to improving the livelihoods and food security of the poorest and most vulnerable people in Myanmar. Their support to the Livelihoods and Food Security Trust Fund (LIFT) is gratefully acknowledged.

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Executive Summary

The Qualitative Social and Economic Monitoring (QSEM) examines the different livelihood strategies and activities of people in rural Myanmar, the wider factors that shape these strategies, and how the broader social and institutional factors of community life affect people's livelihood choices and outcomes. QSEM is designed to support the monitoring and evaluation program of the Livelihoods and Food Security Trust Fund (LIFT). This report provides results from the second round of the periodic research (QSEM 2), conducted from September to October 2012. QSEM 2 seeks to build on QSEM 1 and gain a more granular understanding of the main livelihood activities reported in both the LIFT baseline survey and in QSEM 1, to explore coping strategies in the context of these livelihood activities, and to examine issues of social relations and external assistance in light of some of the findings of the QSEM 1 report.

The villages in two states and regions from QSEM 1—Chin State and Mandalay Region—were revisited in QSEM 2 to examine changes since the previous study. Villages in the other QSEM 1 states and regions—Magwe Region and Rakhine State—were replaced by two new states and regions, Shan State and Ayeyarwady Region. Teams of four researchers covered nine villages in each of the four states and regions, conducting interviews and focus group discussions with over 1,000 people. Field work and analysis emphasized collecting information on and understanding the different components of livelihood strategies followed by the poor.

Livelihoods

Agriculture

The main livelihood activity in all four states and regions—Shan State, Chin State, Mandalay Region and Ayeyarwady Region—was farming. The staple crop of paddy was reported to be the primary crop by volume across all regions, except in Chin State where corn was reported as the main crop due to five of nine villages visited having soil unsuitable for paddy. A wide variety of other cash crops were being grown across regions, including sugarcane, sesame, green gram, chili, garlic and other vegetables. The high incidence of cash crop cultivation across regions provides the opportunity for crop-specific interventions that target productivity gains and market linkages but wide regional variations in the types of cash crops grown will make such crop-specific interventions challenging.

Significant differences were observed between the regions and within the regions themselves in the size of agricultural landholdings, the type of land owned and in the number of landless households. There were almost no cases across all the regions of upward economic mobility in terms of small farmers purchasing land and becoming medium or large farmers. Downward economic mobility from small farmers to landlessness was more common, with multiple instances of small farmers selling or mortgaging their land to cope with agricultural and general shocks. Mandalay had the highest number of observed landless households and Shan and Chin State had a very low number, due to the

prevalence of shifting cultivation practices whereby households could farm on cleared forest land. Young, newly married couples from small farmer households were observed to be a significant proportion of landless households.

Clear gender divisions of labor were observed across regions with different sets of farming activities being carried out by men and women. There were also significant variations by gender in wage rates for labor between regions and between lean and harvesting seasons. Across all regions, small farmers reported primarily using family labor and only farmers with larger landholdings reported hiring outside labor.

Shortages of farm labor during the peak season were reported as a problem in Chin, Mandalay and Ayeyarwady. The use and ownership of tools and other farming assets, including oxen, power tillers, storage containers and other storage facilities, differed across and within regions. This is a major potential area for livelihood interventions.

Although the availability of other farming inputs—primarily fertilizer, seeds and pesticides—was not reported as a problem in any of the regions, ease of access, pricing and affordability varied significantly based on the distance of villages from their nearest township market and the quality of transportation linkages. Wide variations in fertilizer and pesticide-use within the same sub-region suggest the need for interventions that train farmers on optimal use of both inputs. The little evidence available on seed use suggested limited use of hybrid and higher quality seeds and this is another potential area for interventions.

Farmer households reported taking loans primarily to buy fertilizers and pay labor before the harvest and for purchasing food for household consumption. Large and medium farmers reported usage of credit primarily for farming activities whereas small farmers reported using credit for food purchases. The size of debt varied across wealth groups and by region, but was correlated to landholding sizes. Households in all regions were borrowing from multiple sources with the main sources of credit reported being private moneylenders, NGOs, traders, township shops, local grocery shops, community microfinance funds, pawnshops, and medium and large farmers within the villages themselves. Interest rates varied widely by source of credit, with MADB charging the lowest rates and private moneylenders charging the highest rates of up to 10% per month. However, households were found to be unaware of the actual interest rate charged in many cases.

Households in all regions reported that the main markets for their crops were either in the surrounding villages or the nearest township markets. Brokers were the main market intermediaries across regions, with households reporting long-standing commercial relationships with the same brokers. However, farmers complained about unfairness in the grading and evaluation of their crops by brokers, which formed the basis of payments. Market information on prices was accessed by the entire village through a few households that owned mobile phones (usually large and medium farmers) and from households that had already travelled to the townships to sell their crops. There were no examples of collective action, such as cooperatives or informal pooling of

produce, except in renting trucks to transport produce, and this is an area for interventions to explore further.

The primary agriculture-specific shocks reported by households included price fluctuations, climate variations, crop loss due to pests, and extreme weather events such as drought and excessive rainfall leading to crop loss and yield decline. Weather and climate-change related shocks were a major problem across regions. Price fluctuations and declines were also reported as a major problem across regions.

LIVESTOCK

Growing livestock is a secondary livelihood activity in addition to farming, with households reporting using income from the sale of livestock for specific consumption expenditures including marriages, school fees, religious ceremonies and major home repairs. Chickens and pigs were raised in all regions. Other animals including buffalos, oxen, goats, sheep and ducks were found to be prevalent only in some regions.

The main inputs reported by households were feed, labor and medicines. Households across regions did not report any difficulty in procuring new animals or feed. Households reported purchasing animals from fellow villagers and from specialized livestock markets that were prevalent in all regions. Use of vaccinations was widespread with multiple examples found of training given by NGOs and by government to create veterinary extension workers. However, overall access to, usage and pricing of veterinary services varied significantly by region and this is a significant area for potential interventions.

Generally, households reported using family labor to tend livestock. Outside labor was primarily hired for grazing oxen and buffalo during the rainy season, as household labor was concentrated in farm-related activities. Feed costs for the same types of animals were found to vary substantially by region. The use of different feeding practices—with supplemental feed being used only in some regions—suggests the need for interventions that look at training and dissemination of best practices in feeding different types of animals. Across regions, households that had access to public pastureland reported lower feed costs.

Households sold livestock in local markets, to brokers and to other villagers. In Chin and Shan states, households and brokers were selling livestock in cross-border markets in India and China. Prices of livestock varied widely between different regions and within different areas in the same region. Households reported problems with finding price information from different township and cross-border livestock markets. The lack of such information disadvantaged households when negotiating sales prices of livestock to brokers within the villages. This is a significant area for potential interventions.

The main shocks related to livestock-rearing reported by households included disease, increasing scarcity of pastureland, death of animals due to weather changes, decline in sales prices of livestock, and an increase in the prices of feed. Exchange rate fluctuations were cited as a major problem where livestock were being sold across the border and there is the potential to look at financial

products and interventions that help households manage such shocks. Across regions, households reported many instances of disease and loss of animals.

Households in Shan State and Ayeyarwady region reported a decrease in public pastureland.

Fishing

Fishing was a major source of livelihoods only in the Ayeyarwady Region with approximately 13% of households in the villages visited reporting fishing as their primary occupation. Main inputs for fishing were nets and boats, whose prices varied by size. Boats were made to order within the villages themselves by carpenters. Households used a range of different types of nets based on the area where fishing had to be done and type of catch they were seeking. Most households reported using hand-powered boats and reported fuel costs as being a disincentive to switch to powered boats.

Households reported using credit for purchasing fishing equipment and for household consumption. The main sources of credit reported by fishing households were: moneylenders, who charged high interest rates ranging from 10-30 per cent a month; NGOs; village shops; and village collectors. Households across the region reported needing to pay licensing fees, either to a middleman who claimed to have been given fishing rights or to the Department of Fisheries. Households reported all such payments to middlemen as informal.

Average catch sizes varied by the size of fishing nets used and the season. Commercial fishing households reported catch sizes ranging from 15,000 to 100,000 *kyats* per day. Catch sizes and income from fishing varied 60% on average between peak fishing season and off-season with the drop as high as 90% in some cases. . Fishing households mainly sold to brokers based in the villages themselves who aggregated the catch and sold to township collectors, who in turn sold to the Yangon wholesale fish market. Households interviewed were not aware of prices in the wholesale fish markets. Given significant price variation in the wholesale markets, interventions that assist households in accessing market information are a significant area for potential interventions.

The main shocks reported by households were a drop in catch sizes. Households reported a decline in fish stocks in the region and having to spend more time fishing to catch the same amount of fish. Although the exact causes of this drop in catch sizes were not clear, households felt that the main reason were the growth of big fishing trawlers using fine fishing nets that captured all species of sea life in the area. However, fishing households themselves reported a range of harmful and environmentally unsustainable fishing practices such as using poison and explosives. There is thus potential for interventions that seek to raise awareness of environmentally sustainable fishing practices.

Casual Labor

Casual labor was a significant source of income for poor households regardless of their primary livelihood choice. Households reported food insecurity as one of the primary reasons for seeking casual labor work. Casual labor activities engaged in by households were primarily farm-related. But they also included a variety of other activities including: carpentry; weaving bamboo and matting for

walls; minding livestock and providing veterinary services; and collecting forest produce. Households across regions also reported migrating to urban areas to work in brick and textile factories; doing construction work; and working as manual laborers.

Casual labor activities, number of working days and wage rates differed widely by region and gender. Activities that required travel over distances, such as mining and collecting forest produce were done primarily by men. There was a significant difference between casual labor wage rates for women and men for the same or similar sets of activities. Proximity to townships was reported as being one of the primary factors influencing wage rates.

Farming was the primary source of demand for casual labor in almost all regions. Demand for casual labor activities varied by crop, by farming season and by region. Strong seasonal variations in demand coupled with households reporting food security as a major driver for seeking casual labor work has important implications for aid interventions. Interventions need to look at mix of credit and savings products, income-generation programs and emergency food aid to help reduce vulnerability of households during periods of low demand for casual labor

Wage advances as a form of credit was prevalent in Mandalay and Ayeyarwady. Households typically took their wages in advance during the lean season from March to May when no agricultural work was available. 30 per cent of households who took such wage advances took it in kind, taking baskets of paddy as payment. Effective interest rates for advance wages were found to be 25-50% for a three-month period.

Shocks related to casual labor were mainly reported in Mandalay and Ayeyarwady regions. In Mandalay, successive crop failures for the previous three years had resulted in a reduction in demand for casual labor and households reported an increase in migration due to this. In Ayeyarwady, a number of factors including increased use of power tillers and reduced farming activity due to inadequate credit access had led to a decrease in demand for casual labor.

Shocks and Coping Strategies

In agriculture, the main shocks reported were crop losses and yield declines due to climactic variations; attacks by pests; a decline in soil quality; and price fluctuations of agricultural commodities. For livestock, the main shocks reported were disease and price fluctuations. For fishing, the main shocks reported were a decline in catch sizes and arbitrary government licensing norms. For casual labor, the main shock reported was a decline in demand for casual labor.

Coping strategies were common to households across the spectrum of the basket of livelihood activities and included: migration and remittances; cutting down on household expenditures, which included expenditure on both households and livelihood inputs; pawning assets; developing secondary income sources through casual labor and raising livestock; and livelihood specific strategies such as changing crops planted.

Migration was a common coping strategy across the four regions visited and remittances were a major source of income for many households. Poorer households used remittances primarily for food consumption whereas better-off households used remittances for a range of expenditures and investments in livelihood assets. No household reported using a formal financial channel for sending or receiving remittances. Instead, they reported bringing money back as cash, sending through others in the village that were traveling back and sending money back through agents. Offering migrants financial services that allow sending and receipt of remittances is a key area for potential aid interventions.

Expenditure-reduction was also a common coping strategy and households reduced different types of expenditures in response to shocks including spending less on food; livelihood inputs including casual labor; social expenditures, such as gifts for weddings and contribution to temple ceremonies; and other household expenditures, including healthcare, clothing and education. Pawning household assets was reported as a coping strategy only in Ayeyarwady Region. Due to the extensive losses suffered during Cyclone Nargis. farmer households reported pawning gold and farmland.

GENDER

Across all the regions, there were clear gender divisions across different livelihood activities, usually predicated on traditional gender roles that differentiated between the work that women and men can do based on perceived difficulty in terms of physical labor and location of work activity within or outside of the village.

In agriculture, men were responsible for making important decisions including the choice of crop to be planted, seeds used, methods of paddy farming and pest control techniques. Post-harvest marketing activities, such as negotiating the sale of produce and transporting produce to markets were also done solely by men. Agricultural labor roles were also clearly demarcated between men and women with seed germination, pre-transplanting work, applying fertilizer and pesticides, and plowing, done solely by men; and weeding and transplanting done solely by women.

In raising livestock, men were responsible for activities that involved going outside the village, including grazing oxen and buffaloes, chopping feed for them and selling the animals in township markets. Fishing activity was primarily done by men with women responsible for ancillary activities such as maintaining nets and preparing baits for catching crabs and eels. Women were also responsible for sorting the catch from fishing into lots that would be sold in the market, sold within the village and used for household consumption.

Within households, women were solely responsible for activities such as childcare and preparing food. Both men and women gained access to credit but usually from different sources. Women reported gaining access to credit from NGOs and local shopkeepers for household food consumption; men reported accessing credit from brokers and collectors; and both men and women accessed credit from private moneylenders.

External Assistance

Apart from Ayeyarwady Region, which received significant aid in the aftermath of Cyclone Nargis, the different states and regions received similar levels of aid. In the repeat research locations—Mandalay Region and Chin State—there were almost no changes in levels or types of aid between QSEM 1 and QSEM 2. There were few differences in aid provision between remote and non-remote villages or, accounting for population, between village tract and non-village tract villages. Across the regions, households expressed similar priorities for aid interventions. Certain sets of respondents, especially village leaders, expressed needs more clearly than other types of respondents, such as women and poorer households, who did not clearly articulate needs in response to interview questions.

Overall, aid programs conducted needs assessments within the village before launching interventions and villagers generally perceived aid interventions to fit their needs, despite a few complaints referring to specific aid programs. One common complaint was about the repayment terms of credit programs aimed at farmers that demanded monthly repayments, which was cited a mismatch to the seasonal income from agriculture for farming households.

Local and international NGOs were the main aid providers. Within aid projects, a majority used local village development committees set up as part of the project to deliver aid within the village. Multiple village development committees (VDCs) promoted by different aid projects were found within the same villages. According to the perceptions of households and key informants at the village level, decisions on project design and on targeting methods were made by aid providers and decisions on project beneficiaries were made by villagers through local structures such as VDCs.

Community contributions were most common to public goods projects, and were usually organized on the principle of equal contributions or labor or money by households, though the poorest households were sometimes exempt from financial contributions. There were no complaints about community contributions. A variety of transparency mechanisms were used. Community meetings appeared to be more effective than notice-boards or other mechanisms as a transparency mechanism, despite problems in some areas with mobilizing participation.

Social Relations and Institutions

Social relations varied across regions. In the repeat state and region, Chin State and Mandalay Region, social cohesion continued to be strong. Collective action and reciprocal labor-sharing arrangements were common, enabling households to cope with hardship and meet gaps in service-delivery. For the most part, this was true too of Ayeyarwady Region and Shan State, but the dynamics there differed. In Ayeyarwady, social relations had deteriorated significantly in four villages due to tension over post-Nargis aid and the proliferation of village committees, which caused village factions to arise. People also reported that targeting methods had engendered unequal treatment among groups within the village. Such tension had spilled over into other areas of village life, such as pagoda festivals, for which people had traditionally worked together.

As in QSEM 1, there was little overall conflict or crime, apart from the aforementioned tension over aid in Ayeyarwady Region and some apparent drug-related crime in Shan State. Villagers reported that most small-scale disputes were resolved acceptably at the village level. In one township in Shan State the impacts on livelihoods of the previous history of conflict were apparent. There, villagers reported that the recent ceasefires had reduced the incidence of extortion, forced labor and informal taxes.

Village institutions and leadership were similar to QSEM 1, but there was some variation in local leadership in Shan State. Key leaders in most villages were village administrators or village elders. Formal village leaders worked within a network of village elders and respected people, and acted as an interface between the village and the government. At the time of the QSEM 2 fieldwork, no village had held the village tract administrator elections outlined in the new Ward and Tract Administration Law, but information on such elections will be included in the forthcoming QSEM 3 report. There were many reports of village leaders working on behalf of villagers to help negotiate with outside actors, for example to secure more aid for their villages.

Changes from QSEM 1

Overall, there were few changes between QSEM 1 and 2 in the two regions – Chin and Mandalay – that overlapped both studies. No significant changes in livelihoods strategies, product prices and yields; patterns of social relations; and new aid initiatives were observed across the two regions between the two studies. Within Chin State, the main changes observed were a drop in interest rates for microfinance programs by the largest local NGO due to a government policy change capping interest rates; a drop in the exchange rate for the kyat against the Indian Rupee, resulting in lower income from sale of livestock across the border; and greater demand for casual labor, since QSEM 2 fieldwork was carried out during harvest season.

In Mandalay Region, greater migration from the region was observed. Households attributed the increased migration to climactic variations that resulted in crop losses and decreased demand for casual labor in the region. However, there were no increase in crop losses and decrease in labor demand between the two studies, suggesting that accumulated distress and the failure of other coping strategies to deal with ongoing shocks was leading to the increased migration.

Implications for LIFT

Implications of QSEM 2 findings for LIFT supported interventions fall into three different levels of interventions: research and policy support; aid-program design; and delivery processes for aid programs. Across these three levels, a number of key gaps and opportunities relating to livelihood strategies of the poor and support provided by aid programs have been observed.

In financial services, there is room for interventions that seek to develop new products that better match the needs and livelihood strategies of the poor, including risk-management products such as micro-insurance; to increase focus

within credit interventions for borrower awareness of effective interest rates and key loan terms; and to build formal channels for remittances.

In agriculture, adaptation to climate change is a major gap. A comprehensive intervention across different levels from research and policy support to pilot interventions is needed to help set the framework for enhancing adaptation capacity of poor communities within the country. Other areas for intervention in agriculture include developing models of collective action; and improving agricultural and veterinary extension services.

Another major area for intervention across agriculture, livestock and fishing is increasing access to market information so as to enhance negotiating power of producers. In fishing, policy interventions are needed to help sustainably manage fishing stocks and to put a more transparent system of allocation of fishing licenses in place. Aid interventions also need to raise awareness and seek to change environmentally unfriendly fishing practices such as the use of poison and explosives.

INTRODUCTION

The Qualitative Social and Economic Monitoring of Livelihoods in Myanmar (QSEM) research program aims to monitor and understand rural livelihoods in Myanmar. It examines the different livelihood strategies and activities of people in rural Myanmar, the wider factors that shape these strategies, and how the broader social and institutional features of community life affect people's livelihoods choices and outcomes.

QSEM is designed to support the monitoring and evaluation program of the Livelihoods and Food Security Trust Fund (LIFT). LIFT works in rural areas of Myanmar and is expected to disburse more than $100 million over five years. It provides grants to implementing partners to fund projects that collectively aim to improve the food security and incomes of 2 million people across Myanmar. To do so effectively, however, it faces several challenges. One is how to provide development assistance effectively in multiple regions of the country whose core development concerns and contexts vary greatly. Another is how to move from supporting short-term humanitarian needs to supporting sustainable development. A third is to ensure the LIFT program supports changing needs on the ground and identifies new issues as they emerge.

These challenges mean there is a need for information on the livelihoods needs, challenges and opportunities in LIFT target areas and how these vary by geographic area, target group and over time. With this in mind, there is a heavy emphasis within the LIFT on promoting learning, both through monitoring and evaluating program interventions and through research that provides a deeper understanding of the contexts in which the program is working. QSEM aims to inform the strategic decision-making of the LIFT Fund Board by helping the program to gain a better understanding of the local context in these areas.

QSEM has two complementary components. First, periodic research is conducted at roughly six-monthly intervals in villages selected to represent the areas in which LIFT operates. The research is conducted in 54 villages across six states and regions covering the different agro-ecological zones where LIFT operates: (i) the Dry Zone (Magwe Region and Mandalay Region); (ii) coastal zones (Rakhine State and Ayeyarwady Region), and (iii) hilly zones (Chin State and Shan State). Second, QSEM will conduct a number of thematic studies, focusing in more depth on issues that emerge from the village level fieldwork.

The first round of QSEM fieldwork was conducted from March to May 2012 and sought to understand the context for different livelihood strategies faced by the poor. The round covered Magwe Region, Mandalay Region, Rakhine State and Chin State. As it was the initial round, QSEM 1 focused on the broader context. It sought to provide a more in-depth understanding of (i) the local physical, economic, social and institutional context in which LIFT projects worked and how these varied across areas; and (ii) how these local contextual factors shaped livelihoods choices villagers made and their well-being. It also

sought to explore the nature of external assistance being provided (including that provided through LIFT) and how such assistance shaped the local context.

The second round of research, on which this report is based, was conducted from September to October 2012 and focused in more detail on livelihood activities. QSEM 2 was conducted in Mandalay Region, Shan State, Ayeyarwady Region and Chin State. It builds on QSEM 1 by presenting a more granular understanding of the main livelihood activities reported in both the LIFT baseline survey and in QSEM 1: agriculture, livestock-rearing, fishing and casual labor. It also examines coping strategies in the context of these livelihood activities, and examines social relations and external assistance in light of previous findings.

METHODOLOGY

To achieve the above objectives, QSEM 2 relied on in-depth qualitative fieldwork using interviews with households and key informants such as village leaders, focus group discussions and informal group discussions with particular social and occupational groups such as farmers and women. Information from respondents was supplemented by direct observation by field research staff.

QSEM uses a purposive stratified sampling approach to create a sample of villages. The sample selects two states or regions from each of the three agro-ecological zones within Myanmar: the dry zone; the hilly areas; and the coastal area, including the Delta region, yielding six states or regions in total. The states or regions selected are the poorest in each zone, conditional on existing or expected LIFT presence. Within each state or region, three townships are selected to be geographically dispersed across the state/region, one in each of the three districts with the highest poverty levels in the state/region, conditional on LIFT presence: yielding 18 townships in total. Within each township, three villages are selected based on variation in proximity to a trade center and access to water resources or roads, yielding 54 villages in total.

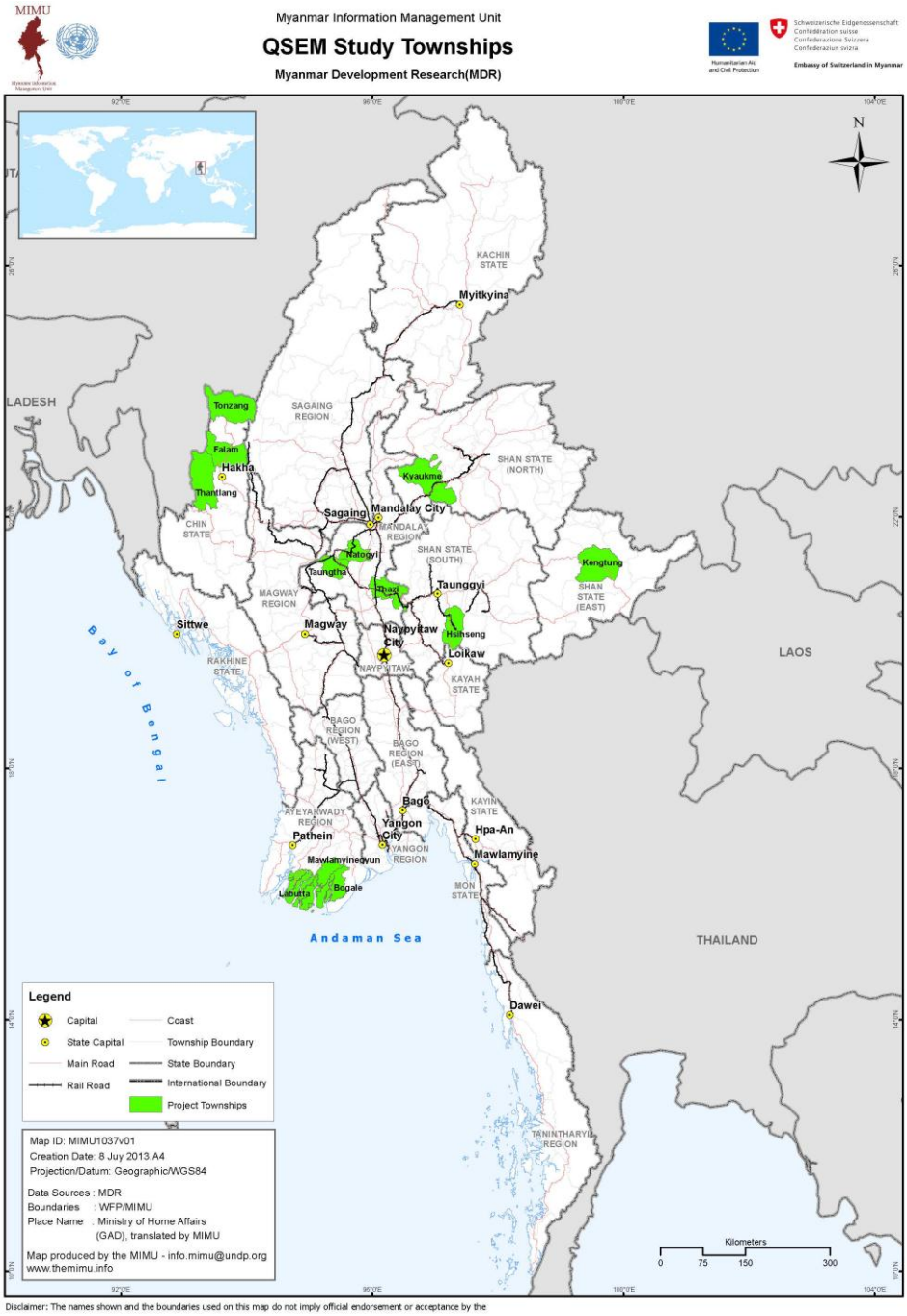
TABLE 1: STATES AND REGIONS IN QSEM

Region/State	QSEM 1 Mar-May 2012	QSEM 2 Sept-Oct 2012	QSEM 3 May-June 2013
Mandalay	X	X	
Magwe	X		X
Chin	X	X	
Rakhine	X		X
Ayeyarwady		X	X
Shan		X	X

QSEM aims to cover temporal and seasonal variation. The villages in two states and regions from QSEM 1—Chin State and Mandalay Region—were revisited in QSEM 2 to examine temporal changes since the previous study. Villages in the other QSEM 1 states and regions —Magwe Region and Rakhine

State—were not covered in QSEM 2 and were replaced by two new states and regions—Shan State and Ayeyarwady Region—but are being revisited in the third round of QSEM (QSEM 3), fieldwork for which began in May 2013.

FIGURE 1: QSEM ROUND 2 TOWNSHIPS



Two rounds of QSEM are planned per year over a period of three years. QSEM adopts a staggered strategy, with each state or region visited twice during the dry season and twice during the rainy season over a three-year period. The table below gives a list of townships visited and the number of interviews and focus group discussions conducted in each village for QSEM 2.

TABLE 2: NUMBER OF KEY INFORMANT INTERVIEWS & FOCUS GROUP DISCUSSIONS

Region	Township	Village	KII	FGD	No. respondents	
					Male	Female
Shan	Hsihseng (South)	1	10	4	23	5
		2	8	4	18	4
		3	6	8	34	1
	Kyaukme(North)	4	11	4	20	1
		5	7	2	17	2
		6	7	2	13	3
	Kengtung (East)	7	8	2	13	0
		8	8	1	8	3
		9	9	1	10	0
Ayeyarwady	Bogale	1	5	7	26	9
		2	5	7	31	15
		3	9	7	22	20
	Mawlamyinegyun	4	5	5	25	15
		5	6	7	29	18
		6	6	8	30	11
	Labutta	7	5	7	24	11
		8	5	6	20	14
		9	6	6	20	10
Mandalay	Thazi	1	6	6	25	11
		2	5	7	27	13
		3	7	5	25	7
	Natogyi	4	6	3	15	6
		5	7	5	20	12
		6	5	6	27	8
	Taungtha	7	5	4	20	5
		8	6	4	18	8
		9	6	4	20	6
Chin	Falam	1	5	4	10	11
		2	9	4	17	10
		3	10	5	18	17
	Thantlang	4	8	5	12	13
		5	9	5	20	19
		6	7	6	13	9
	Tonzang	7	6	5	11	14
		8	8	4	13	9
		9	10	5	14	8

Teams of three researchers spent approximately three days and four nights in each village and conducted interviews and focus group discussions with over 1,000 people. Informants included a wide cross-section of the village including: the village head and other official village leaders; village elders and religious leaders; others who were involved in aid decisions; farmers, fishers, laborers and those in other occupations; people from (potentially) vulnerable groups, including female-headed households, disabled or injured people and the elderly; and young men and women. To the extent possible, the researchers tried to get perspectives on the same topics from each group in order to triangulate the information received. In each village, the researchers collected standardized data to allow for comparative village, township and

regional analysis. The researchers also collected case studies to provide in-depth explorations of the issues emerging.

Interviews were conducted across wealth groups, with wealth ranking based on community-reported criteria based on the relative size of landholdings in each region.[1] The table below gives the wealth ranking criteria for small, medium and large farmers used in each region. These criteria are different for each region as they were developed by local communities based on land ownership patterns in the area. These criteria, listed in Table 3, guide the usage of small, medium and large farmer categories throughout this report.

TABLE 3: WEALTH RANKING BY REGION IN QSEM 2

Region	Small Farmers	Medium Farmers	Large Farmers
Shan State	<5	5 to 10	>10
Ayeyarwady Region	<10	10 to 20	>20
Mandalay Region	<11	11 to 20	>20
Chin State	1	2	>3

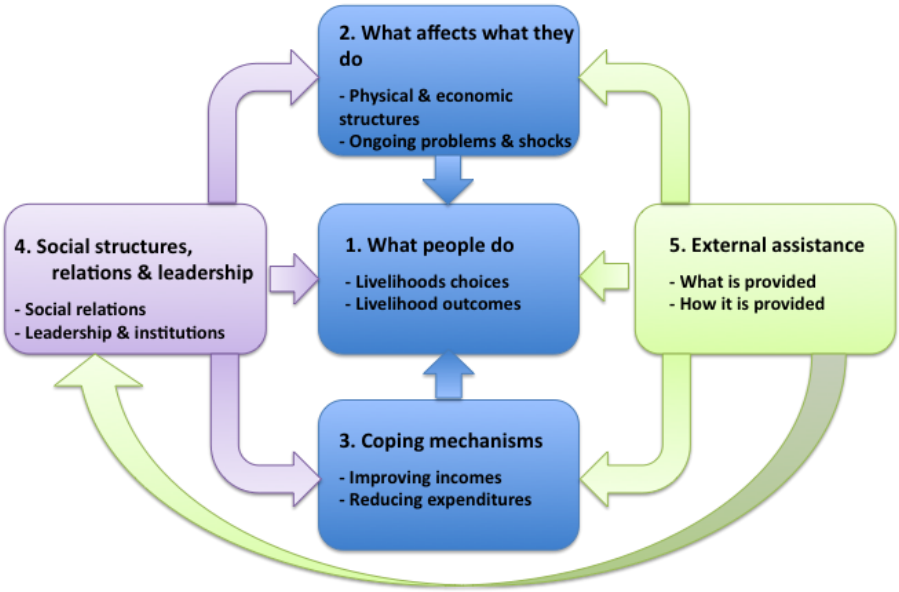
Field work and analysis emphasized collecting information on and understanding the different components of livelihood strategies followed by the poor in the main livelihood sub-sectors in terms of numbers of households employed: agriculture, fisheries, animal husbandry; and casual labor.

ANALYTICAL FRAMEWORK

The overall QSEM program collects information on five topic areas, as shown in the boxes in Figure 2. It aims to provide a descriptive picture of the topics within each box and to understand the relationships between the factors in the different boxes. How does external assistance affect what people do, on coping mechanisms, and social structures? How do those social structures shape the local economic environment? How do coping mechanisms affect livelihood choices and outcomes? Assessing the ways that different sets of factors are related to each other can ultimately provide a deeper understanding of how livelihoods choices are made and how they result in different outcomes.

[1] There were two reasons for using land as the main wealth criterion and using different criteria across states and regions: (1) Land was the main source of wealth and so the easiest rough proxy; (2) Landholding sizes differed substantially between states and regions, which, combined with the fact that the purpose of the wealth ranking was to understand dynamics across wealth strata within rather than across communities, would have lent little utility to cross-regional comparisons.

FIGURE 2: OVERALL ANALYTICAL FRAMEWORK FOR QSEM

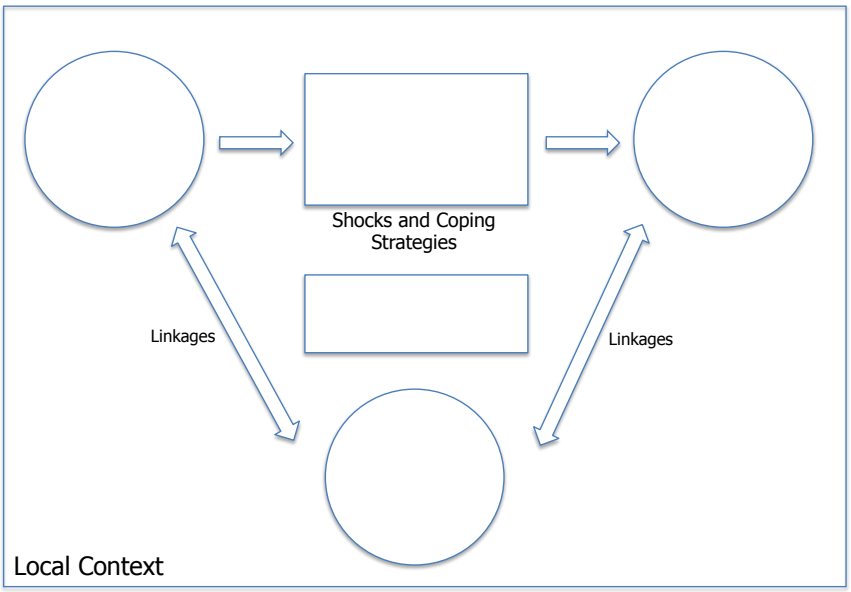


Each round of QSEM has a specific focus. QSEM 2 focused on getting a more detailed understanding of livelihoods activities in agriculture, livestock, fishing and casual labor, and so focused in more depth on the livelihoods aspects of the overall framework, examining inputs, households, outputs, markets, local context and variation, and shocks and coping strategies.

As illustrated in Figure 3, analysis for QSEM 2 focused on the following components of livelihoods activities:

- **Inputs:** Price and availability of inputs; procurement process and linkages to input markets; ease of procurement; satisfaction with quality of inputs; payment terms; and reported impediments to access.
- **Households:** Number of employment days and nature of employment; household income from livelihood activity; and ownership of livelihood assets.
- **Outputs:** Prices of outputs; sales process and linkages to output markets; and efficiency and fairness of price setting mechanisms;
- **Markets:** Location of markets; main intermediaries; and payment terms.
- **Local context and variations:** Variations in livelihood activities and components between the four different regions covered under QSEM.
- **Shocks and coping strategies:** Shocks experienced within different livelihood activities and coping strategies employed by households.

FIGURE 3: LIVELIHOODS ANALYSIS FRAMEWORK FOR QSEM ROUND 2



REPORT STRUCTURE

Section 1: Introduction. This gives an overview of the objectives and history of QSEM.

Section 2: Methodology. This outlines the methodology, regions covered and analytical framework used to conduct the second round of QSEM.

Section 3: Livelihoods. This gives an overview of livelihood activities, including detailed analyses of the four main livelihood activities outlined in the LIFT baseline survey: agriculture, livestock, fisheries and casual labor.

Section 4: Shocks and Coping Strategies. This examines the different shocks reported by households and the coping strategies they used in response to these shocks.

Section 5: Gender. This gives a summary of gender issues cutting across livelihoods, shocks and coping strategies and social relations.

Section 6: External Assistance. This examines levels of assistance, needs and shortfalls, aid decision-making, and accountability.

Section 7: Social Relations. This gives an overview of village institutions, leadership, and conflict and crime.

Section 8: Changes from QSEM 1. This lays out temporal changes found between QSEM 1 and QSEM 2 in the two regions that overlapped in both studies: Mandalay and Chin.

Section 9: Implications for LIFT. This summarizes key gaps in livelihood strategies and areas that aid interventions can focus on.

SECTION ONE: LIVELIHOODS

The main livelihood activities in all four regions, in terms of the number of households employed and contribution to household income, were agriculture, livestock, casual labor, and, in the Ayeyarwady Region, fishing. Household activities, livelihood patterns, inputs, outputs, markets and shocks for each of these livelihood activities differed, so we examine them in turn.

AGRICULTURE

CROPS AND LANDHOLDING SIZES

PADDY WAS THE PRIMARY CROP ACROSS REGIONS, BUT THERE WAS WIDE VARIATION IN OTHER TYPES OF CASH CROPS.

The main livelihood activity in all four states and regions—Shan State, Chin State, Mandalay Region and Ayeyarwady Region—was farming. The main crop was paddy, with both wet paddy and dry paddy being prevalent, with a variety of other crops being grown as cash crops. In many areas, the same sets of crops were grown, but were only sufficient for own consumption at the household and village level due to a lack of marketable surpluses. Although QSEM 2 did not collect specific data on crops by volume of harvest, the staple crop of paddy was reported to be the primary crop across all regions, except in Chin State, where the local soil was unsuitable for paddy in five of nine villages. These villages grew corn and some cash crops to exchange for rice in markets. They reported facing food shortages for four to eight months of the year and relied on secondary livelihoods such as livestock-rearing for enhancing their income. Corn was a major crop in Chin State and Shan State but not elsewhere.

As illustrated in Figure 4 and Figure 5 below, a wide variety of other cash crops were grown, which provides the opportunity for crop-specific interventions that target productivity gains and market linkages. Figure 2(a) maps the number of instances where villages reported cash crops were being grown in to illustrate that a much larger proportion of the types of crops grown across all regions were cash crops. But wide regional variation in the types of cash crops grown, as illustrated in Figure 2 (b) will make crop-specific interventions targeting cash crops challenging.

PATTERNS OF LAND SIZE, TYPES, USE AND LANDLESSNESS VARIED SIGNIFICANTLY.

Significant differences were observed across and within regions in the size of agricultural landholdings, the type of land owned and the number of landless households. Four distinct types of land were observed across the regions: low land, which is close to irrigation sources and was used for wet paddy cultivation; upland, which is farther from irrigation sources and usually used for vegetable and dry paddy cultivation; shifting cultivation, which was land cleared from forests; and terraced farming, which is land cleared on hillsides for farming.

There were almost no cases of upward economic mobility whereby small farmers purchased land and became medium or large farmers. In one village in Chin State, a household had bought farmland using international

remittances from a family member abroad. In another village, a landless laborer had bought a small plot of land with savings. But such examples were rare.

FIGURE 4: CASH VS. STAPLE CROPS BY REGION

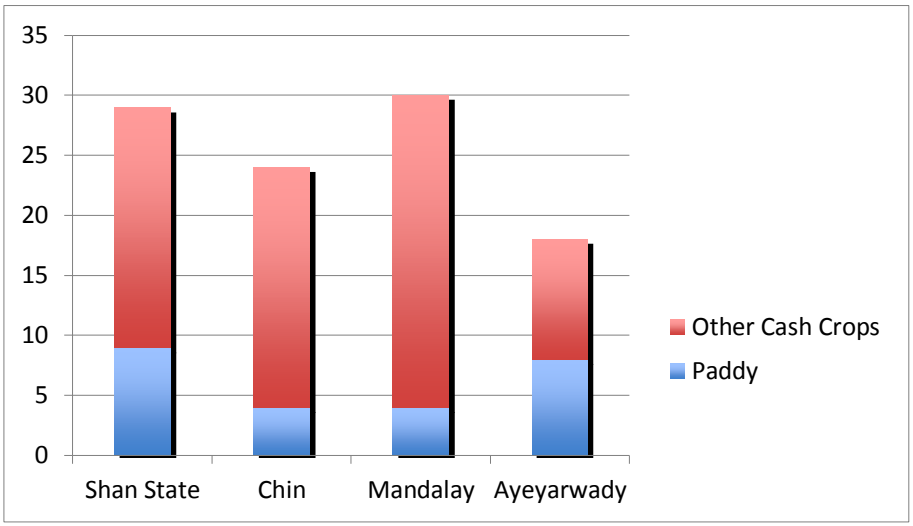
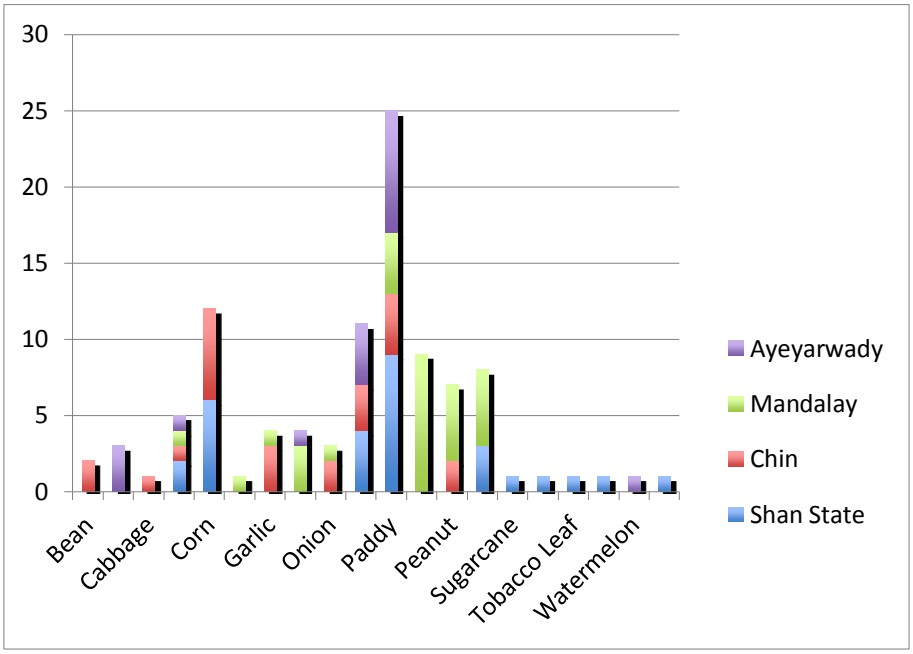


FIGURE 5: NUMBER OF VILLAGES IN WHICH REPORTED AS SIGNIFICANT CROP



Downward economic mobility whereby small farmers became landless was more common. There were multiple instances of small farmers selling or mortgaging their land to cope with bad yields, drop in crop prices, pest attacks and repaying outstanding debts. Young, newly married couples from small farmer households were observed to be a significant proportion of landless households.

Landholding sizes varied significantly by region, with farmers in Ayeyarwady and Mandalay having higher average landholdings than elsewhere. Table 4 lists landholding sizes observed by region. Chin State had the lowest

average landholdings. Farmers in saltwater[2] villages in Ayeyarwady had the highest average landholdings.

TABLE 4: LANDHOLDING SIZES BY STATE/REGION

	Landholding size (acres)		
State/Region	**Most common size**	**Min**	**Max**
Shan	3	N/A	>10
Chin: Own land	1	0.5	7
Chin: Shifting cultivation	N/A	1	5
Mandalay	10	2	60
Ayeyarwady: freshwater villages	7	4	25
Ayeyarwady: saltwater villages	20	10	90

Shifting cultivation[3] was prevalent in some areas of the hilly zone: Shan North (Kyauk Me township), Shan South (Hsi Hsaing), and Chin State**.** In shifting cultivation, people move their fields every two to five years by clearing new tracts of forest land. As observed in QSEM 1, Chin State villages followed a lottery system for allocating land-use rights for shifting cultivation land, whereby each household put in a request for land and a lottery was used to allocate land holdings from the available pool. The size of land-holdings cleared for cultivation varied by proximity to villages, with larger tracts of land cleared close by and smaller tracts cleared further away. The main crops grown on such shifting cultivation land were dry paddy and soybean.

There were few landless households in the shifting cultivation areas, as any household that wanted to cultivate could simply apply for usage rights and clear forest tracts. Households in the region reported, however, that this practice of clearing forestland had declined over the previous five years due to a shortage of required labor. There were inconsistencies in how restrictions on clearing land for cultivation were implemented across regions, with the main constraint to such clearing usually being not legal restrictions but the geographical boundaries of neighboring villages.

Informal lending mechanisms and rentals of land were observed in other areas. In Mandalay Region, people with proximate fields and homesteads also engaged in an informal lending mechanism whereby they rented out land for farming to each other, reportedly for 200,000 *kyats* per acre of land annually. About a fifth of households reported engaging in such informal land rental transactions. In the Ayeyarwady Region, two thirds of the landless households in the villages studied were renting up to five acres of spare land from other farmers in their villages who were only cultivating a portion of their land. Rental payments were made in kind, with the price varying from seven to 15 bushels of rice. Farmers with smaller landholdings also sometimes rented land from larger

[2] Saltwater villages refers to certain areas of the Ayeyarwady Region where there are saltwater intrusions into the land around the months of December and January, disrupting the agricultural cycle and ensuring that only one crop can be grown year around, thereby limiting earnings of farmers.

[3] *shwet pyaung taung yar* in Myanmar

farmers to cultivate. In freshwater villages in the region, many households also had home gardens within the homestead where they grew fruits (mainly banana and coconuts), vegetables, flowers, and betel leaf both for their own consumption and for selling in the market.

BOX 1: DETAILS OF SMALL-SCALE FARMING AND HOUSEHOLD LIVELIHOODS IN SHAN STATE

A case study from Shan State illustrates how the livelihood and coping strategies of the rural poor are constrained by challenges such as a lack of water but facilitated by factors such as reciprocal labor-sharing arrangements and social bonds.

In one rice-growing village in Shan East, only half of the 30 households in the village owned land, and only two owned four or more acres. The other 13 households owned less, with most owning less than one acre. Small farmers also rented land to grow paddy from a neighboring, well-off village.

One farmer, Sai Kham, owned half an acre of land, which he used to grow wet paddy. During the hot season, he was unable to get enough water to grow either another crop of paddy or other crops such as potatoes or mustard. He and his family thus relied only on the crop of monsoon paddy for food, and worked as day laborers the rest of the time.

In growing wet paddy, Sai Kham used his own seeds, plowing the fields with his own water buffalo. He was able only to use natural fertilizer such as manure. His relatives helped him with broadcasting the seeds and pulling up the seedlings for transplanting, although he did the actual replanting himself. At harvest time his relatives came to help him again, and he reported getting about 24 baskets of paddy, enough to feed him and his family for four to five months. The rest of the time he took out paddy on credit and paid it back with his own daily labor.

This daily labor took the form of transplanting wet and dry paddy and helping to dig irrigation canals. Sai Kham reported that he got 4,000 *Kyats* a day for his labor in the other village, compared to only 3,000 *Kyats* in his own. From September to about December, he went into the mountains and forests to collect mushrooms, bamboo shoots, taro roots and chestnuts, and to trap bees. He sold these products in the market of a nearby village.

Sai Kham also grew vegetables in his home garden. He raises three head or water buffalo, although he had to sell his pigs for about 300,000 *kyat* because raising them was not working out. He has recently rebuilt his home.

In his village, each household contributed to a fund year-round to support the monks during their retreats in the rainy season, for a total of 16,000 *kyat* a household. Every year the whole village contributed their time and labor to community projects such as weddings and funerals, helping with donation ceremonies, and repairing the road connecting the village with two other nearby villages , a particularly important road for dealing with health emergencies.

Labor and Farming Assets

LABOR PATTERNS DIFFERED BY GENDER AND SIZE OF LANDHOLDINGS. RECIPROCAL LABOR ARRANGEMENTS WERE COMMON.

There were clear gender divisions of labor. Across all regions, labor patterns were similar: men plowed; women weeded; and both men and women harvested and did post-harvest activities such as collecting produce into bundles, carrying them to storage areas in the house, and other ancillary activities such as shucking corn. Wage rates disaggregated by activity and gender are given below in the casual labor section. Wage rates for activities done by men, such as plowing, were higher than wage rates for activities done by women, such as weeding. As illustrated in Table 14 in the section on casual labor later in the report, there were also significant variations in wage rates for labor between regions and between lean and harvesting seasons.

Across all regions, small farmers primarily used family labor for farming-related activities. Children under the age of 14 years were observed working in the fields, helping by gleaning fields after harvesting and sometimes undertaking weeding and shucking corn. Children also assisted with taking care of younger siblings during the harvesting season. Only farmers with larger landholdings hired outside labor. In Chin State, small farmers, including those cultivating on shifting cultivation land, had informal labor exchange arrangements where they assisted in each other's fields.

FARM LABOR PROCUREMENT DIFFICULTIES WERE REPORTED IN CHIN, MANDALAY AND AYEYARWADY.

Difficulties in procuring farm labor were reported as a problem in Chin State and Mandalay and Ayeyarwady regions. In Chin State, households reported relatively higher labor costs—up to 75% higher than Shan State—due to a reported shortage of farm labor in the region and higher demand for labor in the harvest season. They also reported a shortage of adequate skilled labor: wetland agriculture is not an established practice in villages in the region, so workers with wetland agricultural skills are tough to find. In Mandalay Region, households reported difficulties in procuring farm labor and reported reduced hiring of farm labor due to out-migration from the region. They relied heavily on outside labor from other villages for both plowing and harvesting. In Ayeyarwady Region, every farming household had to hire outside labor due to the relatively larger size of landholdings and more intensive cropping patterns.

THERE WAS SIGNIFICANT GEOGRAPHIC VARIANCE IN THE USE OF TOOLS AND OWNERSHIP OF FARMING ASSETS AND STORAGE FACILITIES.

Significant distinctions were observed in the use of tools and ownership of farming assets between and within regions, reflecting different local conditions. In Shan South and Chin State, farmers used traditional buffalo-driven ploughs. In Shan East, however, where public land for grazing was scarcer, power tillers costing up to 2,000,000 *kyats* were observed to be the norm. In Chin State, some poorer rice-growing households rented oxen or buffaloes from other farmers for 8,000 *kyats* a day. In Mandalay Region, farmers relied primarily on oxen and water buffaloes for plowing. Large and medium farmers tended to own oxen, compared to only a few small farmers. The wage rate for plowing, which was done solely by men, was 4,000 *kyat* if the laborers themselves provided the oxen, and 1,000 *kyat* if they did not. In Ayeyarwady Region, farmers reported that since Cyclone Nargis, in which many buffalo died, they had mainly used power tillers. There, a higher proportion of households reported renting ploughs, power tillers and oxen for farming. In the region, ten of the 150 households interviewed reported owning a power tiller, 30 reported owning oxen, and only four reported owning mechanical threshers. Rental costs

were observed to be relatively high. Households reported paying 35 baskets of paddy to rent a buffalo for a year, which they reported as being equivalent to one season's produce for 13 acres of land. Most households reported renting jointly in groups to defray the costs of renting across a number of households. For threshers, the rental cost reported was five baskets of paddy for every 100 baskets threshed.

Ownership of storage facilities varied across regions. In Chin State, most households had separate storage barns and also large storage containers for rice inside their houses. In Ayeyarwady Region, larger farmer households had their own storage facilities, whereas households with smaller landholdings usually shared a relative's facilities. Rental of storage facilities was rare.

Other Farming Inputs –Fertilizer, Pesticides and Seeds

FERTILIZER PRICES AND USE VARIED WIDELY ACROSS AND WITHIN REGIONS, REFLECTING DIFFERENCES IN FARMER KNOWLEDGE, MARKET ACCESSIBILITY, TRANSPORT LINKAGES, LAND USE AND QUALITY, PRICES, AND WEATHER OR DISASTER-RELATED CONDITIONS

The price and usage of fertilizer and pesticides varied widely even within the same region. Although the availability of other farming inputs—primarily fertilizer, seeds and pesticides—was not reported as a problem in any of the regions, ease of access, pricing and affordability varied significantly based on the distance of villages from the nearest township market and the quality of transportation linkages. Wide variations in fertilizer and pesticide-use within the same sub-region suggest the need for interventions that train farmers on optimal use of both inputs. Table 21 in the Appendix lists detailed data on prices of fertilizer and pesticides observed by village. Figure 6 and Figure 7 show fertilizer and pesticide use by region.

There were many reasons reported for varying fertilizer use, including differences in the types of crops grown, soil quality, and market access, and hedging against climate-induced crop failure. Across all regions, households growing cash crops reported using more fertilizers. In Shan State and Chin State, where shifting cultivation was prevalent, farmers reported needing to use less fertilizer due to the better soil nutrients of cleared forest land. In Chin State, some farmers reported using less fertilizer as they did not want increased yields due to the lack of markets for their crops. In Ayeyarwady Region, soil erosion and damage caused by Cyclone Nargis had led farmers to double the amount of fertilizer they used per unit of land relative to before the cyclone. In Mandalay Region, erratic rainfall for the previous three years had resulted in crop failures and lower yields. As a result, farmers reported spending less on inputs, including fertilizer, to try to reduce their losses if crops should fail.

Significant variations were also observed in the amount of pesticides used and in the prices of pesticides, but a straight comparison across regions was not possible due to some regions reporting pesticide use per acre and others by total quantity of pesticide used [See Appendix Table 21 for detailed data on pesticide use by village].

FIGURE 6: NUMBER OF VILLAGES REPORTING FERTILIZER USE BY REGION

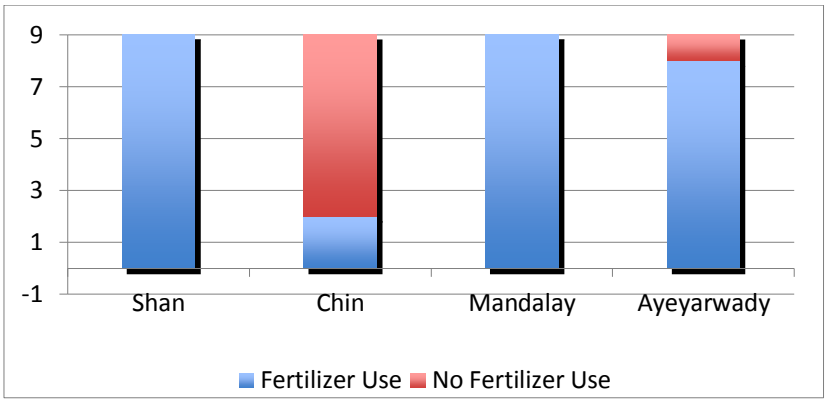
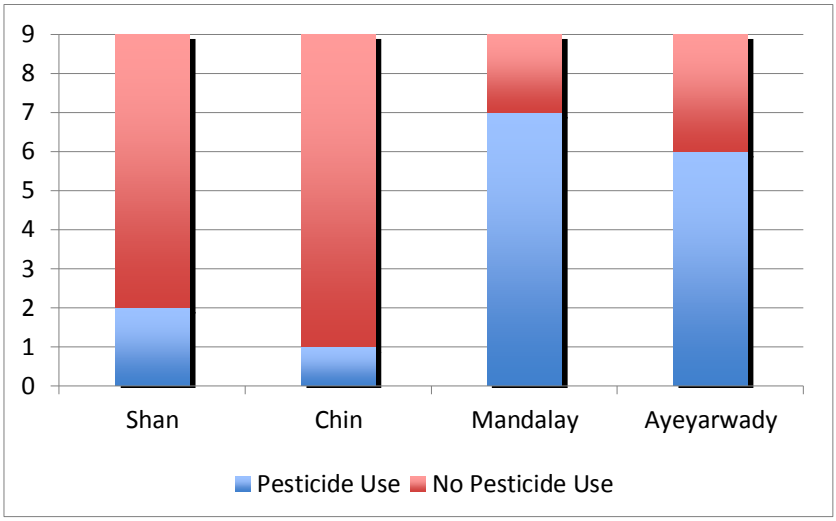


FIGURE 7: NUMBER OF VILLAGES REPORTING PESTICIDE USE BY REGION



Significant price variations were observed for fertilizers even within the same region, which suggests an opportunity for intervention in improving supply of fertilizers at standardized prices (see Table 4 above). Although the standard size for fertilizer sales was a 50 kilogram bag packaged by the fertilizer company, the standard size used for fertilizer sales at the village level was one *pyi*, a local unit of measurement that equates to eight condensed milk cans. Within each village, a large farmer usually acted as a representative and was provided seeds and fertilizer in bulk to sell to other local farmers.

TABLE 5: REGIONAL VARIATION IN FERTILIZER PRICES

Price (Kyats) per 50 kg bag of fertilizer				
	Shan	**Chin**	**Mandalay**	**Ayeyarwady**
Min	11,000	20,000	15,000	15,000
Max	18,000	24,000	30,000	25,000

AFFORDABILITY OF FERTILIZERS WAS REPORTED AS A PROBLEM IN ALL REGIONS.

Affordability of fertilizers was reported as a problem across regions. Households also reported paying higher prices for fertilizer when purchasing on credit. In Chin State, only 30 per cent of households reported buying fertilizer in small packets for sprinkling in their fields. Seven out of nine villages reviewed as part of QSEM 2 in this area were part of an UN agency initiative under which

they received training to make their own fertilizer. However, only 21 households were found to be doing so.

In Mandalay Region, every household reported not being able to afford as much fertilizer as they needed and compensating by using dung from their own livestock. In this region, an estimated 60 per cent of households reported purchasing fertilizers. Unlike in other regions, most households reported purchasing fertilizer on credit both directly from dealers and from representatives of dealers in the townships and in the villages. Households reported paying a higher cost for fertilizer when buying with credit. For example, one household reported purchasing a 50 kg bag of fertilizer for 18,000 *kyats* when purchased with cash and 22,000 *kyats*—an increase of 22 per cent—when purchased on credit.

In Ayeyarwady Region, households in all villages reported using fertilizers. In eight out of the nine villages, households were purchasing fertilizers directly from the township markets, where only cash payments were accepted. Households reported that they used to buy fertilizers on credit earlier but credit facilities had been withdrawn after Cyclone Nargis, when a significant proportion of the capital of fertilizer traders and other lenders was wiped out due to the plummeting of repayment rates as a result of cyclone-related crop losses and deaths. In one village, a local trader within the village sold fertilizer and also offered credit facilities. Fertilizer was given on credit and was repaid at harvest time in cash with an in-kind interest of ten baskets of paddy.

THERE WAS LIMITED USE OF HYBRID AND HIGHER QUALITY SEEDS, THOUGH DATA WERE ANECDOTAL

Anecdotal evidence from villages suggested that the use of hybrid seeds had led to higher yields in some crops such as corn, but the adoption of such seeds had not been widespread. The identification of differing yields due to use of different types of seeds may be an area for further research.

There were significant regional differences in the use of own versus market-purchased seeds. In Shan State, households were using Thai-manufactured hybrid seeds for growing corn. This corn was used for chicken feed and not for human consumption. Households used their own seeds for paddy. In Chin State, the norm was for households to use their own seeds. Households reported that there had been two efforts by NGOs in the past to introduce different hybrid corn seeds in the region, but that these had been unsuccessful. In one case, the yield of corn improved, but people discontinued using the seeds as they did not like the taste and texture of the corn. In Mandalay, households reported buying seeds from both within and outside the village for four crops—cotton, onions, lentils and peanuts. Seed purchases were made from bigger farmers in the village and from township-based brokers. In Ayeyarwady Region, households reported purchasing seeds from only within the village. Households preferred to use their own seeds from the previous harvest, reporting that they purchased seeds from other farmers in the village if they did not have enough. They also reported buying seeds on credit from neighboring farmers and repaying in kind after the harvest.

CREDIT

Debt was broadly correlated to landholding sizes and was highest in Ayeyarwady Region. Farmer households reported taking loans primarily to

THE PURPOSE AND SIZE OF DEBT VARIED ACROSS WEALTH GROUPS AND BY REGION. DEBT WAS CORRELATED TO LANDHOLDING SIZES AND WAS HIGHEST IN THE AYEYARWADY REGION

buy fertilizer and pay labor before the harvest and for purchasing food for household consumption. Large and medium farmers reported using credit primarily for farming activities whereas small farmers reported using it to buy food. Average loan amounts varied significantly by region as listed in Table 6 below. The highest average loan amounts were in the Ayeyarwady region, corresponding to larger landholding sizes in that region.

TABLE 6: AVERAGE DEBT BY REGION (KYATS)

	Average Debt	Min	Max
Shan	100,000	3,000	500,000
Chin	120,000	5,000	600,000
Mandalay	70,000	70,000	500,000
Ayeyarwady	1,000,000	700,000	2,000,000

In Chin Sate, households reported a mismatch between credit needs and interventions. They reported that credit interventions, especially those run by NGOs, offered credit for business activities, whereas they needed credit for purchasing food during lean periods.

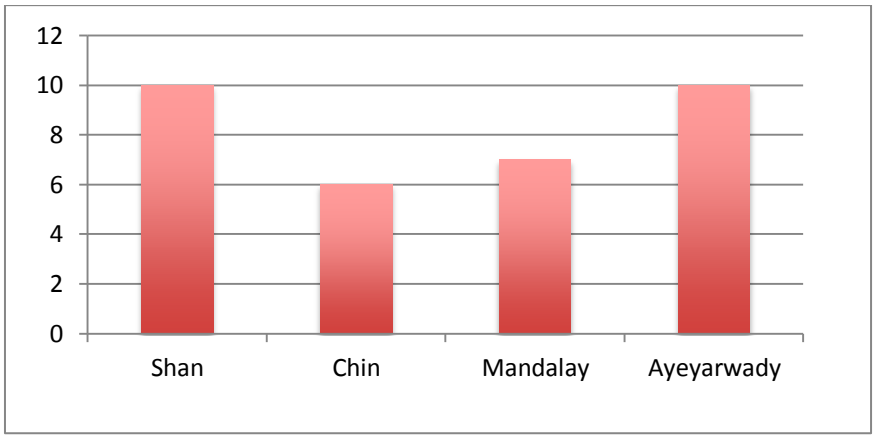
CREDIT AVAILABILITY AND BORROWING PATTERNS DIFFERED BY WEALTH GROUP AND REGION.

There were multiple sources of credit in every region. The main sources of credit reported were private moneylenders, NGOs, traders, township shops, local grocery shops, community microfinance funds, pawnshops, and medium and large farmers within the villages themselves. Large farmers usually also acted as private moneylenders and took collateral such as land and gold in addition to charging interest. Medium and large farmers ran grocery shops in the villages and sold basic foodstuffs, such as oil, rice, onions, and chili, on approximately two weeks credit. It was common for households within the village to take loans from medium and small farmers and repay in kind through contributing their labor for transplanting, weeding and harvesting.

The number of credit sources and credit outreach to households varied by region. As illustrated in Figure 5, the number of total sources of credit varied by region with both Shan State and Ayeyarwady Region having the highest number of distinct sources of credit for borrower households. Credit outreach to households by each source also varied by region. NGOs were by far the largest source of credit in the villages in Chin State, whereas in Ayeyarwady Region, the Myanmar Agricultural Development Bank (MADB) and private moneylenders reached almost as many borrower households. In Mandalay Region, shopkeepers, MADB and other farmers were the major sources of credit.

Lending from MADB, the government agricultural bank, was present only in a few villages, except in Mandalay and Ayeyarwady regions, where they were operating in all villages visited. Farmer households also took loans from private moneylenders. In some regions, informal borrowing from other households was prevalent, especially from households that had a steady source of income, for example through remittances from family members or from a regular enterprise activity such as a grocery shop.

FIGURE 4: TOTAL NUMBER OF CREDIT SOURCES BY REGION



In Shan State, most households reported getting credit from either microcredit programs or from shopkeepers and traders—mainly corn traders in Shan South and Shan North, where corn was the main crop. MADB was operational only in two of nine villages in the region and even in those villages only 20 out of 203 households reported being able to get loans from them. Loans were taken by both men and women within the household, but old people were not given loans.

In Chin State, households reported usually taking loans from only one source, as they were afraid of not being able to repay. Informal borrowing from other families was also observed in every village in this region. Based on household interviews, only 50 per cent of households took loans from more than one source. MADB was present in two of nine villages visited. NGO-driven credit programs—including SRGs, women's groups and rice banks—were operating in all nine villages visited. A number of NGOs were operating credit programs in the region. In three villages, a UN agency had had set up Village Development Committees (VDCs) from which people could take loans. In six villages, the agency had an ongoing grant program through which it had set up Livelihood Development Committees (LDCs), which also gave loans to members. In one village, a religious community group had helped raise a community fund from which members could take loans.

In Mandalay Region, almost every household interviewed reported accessing loans from multiple sources. NGOs were running credit initiatives in six of the nine villages visited in this region. Large farmers were major sources of credit in the region with a number of small farmer households reporting borrowing from within their own villages. MADB was present in every village, but only 10 per cent of households interviewed across these villages were accessing credit from them. Households reported, however, that they found the application process for MADB loans cumbersome**.** Pawn shops were also a major source of credit, with 20 per cent of households interviewed accessing credit through pawnshops located in the nearest township. These pawnshops charged 3 per cent a month over and above the gold pledged by the borrower.

SUCCESSIVE CROP FAILURES IN MANDALAY REGION HAD DECREASED THE SUPPLY OF INFORMAL CREDIT

In Mandalay Region, which suffered from extreme weather patterns, households reported that crop failures had significantly decreased the

supply of credit by large farmers. Households reported that crop failures had limited their ability to pay back loans and prevented large farmers, traditionally one of the major sources of informal credit, from extending credit to others in the village. Households reported that lending by large farmers within the village had decreased significantly over the past five years.

In Ayeyarwady Region, MADB was present in all of the nine villages visited, and every single household in the villages was accessing credit from them. The other main sources of credit in the village were NGOs and traders who acted as private moneylenders. An estimated 70 per cent of households interviewed were accessing credit from NGOs. Large farmer households reported not accessing credit from NGOs. An estimated 30 per cent of farmers reported taking loans from private moneylenders by mortgaging their land; they reported that they were having difficulty closing their mortgages.

Households who owned less than ten acres (medium and small farmers) reported selling their crop to traders in advance of the harvest. The period between sowing and harvesting paddy was four months and advance selling of crops was typically done one month ahead of the harvest. There was a significant reduction in the price realized for their crops when selling in advance. For example, 100 baskets of paddy at harvest time fetched 250,000 *kyats*, but when sold in advance to traders would only fetch 180,000 *kyats*, which effectively translated to a 38 per cent interest rate for one month.

BORROWING TERMS VARIED BY THE SOURCE OF CREDIT AND CHARACTERISTICS OF BORROWERS

Interest rates varied by source and households were often not aware of the rates offered by different credit providers: Interest rates varied by source and in different regions as listed in Table 7. The table illustrates the lack of prevision or awareness sometimes on the part of households of interest rates: for example, villagers listed a range of rates on the part of MADB, whereas the MADB rate in reality is the same across regions (1.41 per cent a month last year).

TABLE 7: MONTHLY INTEREST RATES (PER CENT) REPORTED BY HH BY SOURCE

State or Region	MADB*	SRGs	NGOs	Pawn-shops	Private lenders
Shan	2*	3	N/A	3	5-10
Chin	1.7*	1-3	2 – 2.5		
Mandalay	2*		1.5		10
Ayeyarwady	1.25*		2.5	3 - 4	5 – 8

* Actual rates of MADB are the same across regions; the rates in this table indicated rates *as reported by households.*

The highest rates of up to 10 per cent per month were being charged by private moneylenders, shopkeepers and traders. Villagers reported that microfinance programs charged 1.5-3 per cent per month by and that government banks charged 1.25 per cent per month. There was a range of different interest rates even among NGO-run microfinance initiatives, as such initiatives often lent through a local community fund, the interest rates for which were set by the local community. In many cases, households were not aware of interest rates charged by different programs, and especially by MADB.

In Chin State, most households interviewed were not aware of the lower interest rates charged by MADB relative to other sources of credit.

Repayment periods varied by type of credit source and borrower characteristics. Private lenders generally had shorter repayment periods of less than one year. There was variation even within development finance programs, where observed repayment periods ranged from three months to one year. Repayment periods also differed by type of borrower, with farmers usually having to repay within the same agricultural season—at the harvest time—and landless households reaching more varied agreements with private moneylenders ranging from two weeks to six months. NGO-promoted SRGs set their own repayment periods, which varied widely across regions and villages.

BOX 2: SAVINGS DIFFICULTIES OF SMALL-SCALE FARMERS IN CHIN STATE

Salai Lian and his wife Susie Ngun have a family of five school-age children. The family can find no outside labor, and so are only able to cultivate one and a half acres of dry rice. In 2011, they only harvested 40 baskets of paddy because of pests. Out of the 40 baskets, they had to mill five to resell to pay back a loan to the Myanmar Agricultural Development Bank. The remaining 35 baskets only provided enough food for the family for six months. For the other six months, Susie Ngun works about 15 days a year as a day laborer for 2,500 kyats a day. In the hot season, Salai Lian gets about 30,000 kyat cutting timber. The family has also borrowed money from an NGO program. When they have to repay the loan, they have to sell the chickens and pigs they have at home.

The family is unable to save even 1000 kyats a year. Sometimes around Christmas, Susie Ngun buys chickens and dogs from the village on credit and takes them to India to sell. The trip takes about a week and comes back with about 50,000 kyats. After buying clothing for the children and making religious donations, there is nothing left.

With no extra money in the house, to put the eldest son in the 8th Standard in Tantlang, the family had to have him stay with a friend there for free. He felt so ashamed that his parents did not have enough money to buy him books or other school supplies that he dropped out.

There were instances of household indebtedness in all regions. In Chin State, a number of households reported having difficulty repaying loans. Households reported being "afraid" of not repaying government loans but there was a relatively higher rate of default with NGOs. Households in the region were also aware of debt forgiveness programs across the border in the Indian state of Mizoram, which limited their willingness to repay loans from NGO-initiatives. In one village in Ayeyarwady Region, 10 out of 14 farmer households had mortgaged their land and reported having difficulty in getting it back. Currently, they had no land to farm, and were in the process of clearing forest-land to cultivate.

MARKETS

BROKERS WERE THE MAIN INTERMEDIARIES, BUT CROP SALE PROCESSES DIFFERED BY REGION.

Households in all regions reported that the main markets for their crops were either in the surrounding villages or the nearest township markets. The main modality of sales was to brokers based in the townships, though there were instances both of households transporting the crops themselves to township markets and of brokers and their representatives coming to villages at harvest time to purchase crops.

Brokers were the main intermediaries in almost all regions but many households reported being dissatisfied with relationship: Households reported long-standing commercial relationships with the same brokers. Household satisfaction with their relationships with brokers was mixed. Some farmers expressed satisfaction with the relationship and others complained about unfairness in the grading and evaluation of their crops, which formed the basis of payments. Farmers reported payments themselves being made promptly in cash, both in case of advance sale of crops and normal sale at the time of harvest. Brokers in townships were also often shopkeepers who sold farming inputs and a few households reported purchasing inputs on credit and repaying at the time of selling the crop back to the broker. Households also reported that there were a number of different brokers in the townships, which acted a check on exploitation by brokers, as households could switch to another broker at any time.

HOUSEHOLDS REPORTED BEING DISSATISFIED WITH BROKERS, BUT THERE WERE NO EXAMPLES OF COLLECTIVE ACTION, SUCH AS FARMER COOPERATIVES

However, there were no examples of collective action, such as cooperatives or informal pooling of produce, except in renting trucks to transport produce. In Shan State, there was evidence of households responding to market signals by shifting away from other crops and growing more corn due to higher prices for corn in the market.

In Shan State, the process of sale of crops varied by township, with households in Shan State selling directly, households in Shan East selling through brokers, and households in Shan North selling both directly and through brokers. In Shan South, all households sold their main cash crop, corn, in the township markets, which were three to 12 miles away. No brokers were found in the villages in this area. In Shan North, a broker came to the villages, and households also took produce to brokers in the townships. In Shan East, all the villages reported that brokers or their representatives visited their villages; transactions were conducted within the villages themselves. Brokers often tied up with local people in the villages to be their representatives and to undertake transactions on their behalf. Households also were aware of the ethnic and religious origin of the brokers, reporting that all the brokers were indigenous to Shan State, except in Shan South, where the brokers were predominantly Burmese Muslims of Indian descent.

In Mandalay, almost all households reported selling paddy and cash crops to brokerage firms in the townships, who then relayed the produce to further markets such as Mandalay and Yangon, and sometimes internationally. Brokerage firms were usually small businesses with one proprietor and only one laborer assisting them. It was reported that some brokerage houses also exported produce to other countries. Households were not aware of the market linkage beyond their immediate local townships and

had long-standing relationships with the same brokers. Only in one of nine villages did households report selling produce directly to consumers in Mandalay rather than going through a broker.

In Ayeyarwady Region the process of sale was mixed. There, 60-70% of households reported selling to the broker or representative within the village; 20% of households—generally medium and large farmers—reported transporting their produce to the township market themselves for sale to brokers; and 10% of households sold to a local village broker. Every household interviewed in this region complained about arbitrary quality 'grading' of their produce by brokers and reduced payments for "lower quality" paddy.

In some cases, local large farmers themselves acted as brokers within the village, collecting paddy from other farmers and transporting it to the township market. In cases where brokers sent a representative to the village to purchase on their behalf, brokers paid a service fee of 5,000 *kyats* per 100 baskets of paddy to the middleman. Households reported no difference between the price offered by the town and village brokers. Four out of nine villages visited had no village broker operating locally.

THERE WAS REGIONAL VARIANCE IN THE AMOUNT OF MARKETABLE SURPLUS, PRICES AND MARKET ACCESS.

Marketable surpluses varied by region. Four out of nine villages visited in Chin state reported that they did not produce any marketable surpluses for sale and that everything was consumed within the village itself. The other five villages grew a variety of cash crops including chili, sesame and tobacco, which was sold across the border in the Indian state of Manipur. In Shan State, there were higher marketable surpluses for cash crops such as corn and sesame.

PRICE FLUCTUATIONS WERE REPORTED TO BE A PROBLEM IN MANDALAY, EXACERBATED BY THE LACK OF CROP STORAGE FACILITIES

In Mandalay, farmers reported problems with price fluctuations, particularly prices dropping at harvest time. Although they were unhappy with the lower price, only two to three large farmers in each village had storage facilities and could hold on to their produce. Other households had to sell at the prevailing price. Households also reported pressure to sell rather than holding on to their produce to repay their debts. Households attributed seasonal price variations primarily to greater supply at harvest times, but also reported other fluctuations and shocks related to export market issues such as the border being closed or lack of demand in export markets. There is an opportunity for research that focuses on causes of price shocks through interviews with market intermediaries and government officials. There is also room for intervention in enhancing storage infrastructure at the village and households level to enable farmers to hold produce and protect themselves against price fluctuations in the market.

Market information on prices was accessed by the entire village through a few households that owned mobile phones (usually large and medium farmers) and from households that had already travelled to the townships to sell their crops. Households reported that pricing for their produce fluctuated and that it was lowest during the harvest season when all the produce came into the market at the same time. Mobile phone ownership was, however, very low across regions. In Ayeyarwady Region, for example, only roughly three households in every village were found to have mobile phones. There is room for more interventions that focus on disseminating current information on

pricing at the village level. One such NGO-run initiative in Ayeyarwady Region posts daily information on crop prices in four villages in the Bogalay and Mawgyun township areas.

In all regions but Chin State, transportation to markets was not reported as a problem. In every region, multiple transportation options were available to take produce to markets including bullock carts, horses, trucks, pickups and motorcycles. Public transportation options, however, were not available in any of the regions and households used privately run transportation services including buses in all regions, rental trucks and motorbikes; and privately run boats in Ayeyarwady. In Shan State, two to three trucks in each village were owned by large farmers, and others rented the trucks to transport their produce to the township markets. Transportation costs were calculated per bag of produce and varied according to the distance transported. Reported costs varied from 500 to 1,000 *kyats* per 50 *viss* bag. Some households also reported transporting their produce on bullock carts.

In Chin State, households reported that in the rainy season, villages became inaccessible and transportation costs were extremely high. For example, households reported that for a bag of rice that cost 20,000 *kyats* in the township, an additional 4,000 *kyats*—or 20 per cent of the value—had to be paid as transportation cost to the village. Horses, motor cycles and pick-up trucks were used to transport produce to township markets. Households reported often having to use multiple transportation types for the same journey. Four of nine villages reported having trouble with transportation due to irregular rainfall, which was resulting in flooding and irrigation canals getting blocked.

As in QSEM 1, households in Chin State also reported that distance to markets significantly constrained what crops could be grown due to the costs of transportation and ability to reach markets at specific harvest times. In some of the villages, for example, households grew garlic, but were unable to sell their crop at all due to low prices in the markets and high transportation costs in the rainy season. Farmers that grew garlic also reported not wanting to combine their produce for sale in the townships due to the difference in the size of garlic grown by farmers who did and did not use fertilizer.

In Mandalay, transportation was relatively cheap and time to market was quick compared to other regions due to good road connectivity and flat terrain. Of the villages visited in this region, the nearest was seven miles from the townships and the farthest was only 30 miles away. Transportation cost per bag of 18-20 *viss* ranged from 200-300 *kyats* per bag. In Ayeyarwady Region, transportation was mainly by boat, with reported costs ranging from 10,000 kyats (five to ten miles) to 20,000 *kyats* (ten to 20 miles) for every 100 baskets depending on distance. Big farmers in the region owned their own boats.

AGRICULTURE SHOCKS

This section details information on shocks faced by farmer households. A separate section in the report deals with coping strategies. This is because the effect of shocks can be observed on specific livelihood activities, but coping strategies are common at the household level and cut across multiple livelihood activities undertaken by households. Livelihood-specific coping strategies were largely absent, except for switching away from cash crops to other cash crops when prices declined, with households only able to use general coping strategies such as reducing consumption expenditures. This suggests that tools that enable households to deal with livelihood-specific coping strategies, such as agricultural risk-management financial products and storage facilities, are a major area for future interventions.

SHOCKS TO AGRICULTURAL LIVELIHOODS INCLUDED CLIMATE VARIATION, PRICE FLUCTUATIONS, PESTS , AND EXTREME WEATHER

The primary agriculture-specific shocks reported by households included price fluctuations, climate variations, crop loss due to pests, and extreme weather events such as drought and excessive rainfall leading to crop loss and yield decline. Table 8 summarizes agriculture-related shocks reported by region.

TABLE 8: SUMMARY OF AGRICULTURE-RELATED SHOCKS REPORTED BY REGION

State/region	Main agriculture-specific shocks reported
Shan	Daily price fluctuations – corn
Chin	Rainfall variations
	Damage to irrigation infrastructure
	Crop loss and yield declines
	Price decline – garlic
Mandalay	Climactic variations
	Crop loss and yield declines
Ayeyarwady	Degradation of soil quality post-cyclone Nargis
	Pest attacks
	Crop losses and yield declines
	Price fluctuations – paddy

EXTREME WEATHER PATTERNS WERE A PROBLEM IN ALL REGIONS

Weather and climate-change related shocks were a major problem across regions: Households in Chin State, Mandalay Region and Ayeyarwady Region reported crops losses and yield declines due to changes in rainfall and weather patterns. In Chin State, variations in rainfall led to crop losses and yield declines. Irrigation canals covering 70 acres in four villages—approximately 20% of total farmland in these villages—were damaged due to excessive rainfall and a second wet paddy crop could not be grown on this land. Six out of nine villages also reported yield declines from 75-80 baskets of paddy per acre to 50-60 baskets of paddy per acre due to excessive rainfall during the harvesting season in 2012.

IN MANDALAY REGION, EXTREME WEATHER HAD LED TO SUCCESSIVE CROP LOSSES

In Mandalay Region, seven out of nine villages reported facing crop losses due to climate variations for the previous three years consecutively. In one sub-area around Thar Zi Township, 25 per cent of farming households could not grow a second wet paddy crop because of late rainfall. In the sub-region around

Nga Hto Gyi Township, sesame, peanut and pigeon pea crops were lost due to drought. In Ayeyarwady Region, all the villages in the region reported a decline in the quality of their land due to salt-water accumulation in their fields after Cyclone Nargis and having to use extra fertilizer to maintain yields.

Price fluctuations and declines were reported as a major problem across regions. In Shan State, the price of corn, the major cash crop in the region, had increased to 400 *kyats* per *viss* in 2012 but households reported large price fluctuations on a daily basis, with the price sometimes falling to 300 *kyats* per *viss* in the same day. In comparison, the price of corn was only 300 *kyats* per *viss* on average in 2011. In Chin State, in three out of nine villages, farmers reported a steep drop in the price of garlic from 700-800 *kyats* per *viss* to 300 *kyats* per *viss*; they therefore switched away from growing garlic to onions. In Ayeyarwady, farm gate prices for the summer paddy crop fell from 300,000 kyats per 10 baskets last year to 230,000 kyats in 2012.

Pests were a problem in Ayeyarwady Region. In a third of villages in the Ayeyarwady Region, households reported crop losses due to pest attacks which affected approximately 20 to 30 per cent of arable land in these villages and caused steep crop losses of up to 50 per cent.

LIVESTOCK

HOUSEHOLDS

HOUSEHOLDS REARED LIVESTOCK TO COPE WITH SPECIFIC EXPENDITURES SUCH AS MARRIAGES AND SCHOOL FEES.

Livestock-rearing was a secondary activity whose patterns varied by region. Growing livestock was a secondary livelihood activity in addition to farming, with households reporting using livestock sales income for specific consumption expenditures including marriages, school fees, religious ceremonies and major home repairs. Livestock-rearing patterns varied. Chickens and pigs were raised in all regions. Other animals, including buffalos, oxen, goats, sheep and ducks, were prevalent only in some regions. Figure 8 and Figure 9 illustrate the proportion of total households growing livestock by different types of animals and the average number of animals raised.

FIGURE 8: PERCENTAGE OF HOUSEHOLDS RAISING CERTAIN TYPES OF LIVESTOCK

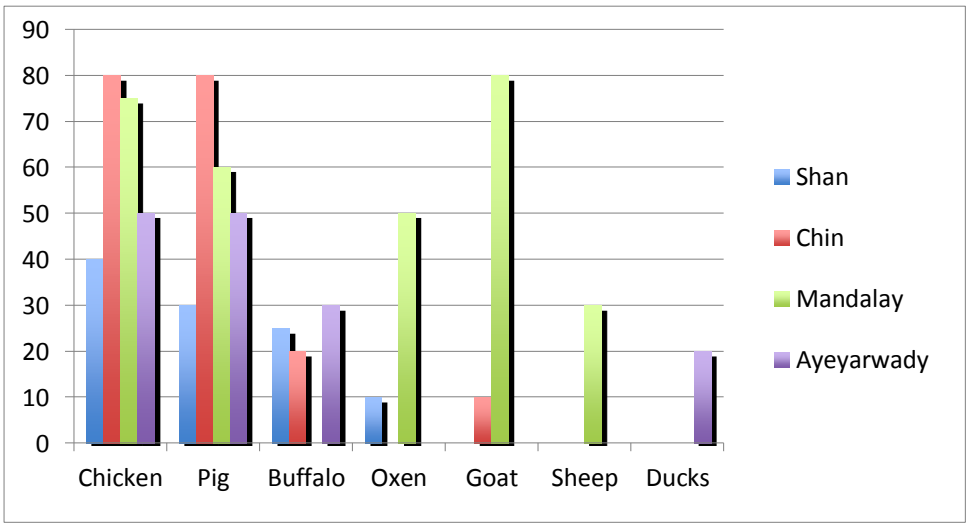
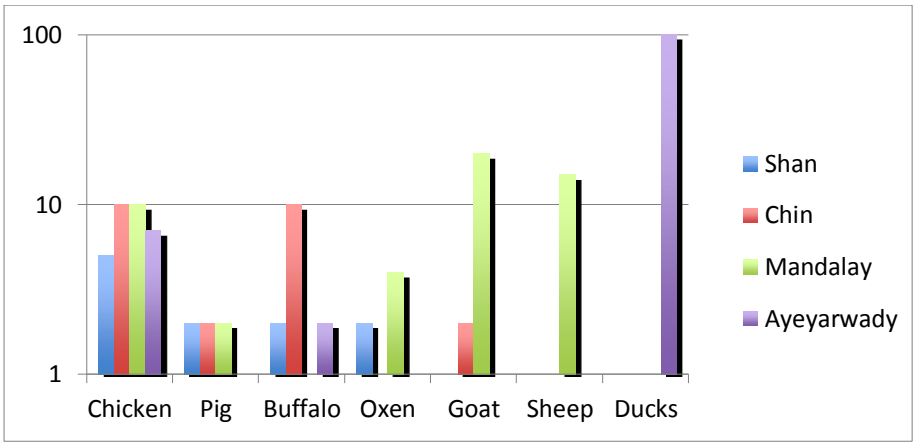


FIGURE 9: AVERAGE NUMBER OF ANIMALS PER HOUSEHOLDS BY REGION



Animals raised for consumption and sale varied by region: Buffalo and oxen were raised for use in farming and were rarely found to be sold in the market, except as an emergency coping mechanism. In Mandalay Region, goats, sheep and pigs were raised for commercial sale and chickens were raised primarily for household consumption. In Ayeyarwady Region, chickens and pigs were primarily raised for household consumption. In Ayeyarwady Region, households reported raising pigs as a form of savings and for ritual sacrifice on religious occasions. In Chin State and Ayeyarwady Region, the practice of renting buffaloes for farming to other households—for 25 to 25 baskets of rice—was also found to be prevalent. In Ayeyarwady Region, due to larger landholding sizes in this region, even households that had two buffaloes hired additional buffaloes from other households for farming.

INPUTS

The main inputs reported by households were feed, labor and medicines.

Specialized local livestock markets were prevalent in all regions: Households reported purchasing animals from fellow villagers and from specialized livestock markets in the vicinity. Households across regions did not report any difficulty in procuring new animals or feed. In many areas, regular animal markets were held within the villages themselves. In Shan North and Shan East, approximately 15 per cent of households reported being given chicken and pigs through NGO programs.

Access to, usage and pricing of veterinary services varied significantly. Use of vaccinations was widespread with multiple examples found of training given by NGOs and by government to create veterinary extension workers.

In Shan State, households reported widespread access to and use of vaccines. In Shan North, NGO-trained veterinary extension staff members were present within the village themselves. In Shan East, government veterinary extension staff did regular village tours. In Shan South, no extension workers were found to administer vaccines within the villages and villagers had to go to the nearest township, locate an extension worker, and ask them to make a home visit. Such home visits cost 1,*500 kyats* per visit relative to 500 kyats for vaccination services accessed from extension workers within the village.

TABLE 9: REPORTED COSTS FOR RAISING LIVESTOCK (KYATS)

	Buffaloes	Pigs	Chickens	Ducks
Shan	**Cost of Animal:** 100,000-300,000 **Labor costs:** 21,000 (5 Months) **Feed Costs:** 10,000 (7 months)	**Cost of Piglet:** 30,000 **Feed Costs:** 5,000 per month	**Cost of Chicks:** 6,000 – 10,000 No feed and labor costs.	
Chin	**Cost of Animal:** 100,000 **Labor costs:** 30,000 (monthly for 10buffaloes) **Feed Costs:** 2,500 annually for supplemental feed **Vaccinations**: 4,000 annually	**Cost of Piglet:** 25,000 **Feed Costs:** 2,000 per month **Pig Pen:** 5,000 – 10,000	**Cost of Animal:** Not purchased, raised from existing stock. **Feed costs:** 1,000 per month (corn)	
Mandalay	N/A	**Cost of Piglet:** 40,000 **Feed Costs:** 15,000 per month	N/A	
Ayeyarwady	**Cost of Animal:** N/A **Labor costs:** 30,000 (monthly for 10 buffaloes) **Feed Costs:** 15,000 per month **Vaccinations**: 4,000 Annually	**Cost of Piglet:** 25,000 – 60,000 **[**variation based on 45 day versus 3 month old piglets] **Feed Costs:** 7,500 - 9,000 per month **Pig Pen:** 5,000 – 10,000	N/A	**Cost of Flock of 100:** 70,000-400,000 [variation based on 45 days versus 4 months old ducklings] **Duck Shed:** 15,000 **Labor costs:** 30,000 (monthly for 10 buffaloes) **Feed Costs:** 30,000 per month [Flock of 100 ducks]

THERE WAS SIGNIFICANT REGIONAL VARIATION IN ACCESS TO, USAGE AND COST OF VETERINARY SERVICES, BUT VACCINATIONS WERE WIDESPREAD.

In Chin State, all households reported vaccinating their livestock. An UN agency-led training initiative had trained two livestock extension workers in each village to treat simple livestock diseases. Vaccines were administered for 500 *kyats* and were given twice a year.

In Ayeyarwady Region, veterinary services for ducks was found to be lacking. Households reported using home remedies such as feeding ducks energy pills and human medicines such as Paracetamol to treat them for

illnesses. They reported the costs of these medicines as being 1,500 *kyats* per month. In Mandalay, there were no livestock extension workers present in the villages visited. Based on household responses, it was also observed that households did not follow the full course of veterinary vaccinations and treatments required..

HOUSEHOLDS USED FAMILY AND OUTSIDE LABOR FOR LIVESTOCK AND USED RECIPROCAL AND BARTER ARRANGEMENTS

Households used both family and outside labor to tend livestock, depending on the season. Generally**,** households reported using family labor to tend livestock. Outside labor was primarily hired for grazing oxen and buffaloes during the rainy season, as household labor was concentrated in farm-related activities. Typically, two to three laborers were hired from within the village to jointly graze all the cattle in the village. Each household reported paying 3,000 *kyats* per month for a seven-month period, or a total expenditure of 21,000 *kyats* for the whole rainy season from April to October. Payments to laborers were made in kind with rice and not in cash. In the summer, households reported not hiring outside labor and feeding the buffaloes themselves—with the assistance of children—within the homestead.

In Mandalay, farmers who want to raise livestock but do not have the time to look after them partner with laborers who want to raise livestock but lack the capital to purchase them. Farmers purchase the animals and the laborers take responsibility for feeding the animal. When the animal is sold, the revenues are split equally between the laborer and the farmer. 30 per cent of households in the Mandalay region reported raising livestock jointly on these terms. Households that did not use the joint raising system reported mostly using family labor except for the rainy season, when they hired laborers to look after goats and sheep.

FEEDING PRACTICES AND COSTS DIFFERED BY REGION. ACCESS TO PUBLIC PASTURELAND REDUCED COSTS SIGNIFICANTLY.

Feeding practices and costs differed by region; feed costs were lower for chicken and pigs; and access to public pasturelands reduced feed costs substantially. As listed in Table 9, feed costs for the same types of animals were found to vary substantially by region. The use of different feeding practices – with supplemental feed being used only in some regions – suggests the need for interventions that look at training and dissemination of best practices in feeding different types of animals.

Pigs and chicken were generally found to have lower feed costs due to the ability to use household waste as feed. For feeding pigs, households used rice husks and chopped vegetables picked from their own fields in addition to purchased rice chaff. No feed costs were incurred for chickens (except in Chin State, where they were being fed supplemental corn), as they were fed broken rice from household supplies. In Chin State, supplemental corn was also being fed to pigs perhaps due to the prevalence of corn as a cash crop in the region. Households also reported supplementing the feeding of the chickens with broken rice to enhance growth weight resulting in total feed costs of 2,000 *kyats* for the year. Across regions, households that had access to public pastureland reported lower feed costs.

OUTPUTS AND MARKETS

The main outputs from livestock production were meat from pigs, chicken, ducks and goats; eggs from ducks; and milk from buffaloes and cows.

People did not usually eat chicken eggs as they are used for hatching chicks and increasing size of the flock. Buffaloes, cows and oxen were rarely sold except as a coping strategy in emergencies, as they were used as farming assets. Households sold livestock in local markets, to brokers and to other villagers. As noted above, regular livestock markets were prevalent in most of the regions visited.

Trade in ducks and duck eggs was a major economic activity in Ayeyarwady: In Ayeyarwady, households reported getting an output of 40-70 duck eggs per day (for six months of the year) for a flock of 100 ducks. Households reported three types of transactions for ducks and duck eggs: trading for other food items within the village; selling to brokers within the village who aggregated ducks and sold to the township trading house; and selling directly to the township trading house. The prices differed according to buyers, with the village shop paying only 50 *kyats* per duck egg and the township collector paying 65 *kyats* per duck egg. The ducks give eggs till they are two and a half to three years old, after which households sell the ducks for meat for 700 *kyats* per duck. A duck that is still laying eggs fetches 4,000 *kyats* in local markets.

LIVESTOCK PRICES VARIED SIGNIFICANTLY BY REGION, SUGGESTING LOCALIZED BUYING. LIVESTOCK MARKETS WERE MAINLY LOCAL, APART FROM IN CHIN STATE AND SHAN NORTH, WHERE THERE WAS CROSS-BORDER LIVESTOCK TRADE WITH INDIA AND CHINA

There were large variations in prices of livestock between different regions and within different areas in the same region: Chickens and pigs were sold by weight with a local weight measurement, the *viss* (1 *viss* = 1.63 Kg) being used as the standard. In some areas, pigs were sold based on an arbitrary measurement of the pigs' neck by the buyer's fists. Large price differences were found for the price of livestock within the same state: for example, there was 140% difference in the price of buffaloes in Shan State. This suggests that livestock are sold mainly in local markets and transportation of livestock across markets in minimal.

Significant price differences were also reported between direct sales in markets and sales to intermediary brokers. In Chin, households reported a lower price of 50,000 *kyats* per goat when selling to a broker as against 60,000 *kyats* per goat when selling directly in local livestock markets.

TABLE 10: MAIN LIVESTOCK MARKETS BY REGION

	Main Markets
Shan	Shan South and East: nearest township Shan North: across Chinese border
Chin	Buffaloes and pigs: Mizoram (India) Chickens: local markets.
Mandalay	Within village; local township markets.
Ayeyarwady	Within village; local township markets.

Livestock were sold either locally or, in Chin State and Shan North, across the border in India or China. Shan North is adjacent to the Chinese border and there is a significant demand for pigs across the border, which results in higher prices for pigs in this region. In Chin State, four out of nine villages visited reported depending on markets across the Indian border in the state of Mizoram for selling buffaloes, pigs and goats. These four villages were closest to the border and had regular monthly trade with Mizoram. Goats and pigs were sold

to brokers who aggregated the animals and transported the to Kalay, Tamu and Moray in Mizoram . Five of nine villages that were further away from the border traded only twice a year with markets in Mizoram.

TABLE 11: LIVESTOCK PRICES REPORTED BY REGION (KYAT)

	Buffaloes	Chicken	Pigs
Shan	250,000 - 600,000 (females) 400,000 – 1,000,000 (males)	4,000 to 6,000 per viss	3,000 to 4,000 per viss
Chin	N/A	6,000-7,000 per chicken.	N/A
Mandalay		N/A	
Ayeyarwady		3,000 – 3,500 per chicken	4,000 per viss

HOUSEHOLDS FACED A LACK OF PRICE INFORMATION, HIGH TRANSPORTATION COSTS AND A DECREASE IN LIVESTOCK PRICES

A lack of price information reduced the negotiating power of households selling livestock. In Chin state, households reported problems with a lack of information on buffalo prices in Mizoram markets and being forced to sell at lower prices once they had transported the buffaloes there, as they could not afford to bring them back unsold. Households reported spending up to 100,000 *kyats* for transportation to Mizoram—30,000 kyats to hire a laborer to help with transportation and 70,000 kyats to hire a truck for the last 50 miles of the journey across the Indian border—before they had information on sales prices.

A lack of price information on prices also disadvantaged households when negotiating sales prices of livestock to brokers within the villages. In Mandalay Region, most households raising goats and pigs reported selling only to brokers who came from the townships but they had no information on post-sale market linkages, prices and where the livestock were eventually being sold. Interventions that seek to disseminate information on prices in proximate markets can have a significant impact in the ability of households to get higher prices for their livestock.

Transportation of livestock to markets was expensive and time-consuming. As described above, households in Chin State incurred very high costs in transporting animals to Mizoram markets. Even when animals were sold to brokers who aggregated animals for transport and sale, transportation costs incurred by the brokers were found to be high. For example, in Chin State, pigs were purchased by local brokers within the village who aggregated up to 15 pigs and made the three-day journey to Mizoram by foot. The brokers hired one laborer to accompany them and manage the herd, which cost them 30,000 *kyats*. The entire trip to Mizoram and back took seven days. There is the potential for interventions that look at aggregation and transport of animals in larger batches to reduce transportation costs.

In many areas households reported a drop in livestock prices. A drop in livestock prices was cited as a problem in many areas. In Chin State, households across the region reported a decline in pig prices over the past two years. Households reported a 25% drop in prices, with the maximum price that they could obtain for pigs falling from 1.8-2 *lakh kyats* in 2009 to 1.5 *lakh kyat* in 2012. As a result, four out of the nine villages visited in Chin State reported that pig rearing was declining. In Ayeyarwady Region, households reported a

decrease in duck egg prices from 80-96 *kyats* per egg in 2011 to 60-65 *kyats* in 2012—a drop of up to 37% in some areas—but were not able to attribute a reason for the drop in prices. One potential reason for the price drop could be due to an excess of supply in the wholesale market on 15th street (now moved to 9th street) in Yangon.

There were problems with licensing of butchers at the village level. In Shan State, households reported problems with selling their livestock within the village due to regulations requiring the formal registry and licensing of local butchers. In all the nine villages visited in the region, licenses to sell pork, beef and mutton were not given, making it illegal to kill and sell animals for meat within those villages. However, households reported informally selling meat within the village. Understanding how widespread the problem is and whether it affects prices of livestock adversely by depressing local markets could be an area for future research.

Livestock Shocks

LIVESTOCK-SPECIFIC SHOCKS INCLUDED DISEASE, PASTURELAND SCARCITY, EXTREME WEATHER-RELATED DEATHS, AN INCREASE IN FEED PRICES, AND A DECREASE IN SALES PRICES

The main shocks related to livestock rearing reported by households included disease, increasing scarcity of pastureland, death of animals due to weather changes, decline in sales prices of livestock, increase in the prices of feed and exchange rate fluctuations for villages that were dependent on markets across the border in China and India.

Table 12: Main Livestock-specific Shocks Reported by Region

State/Region	Shock Reported
Shan	Disease Decrease in public pastureland
Chin	Disease Exchange rate fluctuations
Mandalay	Disease
Ayeyarwady	Disease Rapid increase in feed prices Decrease in public pastureland

Exchange rate fluctuations were a problem for villages trading across the border: Exchange rate fluctuations were cited as a major problem where livestock were being sold across the border and there is the potential to look at financial products and interventions that help households manage such shocks. Households in Chin reported that the exchange rate between the Indian Rupee and the Kyat had fallen by 40% - from 20 *kyats* per Indian rupee in 2010 to 12-15 *kyats* per Rupee in 2012. This has resulted in a significant difference in sales price realized between the villages that depend on Mizoram markets and the villages that depend on local markets. Households in villages that sell to Mizoram regularly reported a selling price of 120,000 kyats per pig and households in other villages reported obtaining prices of 150,000 *kyats* per pig.

Across regions, households reported many instances of disease and loss of animals. In Shan State, many households reported not raising chickens due to instances of disease in 2011 where all the chickens in a village died abruptly. Households also reported that local NGOs had provided animal care training in

the area, which was useful in reducing the number of buffalo deaths due to disease.

In Chin State, households in three villages reported facing problems with diseases for chickens. In one village, all the chickens had died due to disease in 2011 and households were forced to invest in purchasing fresh chicks to start over. The village has instituted a ban on any additional chickens being brought in from outside the village to protect against disease. Households also reported that they went to the township to seek assistance from the government livestock department, but did not receive assistance. There was also an incidence of disease that affected cows in the region. In 2010, 100 buffaloes in one village died due to disease. Households reported not receiving assistance from the government's livestock department, which provided them with expired veterinary medicines.

In Mandalay, households reported reducing the number of goats that they raised due to incidents of goats dying due to cold weather. In all three villages visited in Tanzin township, goats had been provided to villagers as part of an NGO initiative, but the goats had all died within four months. As a consequence, households in this region did not want to raise goats. In Ayeyarwady Region, households in every village reported incidents of pig diseases, which was referred to locally as "ear blue disease." Households in one village reported incidents of buffalo disease, where 30 out of 40 buffaloes provided by an NGO to households in the village died. Households reported that although extension workers trained by NGOs were present in the village, they were unable to treat the disease.

Households in Shan State and Ayeyarwady region reported a decrease in public pastureland, which had a particular impact on landless families. In Shan State, households reported a decrease in the number of buffaloes that they raised due to the scarcity of pastureland for grazing. Households in Ayeyarwady also reported problems with declining pastureland for grazing ducks. Farmers did not want ducks entering their land and the lack of public pastureland in the village was especially a problem for landless households.

Households reported an increase in the price of feed: In Ayeyarwady Region, households reported problems with the rapid increase in the price of feed for ducks at the same time when the price of duck eggs was decreasing. Households reported that duck feed had increased by 33%, from 9,000 *kyats* per basket in May 2012 to 12,000 *kyats* per basket in December 2012. Households reported that the price of feed tended to drop during harvest time and increase in subsequent months.

FISHING

HOUSEHOLDS

Fishing was a major source of livelihoods only in the Ayeyarwady Region. In the nine villages visited in the region, approximately 13% of total households were fishing households although the number of households engaged in fishing differed significantly by village. A greater proportion of households in saltwater

areas were engaged in fishing relative to households in freshwater areas. Table 13 lists the number of fishing households by sub-region within Ayeyarwady.

Most fishing households were fishing for commercial sale: Households could clearly be divided into subsistence and commercial fishing activity based on their investment into fishing assets such as nets and size of boats; and the size of their catch and revenues from fishing. 89% were found to be commercial fishermen but in two of nine villages, almost an equal proportion of fishermen were found to be subsistence fishermen.

TABLE 13: SUBSISTENCE AND COMMERCIAL FISHING IN AYEYARWADY REGION

Township	Village #	Commercial Fishing # of HH	Subsistence Fishing # of HH	Total HH in Village
Bogale	1	N/A	N/A	82
	2	4	0	162
	3	11	10	102
Mawlamyinegyun	4	3	0	123
	5	13	0	42
	6	38	0	96
Labutta	7	56	0	230
	8	5	0	109
	9	8	7	82
	Total	**138**	**17**	**1028**

INPUTS

Input costs varied widely by size of boat and nets: Main inputs for fishing were nets and boats. Households reported purchasing boats made out of wood costing 100,000 to 300,000 *kyats* based on the type of boat. Boats were made to order within the villages themselves by carpenters. Households used a range of different types of nets based on the area where fishing had to be done and type of catch they were seeking. Costs of the nets differed by size and ranged from 30,000 *kyats* for the fishing lines used by subsistence fishing households to 300,000 to 18,00,000 *kyats* for the trawling nets used by commercial fishing households. Households used multiple sets of nets to increase catch sizes according to different fishing seasons. Other tools owned by households included eel and crab baskets - a type of box that they submerged in the water to catch eels and crabs. The cost of each of these boxes ranged from 200 to 500 *kyats* and households usually used up to 70-80 boxes.

FUEL COSTS WERE CITED AS A DISINCENTIVE TO SWITCH TO POWERED BOATS.

Most households reported using hand-powered boats; fuel costs were a disincentive to switch to powered boats: Although the number of households using powered boats has been increasing annually, most fishing households reported using hand-powered boats. Powered boats run on diesel engines and the cost of diesel in the villages ranged from 3,900 to 4,200 per gallon. Diesel was found to be more expensive by 500 *kyats* per gallon in the villages relative to the nearest township. To cut down costs, fishermen reported often rowing by hand even if they owned a powered boat.

Households reported buying inputs on credit: Households reported using credit for purchasing fishing equipment and for household consumption. The main sources of credit reported by fishing households were: moneylenders, who charged high interest rates ranging from 10-30 per cent a month; NGOs; village shops; and village collectors. Village collectors were brokers who aggregated fish and sold to township brokers. These village collectors bought the catch ahead of time and gave credit to households to repair nets and to buy boats.

HOUSEHOLDS REPORTED PAYING HIGH INFORMAL PAYMENTS FOR FISHING LICENSES, RAISING QUESTIONS ABOUT RENT-SEEKING

Households reported paying informal licensing fees: Households across the region reported needing to pay licensing fees, either to a middleman who claimed to have been given fishing rights or to the Department of Fisheries. Households reported all payments to middlemen as 'informal payments'. They received no proof of payment or evidence of formal fishing licenses issued. License fees differed by the type of net used for fishing and the type of catch. Larger nets required license fees as high as 366,000 *kyats*, whereas smaller nets and eel and crab boxes required no license fees.

OUTPUTS AND MARKETS

Average catch varied widely by season and types of fishing nets used: Average catch sizes varied by the size of fishing nets used and the season. Households engaged in subsistence fishing used smaller nets and had eels and crabs as a substantial proportion of their catch, which fetched lower prices. Subsistence fishing households reported daily income from fishing ranging from 6,000 *kyats*—in case of a really good catch—to 1,000 *kyats*. In one of the nine villages visited in the region, households specialized in fishing for crabs. Commercial fishing households reported catch sizes ranging from 15,000 to 100,000 *kyats* per day. Table 22 in the Appendix gives a detailed breakup of catch sizes and income by season by net used. Catch sizes and income from fishing varied 60% on average between peak fishing season and off-season with the drop as high as 90% in some cases. Peak and normal seasons were different for different types of fish, but generally February through August was off-season for most types of fish.

The range of catch sizes differed also based on the size of the nets used and the location of fishing areas. Households using trawling nets had much larger catch sizes, with the maximum reported catch size being 140 *viss* during the peak season. These same households reporting catch sizes of only *14 viss* during the regular season.

HOUSEHOLDS LACKED PRICE INFORMATION

Households sold to village-based brokers and did not have information on market prices. Fishing households mainly sold to brokers based in the villages themselves who aggregated the catch and sold to township collectors, who in turn sold to the Yangon wholesale fish market. Households rarely reported selling directly to township brokers. The township brokers also acted as sources of credit for village-brokers, giving them up to 2,000,000 *kyats* in credit for the season to pay fishermen for their catch. Township collectors reported that there was a significant price difference in the Yangon fish market between early in the morning and later in the day due to the supply of fish increasing during the

course of the day. Households interviewed were not aware of prices in the wholesale fish markets.

Fishing-specific Shocks

HOUSEHOLDS REPORTED A STEEP DECLINE IN THE FISH CATCH, REPORTEDLY BECAUSE OF BIG FISHING TRAWLERS CAPTURING ALL SPECIES OF SEA LIFE

Catch sizes declined steeply. Households reported a steep decline in catch sizes over the past year. Fishing households reported having to spend more time fishing to catch the same amount of fish, reporting that previously they used to fish once in the morning but that they now had to go two or three times a day due to the depletion of fishing stocks. They reported that earlier, they used to go fishing for 15 days in a month and caught fish worth 3-400,000 *kyats*, but that in 2012, the value of catch sizes had gone down to 10-20,000 *kyats*, a precipitous decline. Households reported that *hilsa* or *haser* fish catches had seen especially sharp declines.

The causes of this drop were not clear, but households reported that big fishing trawlers used fine fishing nets that captured all species of sea life in the area. Fishing households themselves, however, reported a range of harmful and environmentally unsustainable fishing practices. They dropped poison—purchased from township markets—in the river, which killed all fish in the immediate area, and picked them up when they floated up to the surface. Another method reported was fishermen inserting wires—connected to batteries kept in their boats—into the water and catching fish incapacitated by electric current.

Landless laborers reported a change in access to private ponds. Landless households reported that before Cyclone Nargis they were able to catch fish and crabs from salt ponds owned by large farmers and local business people. After the cyclone, land-owners had prevented outside people from fishing on their land and were using their own labor to catch fish. Approximately ten households in the region reported this as a problem. Owners of the land also reported giving fishing rights to laborers instead of paying cash.

Casual Labor

Households

CASUAL LABOR WAS A SIGNIFICANT INCOME SOURCE TO ALL KINDS OF HOUSEHOLDS

Casual labor is a significant source of income regardless of primary livelihood activity: Casual labor is an integral part of the households' basket of livelihood activities and was a significant source of income for poor households, including small farmers, regardless of their primary livelihood choice. Households primarily engaged in farm-related casual labor activities. But they also engaged in a variety of other activities including: carpentry; weaving bamboo and matting for walls; minding livestock and providing veterinary services; and collecting forest produce. Households also reported migrating to urban areas to work in brick and textile factories; doing construction work; and working as manual laborers.

Households reported food insecurity as one of the primary reasons for seeking casual labor work: In Chin State, small farmer households reported seeking work as casual laborers to meet their food security needs. Many

households reported having plots cleared from forest land, but were caught in a cycle of not being able to work it because of the need to earn immediate income for purchasing food. Instead, they sought work on other people's farms. In Ayeyarwady, small farmers, landless and fishing households in the region reported having to access credit throughout the year simply to meet their food needs. Households also reported relying on remittances from family members who migrated for casual work during the lean season for their regular food purchases..

CASUAL LABOR PATTERNS VARIED WIDELY, REFLECTING DIFFERENT LOCAL LABOR MARKET CONDITIONS

Activities, number of working days and wage rates differed widely by region and gender: Table 14 lists the number of working days and wages by region. Some activities were done exclusively by men, primarily those that required travel over distances, such as mining and collecting forest produce. There was a significant difference between casual labor wage rates for women and men for the same or similar sets of activities. Wide variations between wage rates for the same activities were also observed between regions. In some regions of Shan State, for example, wage rates for women in farming-related casual labor was found to be double those in Chin State and Ayeyarwady Region. Proximity to townships was reported as being one of the primary factors influencing wage rates.

Large variations in wage rates were found within regions as well; in the Thai border area of Shan East migration had resulted in labor scarcity and high cost. In Shan South, daily wage rates for casual labor were 1,500 *kyats* for women and 2,000 *kyats* for men. In Shan North, it was 2,500 *kyats* for women and 3,000 *kyats* for men. In Shan East, it was 4,000 *kyats* for women and 5,000 *kyats* for men. Wages were higher in Shan East reportedly due to higher migration to Thailand in the area resulting in labor scarcity. Prices of a range of items were also found to be higher in this region due to its proximity to the Thai border and people's ability to sell labor and produce across the border.

In Mandalay Region, women reported a greater number of working days on casual labor activities with 190 days worked in the year relative to 135 by men. There was a significant difference in wages for casual labor between men and women, with men earning 2,000 *kyats* per day and women earning only 1,000 *kyats* per day.

Farming was the primary source of demand for casual labor in almost all regions. Large and medium paddy farmers were the primary employers within villages, with small farmers mostly working on their own farms and seeking additional wage employment on other farms as well. The main farming-related activities for which casual labor was hired—to work along with household members—were burning underbrush to prepare the land for sowing; plowing; weeding; and harvesting. In Shan State, households in all nine villages visited reported engaging in farming-related casual labor. In two of nine villages, households gathered forest produce, gathered bamboo and picked mushrooms. Some households also cut banana leaves for use as packing material. A range of other non-farm casual labor activities were reported across regions including carpentry; weaving bamboo and matting for walls; minding animals and providing veterinary services; weaving; and driving vehicles.

TABLE 14: CASUAL LABOR: REPORTED NUMBER OF WORKING DAYS AND WAGES PER REGION

State or Region	Type of Activity	Job	No. Of Working Days		Wages (Kyats)	
			Male	Female	Male	Female
Shan	Farming	Shifting	200	200	2,000-5,000	2,000-5,000
		Forest produce	30	30	2,000-5,000	2,000-5,000
Ayeyarwady	Farming	Freshwater (2 crops)	90-100	90-100	2,500	2,000
		Saltwater (1 crop)	50-60	45-55	2,500	2,000
	Fishing	Freshwater	60		2,500	2,000
		Saltwater	200-300		2,500	2,000
	Other	Chop Nippa	30		3,500	
		Make Nippa		30-45		1,500
Mandalay	Other	Farming	270	300	2,000	1,000
		Forest Produce	180	180	3,000	3,000
	Other	Mining (Marble)	120		3,000	
Chin	Other	Farming	10	15	3,500	2,500
	Other	Forest produce	30			

SUCCESSIVE CROP FAILURES IN MANDALAY REGION CAUSED DEMAND FOR FARM LABOR TO DROP. LABORERS ALSO REPORTED A SEASONAL LACK OF CASUAL LABOR OPPORTUNITIES IN THE AYEYARWADY REGION

Demand for casual labor was highly seasonal and farming-dependent. Households in Mandalay and Ayeyarwady reported a shortage of labor opportunities. Demand for casual labor activities varied by crop and by region. Table 23-Table 26 in the appendix show a detailed mapping of casual labor demand by month. In Shan State, work was scarcest in February, March and April. In Mandalay, demand for casual labor in agriculture was highest at the beginning of the rainy season in June and lowest from March to May. Households in this region reported an overall decline in demand for labor due to endemic crop failures for the previous three years, due to which migration was prevalent in the region. In Ayeyarwady Region, households in freshwater villages also reported a scarcity of casual labor opportunities other than during sowing and harvesting periods.

Strong seasonal variations in demand coupled with households reporting food security as a major driver for seeking casual labor work has important implications for aid interventions. It suggests that aid interventions should consider a mix of credit and savings products, income-generation programs and emergency food aid to help reduce the vulnerability of households during periods of low demand for casual labor.

WAGE ADVANCES AS A FORM OF HIGH-INTEREST CREDIT TO CASUAL LABORERS WERE COMMON IN SOME REGIONS. IN AYEYARWADY, LABORERS REPORTED DIFFICULTIES ACCESSING CREDIT.

Wage advances as a form of credit was prevalent in Mandalay and Ayeyarwady regions: In four out of nine villages in Mandalay Region, the practice of households taking their wages in advance—for very high effective interest rates ranging from 25-50 per cent for a three month period—was

common. For wages paid in advance of the work, male laborers were paid 1,500 *kyats* and women 500 *kyats*, essentially paying a 500 *kyats* fee for getting wages two to three months in advance. Households typically took their wages in advance during the lean season from March to May when no agricultural work was available. 30 per cent of households who took such wage advances took it in kind, taking baskets of paddy as payment. Households paid off the advance by working during the agricultural season.

In Ayeyarwady Region, households reported taking credit including in the form of advance wages. People also reported a hike in interest rates, which were observed to be 20-30 per cent a month, due to a decrease in money-lending activity in the region after Cyclone Nargis. Landless laborers reported not being able to find credit.

MIGRATION TO FIND CASUAL LABOR OPPORTUNITIES WAS COMMON. THESE PATTERNS VARIED BY REGIONS.

Migration to find casual labor work was prevalent in all regions, but patterns varied. Households reported migrating out of the village when work was scarce. There were significant variations in migration patterns between regions.

In Shan State, migration patterns varied by area, with people in Shan East in particular migrating to Thailand, for a range of activities, including those bearing high risk. In Shan North and Shan South, people migrated to nearby villages for agricultural work, whereas people in Shan East reported migrating both to nearby areas for agricultural work and to Thailand for a range of activities including work on rubber plantations, work in restaurants and work in factories. There were also reports of women migrating for sex work to Thailand.

In Chin State, migration was seasonal. People migrated domestically and internationally. Households reported that starting in January of each year, men migrated across the border to Mizoram for a three-month period to work in logging and construction. Some women also migrated to Mizoram to work as maids and vendors, and in some instances, stayed on and married locals. Villagers reported that starting in September, other men migrated domestically to work in jade mines in Kachin State and in coal mines in Sagaying Region, coming back in June in time for the rainy season when mining opportunities decrease and village farming activities increase. Households reported many problems during their migration to other areas, including discrimination by local people in Mizoram and a high incidence of malaria in Hpakant in Kachin State.

Mandalay Region had both seasonal and longer-term domestic migration. Wage rates were higher for migrants to urban centers than to nearby villages. In Mandalay Region, two distinct types of migration were observed: seasonal migration to nearby villages for up to one month to work on farming, typically to help farm onions and watermelon and pick peanuts, and longer-term migration for up to six months to cities in Upper Myanmar to work in brick kilns and mines, collect eggs and farm. Wages for seasonal migration to nearby villages were the same as wage rates within villages. But wages for migrants to urban centers were higher, at 3,000 *kyats* per day. International migration was found to be very low in this region. A few households had family members that

had emigrated to Singapore, Malaysia and Thailand to work in factories and earned wages of up to 300,000 *kyats* per month.

In Ayeyarwady Region, migration to domestic urban centers was widespread, and remittances were a major source of income for many households. People went to Yangon, Naypyidaw and Pakhoukku to work in textile and brick factories and to engage in construction and coolie work. Households reported typically migrating for four to six months of the year and earning between 3,000-4,000 *kyats* per day. Both men and women migrated, but migrants tended to be younger people. Remittances from migrants were a major source of income for many households, with the amount of such remittances ranging from 15,000-30,000 *kyats* per month. In the villages visited, there was more migration in the saltwater villages than in the freshwater villages, as saltwater villages had only one crop cycle.

Casual Labor Shocks

CASUAL LABOR DECLINED IN SOME AREAS. REASONS INCLUDED SUCCESSIVE CROP FAILURES, STRUCTURAL SHIFTS, POST-NARGIS FARM MECHANIZATION AND INADEQUATE CREDIT FOR FARMERS.

Shocks related to casual labor were mainly reported in Mandalay Region and Ayeyarwady Region.

In Mandalay, households reported a decline in demand for casual labor due to crop failures and other changes, which caused an increase in out-migration from the region. In Mandalay, successive crop failures for the previous three years had resulted in a reduction in demand for casual labor and households reported an increase in migration due to this. Households also reported migrants facing difficulty in finding employment within the village when they returned, as medium and large farmers hired people who remained in the village for the agricultural season, thereby leaving out returnee migrants.

In Ayeyarwady Region, households in villages in saltwater areas reported that farmers were not in a position to hire labor, resulting in a shortage of available casual labor work. Factors for this included a shift to power tillers in the region due to the death of cattle in Cyclone Nargis, reduced farming activity due to inadequate working capital to buy farming inputs, and a change in farming techniques from transplanting paddy in rows to simply sowing seeds by hand, which requires less labor.

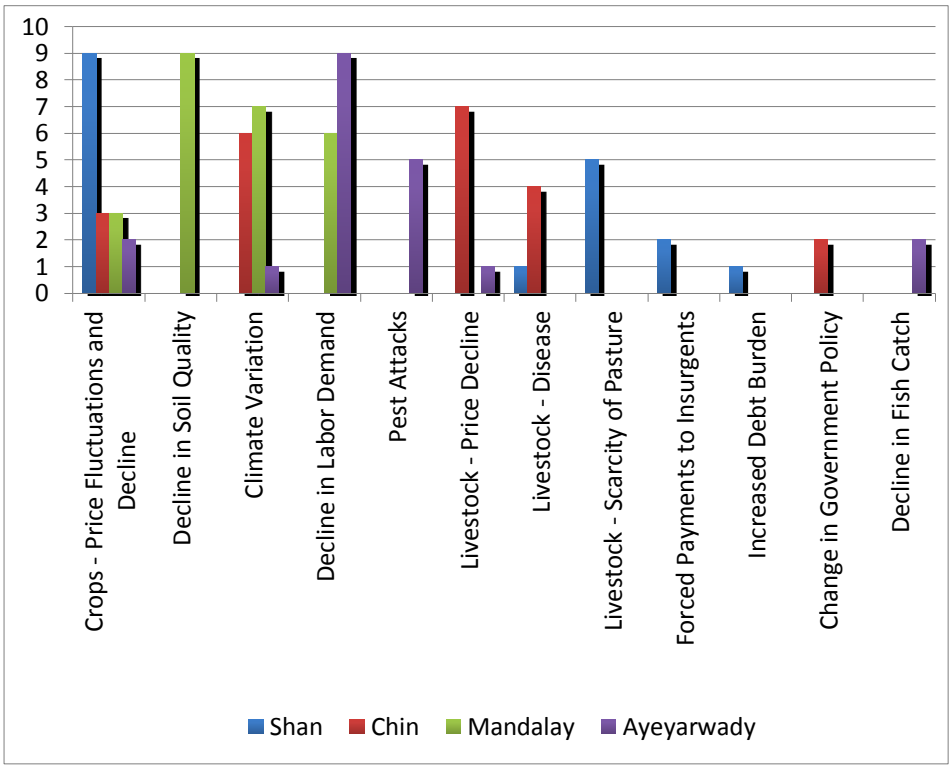
SECTION TWO: SHOCKS AND COPING STRATEGIES

SHOCKS INCLUDED EXTREME WEATHER PATTERNS, PESTS, A DECLINE IN SOIL QUALITY, DISEASE, A DECLINE IN THE FISH CATCH, ARBITRARY FISHING LICENSING NORMS, AND A DECLINE IN CASUAL LABOR DEMAND

Livelihood-specific shocks are covered in detail in the sections above classified by livelihoods. This section focuses on an overview of shocks by region and coping strategies at the household level, which cut across the basket of livelihood activities of the household.

In agriculture, the main shocks reported were crop losses and yield declines due to climactic variations; attacks by pests; a decline in soil quality; and price fluctuations of agricultural commodities. For livestock, the main shocks reported were disease and price fluctuations. For fishing, the main shocks reported were a decline in catch sizes and arbitrary government licensing norms. For casual labor, the main shock reported was a decline in demand for casual labor.

FIGURE 10: SHOCKS REPORTED (NUMBER OF VILLAGES)



PEOPLE COPED BY MIGRATING, RELYING MORE HEAVILY ON REMITTANCES, REDUCING SPENDING, PAWNING ASSETS, DEVELOPING SECONDARY INCOME SOURCES, AND CHANGING THEIR LIVELIHOOD STRATEGIES

Households across the four regions reporting a decline in soil quality, crop losses due to climactic variations, or destruction of pasture lands as major problems. Price fluctuations and livestock disease were also reported as shocks across the four regions. Households in both Mandalay Region and Ayeyarwady Region cited a decline in the demand for casual labor as a major shock.

Coping strategies were common across regions: Coping strategies were common to households across the spectrum of the basket of livelihood activities and included: migration and remittances; cutting down on household expenditures, which included expenditure on both households and livelihood inputs; pawning assets; developing secondary income sources through casual labor and raising livestock; and livelihood specific strategies such as changing crops planted.

BOX 3: COPING WITH HARDSHIP IN CHIN STATE AND AYEYARWADY REGION

Salai Isaac[4] is a farmer in Chin State. Every year, he and his family cultivate two acres of hillside farmland to get 150 baskets of paddy. After deducting hired labor costs, transportation costs, and water buffalo rental, only about 90 baskets are left. The remaining paddy provides enough for the family to eat for eight months. The family uses their own labor to grow wet rice, not for the hillside farming.

In their village, around January people start clearing land for hillside cultivation. By April, everything has been planted. In June, they start growing wet rice. If they are going to grow wet rice, the farmers cannot clear the hillsides for swidden agriculture and vice versa: they can either grow one kind of crop or the other. In 2012, however, the rains did not begin till August, which meant it was too late to grow wet rice (for this, the rains have to come by July). Every year the drainage ditches tend to fall in disrepair, and since they are about three miles away, no one can repair them. Salai Isaac could not grow anything and ended up with no work. Starting in November, the family no longer had enough food to eat.

Because of these difficulties, Salai Isaac's family had to take their eldest son, Moses, who was in the tenth standard, out of school. If Moses and Salai Isaac's wife Daw Vem Liang work as day laborers for hillside farming, they get one half a basket of rice a day. But this is not work they can get every day, only no more than ten days a year. The family has thus had to resort to selling their chickens and pigs, even though they are not ready to be sold. With the family facing continuing problems with food until harvest next year, they say they have put their fate into the hands of God and that there is nothing they can do. The weather had been irregular like this once every three years starting in 2000, but in 2008 and 2012 it has been even worse – it has not been possible for them to work or grow anything. In 2008, the village had to rely on fellow villagers who were abroad to give them 1,000,000 *kyat*, which they shared among the people who could not grow wet rice.

U Tin is a large farmer in Ayeyarwady Region with 24 acres of paddy land. After Cyclone Nargis in 2008, there were infestations of insects and rats in the paddy fields. This happened on top of the flooding and water intrusions of the storm which left the fields contaminated. The pests have attacked the fields for about three years. In 2011, U Tin suffered crop losses because of these pests—normally, the output of 24 acres would be about 1,200 baskets of rice, but because of pests, U Tin only harvested 280 baskets. He has had to go 2,500,000 *kyat* in debt.

That year, the loans from the agricultural development bank were two and a half months late, meaning that U Tin also had to take out money to cover his planting expenses from outside sources at a high interest rate of 30 per cent. U Tin therefore got into greater debt and so sold 10 acres of paddy to his creditor for 550,000 *kyat* an acre to get the money he needed. He now only has 14 acres to work and gets about 2,000,000 *kyat* of income from the land, so he must use the income from raising 50 ducks to cover the living expenses of his family.

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[4] All names in this report have been changed.

Migration and Remittances

MIGRATION WAS USED AS A COPING STRATEGY BY SMALL AND MEDIUM FARMERS AS WELL AS LANDLESS LABORERS AND THE POOREST HOUSEHOLDS. REMITTANCES WERE A MAJOR SOURCE OF HOUSEHOLD INCOME AND WERE LINKED TO FOOD SECURITY

Migration was a common coping strategy in all regions. Migration could broadly be classified into two types: seasonal migration to nearby areas, and longer-term migration to both domestic and international urban centers. It was not only the poorest and landless households that depended on migration as a coping strategy, but also small and medium farmers, who depended on seasonal migration to earn income once the agricultural season was over.

Remittances were a major source of income for many households and were linked to food security: The use of remittances varied: poorer households used remittances primarily for food consumption whereas better-off households used them for a range of expenditures and livelihood investments.

In Shan State, remittances from migrants tended to be used to improve the long-term economic prospects of households, rather than to ensure food security or people's day-to-day needs. People who had migrated to Thailand sent money home to their families, but not on a monthly or regular basis. Instead, they usually saved money themselves in Thailand, and if they had money saved up and once a corpus was built up, sent money home to buy farmland or build a home. In Thailand, migrants from these families could expect to earn between 50,000 and 300,000 *kyats* per month.

In Mandalay Region, households reported distress migration due to financial difficulties stemming from continual crop losses caused by late rains. Respondents from these households reported that they relied on remittances for food, farm inputs and other basic needs. Farmers in the villages around Natyogi township reported that they borrowed rice in the lean season from trading houses in the township capital and relied on remittances to repay the money. They paid a much higher price for rice purchased on credit—25,000 *kyats* per bag versus 18,000 *kyats* per bag when purchasing with cash.

In Chin State, where there was significant international outmigration, remittances were a major source of income for half the households interviewed, but were not a guarantee of food security. International migration from Chin State was mainly to the United States, Australia and Malaysia. Of the 50 per cent of households that got remittances, 7 per cent reported being food insecure because such remittances were irregular and used up for non-food expenditures such as school fees and house repairs.

In Ayeyarwady Region, households reported remittances being used primarily to cover food consumption and additional minor household expenditures such as monthly school fees and medicines.

HOUSEHOLDS USED BROKERS AND AGENTS TO FACILITATE INTERNATIONAL MIGRATION, OFTEN AT HIGH COST. HOUSEHOLDS LACKED FORMAL REMITTANCE CHANNELS.

Households did not have access to formal financial channels for remittances: Households reported bringing money back as cash, sending through others in the village who were traveling back and sending money back through agents. No households reported using any formal financial channel for routing remittances. A potential area for future research is to collect more information on actual costs incurred by households in using different informal remittance channels. Offering migrants financial services that allow sending and receipt of remittance is a key area for potential aid interventions.

Brokers and agents were key intermediaries facilitating international migration: For international migration, migrants used the services of agents to whom they paid a fee of 800,000 - 10,00,000 *kyats*, representing four to five months of their likely income abroad. In Chin state, households reported that most of these migrants had used the services of a Yangon-based agent to whom they were introduced by friends and relatives in Yangon.

Households reported having to borrow money to pay agent fees. They also reported that the agent fee payment was staggered: they had to pay the agent a portion of the money in advance, and then when the migrants got to Malaysia, they sent their remittances back via the agent, who kept a portion as repayment until his fees were paid in full. The poorest and most vulnerable were not able to afford to migrate overseas as they could not afford the agent's fees.

MIGRATION HAD INCREASE IN SOME AREAS. IN MANDALAY REGION, THIS WAS ATTRIBUTED TO SUCCESSIVE CROP LOSSES.

Migration increased in some areas. In Chin state, migration had increased in the villages around Tunzan township, whereas households and village leaders reported that it had decreased in villages around Falam and Htan Talang townships. Households reported moving to neighboring countries as a stepping-stone to attempting to migrate to western countries, particularly the United States. Significant gender differences in migration patterns were reported in Chin State. Researchers noted that migrants tended to be men: women migrated too, but usually to marry other migrants from their villages.

In Mandalay, there was an increase in non-seasonal domestic migration from large farmer households in the villages around Tharzi and Nahto gyi townships, reportedly due to continual crop losses: this was a clear change from QSEM 1. In QSEM 1, there were only a few migrants from big farmer households in the region. In QSEM 2, in three out of the six villages covered in these two townships, half of the large farmer households had sent at least one of their members elsewhere in search of work. They reported, however, that this was not the standard local seasonal migration to nearby villages, but distress migration due to financial difficulties stemming from continual crop losses.

REDUCING HOUSEHOLD EXPENDITURES

Expense reduction was a coping strategy followed by households in all regions visited except in Shan State, where this was not reported.

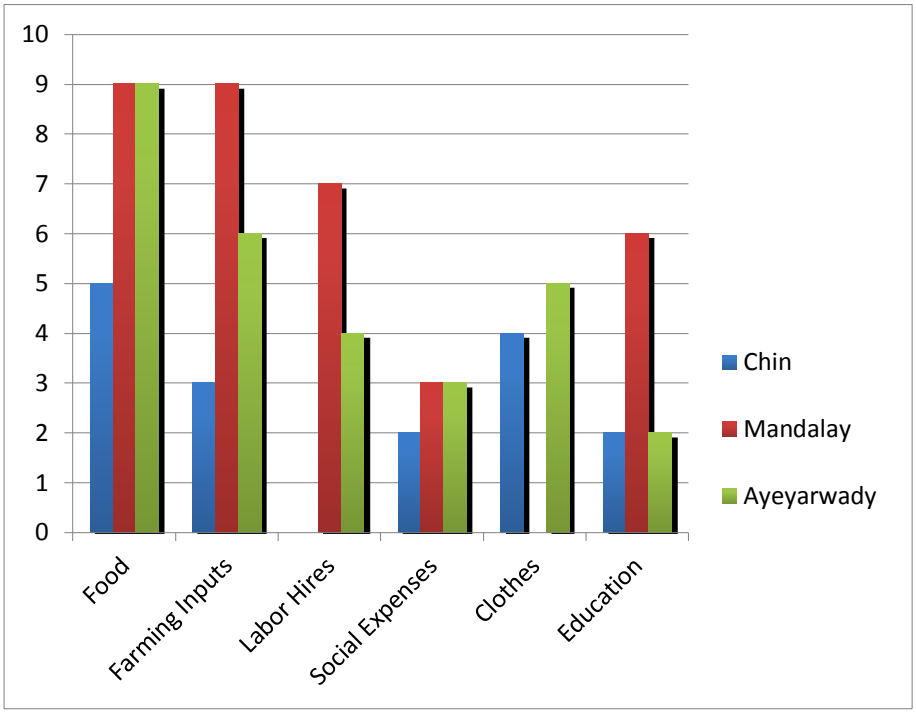
PEOPLE REDUCED SPENDING ON FOOD, EDUCATION, AND SOCIAL AND CLOTHING EXPENDITURES TO COPE WITH HARDSHIP.

The most common type of expenditure reduction reported by households was reducing spending on food, farming inputs and education: Households reduced different types of expenditures in response to shocks including spending less on food; livelihood inputs including casual labor; social expenditures, such as gifts for weddings and contribution to temple ceremonies; and other household expenditures, including healthcare, clothing and education. In reducing food expenditures, households reported first reducing the quality of food, by, for example, substituting more vegetables and cutting out meat and fish, before cutting the quantity of food consumed. Households also cited expenditure reduction as part of the reason for not continuing their children's education past primary and middle school, after which they would have to incur additional costs to send the children to schools outside their villages. For

farming inputs, households reported cutting down on the use of fertilizer and outside labor as a way to reduce expenditures.

Landless households were more likely to report cutting down on education expenditures, social expenses and clothing expenditures. In Ayeyarwady Region, landless households reported skipping meals (lunch or dinner) during the non-agricultural season, when casual labor opportunities were scarce. Household level information on expenditure reduction was not collected in this QSEM round, but understanding the particular vulnerability of landless households to shocks and to understand the pathways of their coping mechanisms to help with aid program design could be an area for future LIFT research.

FIGURE 11: # VILLAGES REPORTING EXPENDITURE-REDUCTION AS COPING STRATEGY



FARMERS REPORTED REDUCING HIRING FARM LABOR TO COPE WITH HARDSHIP AND DECREASING THEIR USE OF FERTILIZER AND OXEN.

Farmers reported reducing expenditures on farming inputs and on hiring labor. In Mandalay, all farming households in the region reported reducing their spending on farming inputs such as fertilizer and casual labor. 75% of small and medium farmer households reported substituting their own labor for hired casual labor. For fertilizers, farmers reported reducing the usage of fertilizer from one bag per acre three years ago to ½ a bag of fertilizer per acre in 2012. Farmers also reported resorting to using their own fertilizer from raising livestock. In Chin, farmers reported reducing the use of oxen in plowing from two to one and reducing the amount of fertilizer as an expenditure-reduction strategy. They reported that, as a result, their yields had been decreasing. In Ayeyarwady, farming and fishing households reported hiring less casual labor after Cyclone Nargis due to higher labor costs and depending mainly on family labor. Fishing households also reported cutting down on the cost of fuel by not using the motor on their boats and rowing by hand instead; and also buying fishing equipment such as nets secondhand to cut costs.

PAWNING HOUSEHOLD ASSETS

Pawning household assets was reported as a coping strategy in Ayeyarwady Region. Due to the extensive losses suffered during Cyclone Nargis. farmer households reported pawning gold and farmland. In two of the nine villages, fishing households reporting pawning fishing nets and boats. Landless households reported pawning household goods and even clothes in some instances. The main shocks for which goods were pawned were for treatment of diseases and payment of school and university fees.

SECTION THREE: GENDER

THERE WERE CLEAR GENDER DIVISIONS OF LABOR, USUALLY BASED ON TRADITIONAL ROLES, PERCEIVED PHYSICAL DIFFICULTY OR THE LOCATION OF WORK

Although gender issues have been identified within the livelihood strategies sections above, this section seeks to aggregate information on gender divisions of labor; differences in economic activities and coping strategies between men and women; and impediments to participation in economic activities faced by women. .

Table 15 below gives the proportion of female-headed households by region based on data provided by village leaders.

TABLE 15: PERCENTAGE OF WOMEN-HEADED HOUSEHOLDS

State or Region	Percentage
Shan	8.75
Ayeyarwady	8.34
Mandalay	12.78
Chin	11.27

Across regions, there were clear gender divisions of labor, usually based on traditional gender roles that differentiated between women's and men's work based on the perceived difficulty of physical labor and whether the work was within or outside the village.

In agriculture and casual labor activities, gender roles depended on activity. Seed germination, pre-transplanting work, applying fertilizer and pesticides, and plowing, were done solely by men. But weeding and transplanting were solely done by women, who also participated in harvesting activities along with men. Men were responsible for making important decisions including the choice of crop to be planted, seeds used, methods of paddy farming and pest control techniques. Post-harvest marketing activities, such as negotiating the sale of produce and transporting produce to markets, were also done solely by men.

In raising livestock, men were responsible for activities that involved going outside the village, including grazing oxen and buffaloes, chopping feed and selling the animals in township markets. Women did such activities when they could be done within the village. Households reported women being responsible for: grazing goat and sheep; raising chickens; feeding pigs and chicken as it required preparing feed; and selling animals within the village. Both women and village leaders reported limitations that women faced in raising livestock, relating to a lack of time and the inability to travel to grazing areas that were further from the village. Unlike men, women also reported not staying back till late evening outside the village for grazing animals.

Men did most types of direct fishing activity, although women sometimes reported fishing with smaller fishing nets. Women were responsible for ancillary activities such as maintaining nets and preparing baits for catching crabs and eels. Women were also responsible for sorting the catch from fishing into lots that would be sold in the market, sold within the village and used for household consumption. Negotiating and procuring fishing rights were done solely by men.

There were differing roles within the household. In addition to livelihood-support activities, women also were solely responsible for household activities such as preparing food and childcare. Both men and women transported water to the homestead and both also collected firewood. Women collected smaller pieces of firewood from the area and men chopped trees for firewood.

WOMEN AND MEN ACCESSED CREDIT FROM DIFFERENT SOURCES. IN AYEYARWADY, MADB'S CREDIT REGULATIONS CAUSED HOUSEHOLDS WITH LARGER LANDHOLDINGS TO TRANSFER LAND USE TITLES TO WOMEN IN ORDER TO GAIN ACCESS TO MORE CREDIT.

In Ayeyarwady Region, the design of MADB's agricultural program had the effect of encouraging the transfer of land titles to women among larger landholders. Land use titles were also held solely by men and they were the sole recipients of agricultural credit from MADB. According to the program, agricultural credit was linked to the number of acres owned by households, giving 50,000 *kyats* per acre for the wet paddy crop and 80,000 *kyats* per acre for the dry paddy crop, but was limited to a total of ten acres per person. To get around this limitation, households with greater than ten-acre holdings were transferring land titles to women and other family members so that they could apply separately for agricultural credit.

Both men and women gained access to credit but usually from different sources. Women reported gaining access to credit from NGOs and local shopkeepers for household food consumption; men reported accessing credit from brokers and collectors; and both men and women accessed credit from private moneylenders.

THERE WAS A CLEAR GENDER DEMARCATION OVER FINANCES IN DECIDING HOW TO COPE WITH SHOCK.

In deploying strategies to cope with shocks, there was a clear demarcation of control over finances, with women making decisions on household expenditures and men making decisions about farming-related expenditures. Both men and women resorted to migration as a coping strategy, although many more men migrated from each region than women. Both men and women pawned assets, but women pawned smaller household assets such as clothes, blankets and pots. Men usually pawned larger assets such as cattle, land, and power tillers, but discussions were held within the household, and sometimes women also pawned such assets when they had a better relationship with the money-lender. Decisions about withdrawing children from school were made jointly by women and men within the household.

SECTION FOUR: EXTERNAL ASSISTANCE

The first round of QSEM, conducted in Mandalay Region, Magwe Region, Rakhine State and Chin State, found a mixed picture on external assistance. Although levels of external assistance had increased in those regions in the year prior to fieldwork, there were still many unmet needs at the village level, particularly in community infrastructure—something that, along with livelihoods assistance, community members tended to prioritize. QSEM 1 found that the most common way for aid providers to distribute aid was through village committees, but that decisions about aid tended to be made by aid providers rather than by community members. .

THE PICTURE ON AID CHANGED LITTLE BETWEEN QSEM ROUNDS, APART FROM AID-RELATED SOCIAL TENSION IN SOME VILLAGES IN THE AYEYARWADY REGION

QSEM 2 examined aid decision-making and the social dynamics of aid in greater depth. Overall, the picture was similar to QSEM 1. In the repeat states and regions, Mandalay Region and Chin State, there was little change in external assistance. But there was marked regional variation across the new states and regions, Ayeyarwady Region and Shan State, with aid-related social problems arising in over half the villages in Ayeyarwady Region. This section outlines some of these dynamics.

AID RECEIVED

THERE WAS ALMOST NO CHANGE IN AID LEVELS BETWEEN QSEM 1 & 2, AND LITTLE REGIONAL VARIATION, APART FROM THE AYEYARWADY REGION, WHICH RECEIVED MORE AID.

Apart from Ayeyarwady Region, which received significant aid in the aftermath of Cyclone Nargis, the different states and regions received similar levels of aid to one another.[5] Table 16 below outlines the number of aid projects by region in the two years previous to the field research based on interviews with households

TABLE 16: EXTERNAL ASSISTANCE BY REGION

State/Region	# projects (across nine villages)
Shan	53
Ayeyarwady	94
Mandalay	56
Chin	44

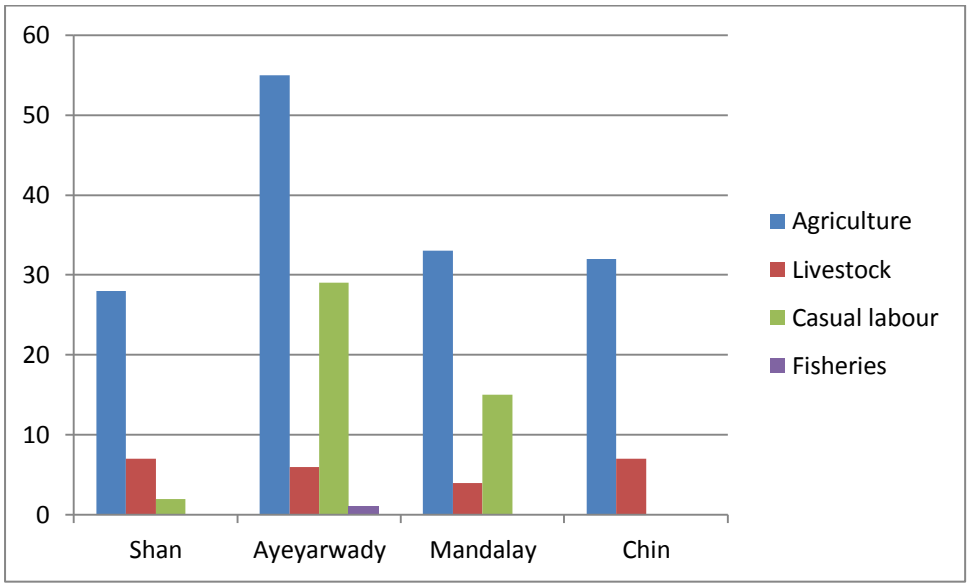
In the repeat research locations (Mandalay Region and Chin State), there were almost no changes in aid levels or types between QSEM rounds. In the Mandalay villages, there were two additional school-building programs, and in the Chin State villages there were three new livestock-provision schemes, a new food-provision scheme and a new road infrastructure project, but apart from that the aid provided (education, credit provision, cash grants, farming infrastructure assistance, provision of farm inputs, training, water and sanitation, and housing) remained the same.

[5] How is aid counted in QSEM? For the most part, villages did not have detailed-enough records to be able to assess the value of aid interventions in their villages. Levels of aid are thus estimated according to the *number* rather than the *value* of interventions existing in the village for the two years prior to the research. Although this is an imperfect proxy, the estimated value of projects did not vary much within each category of assistance, enabling this to be used.

There was regional variation in the type of aid received. Food provision was seen only in Chin State and Shan State. In Chin State this consisted of NGOs providing rice banks to villages to see them through lean times, whereas in Shan State this consisted either of school meals programs or conditional programs whereby families were provided food only if their children attended primary school regularly. Aid in the form of cash grants to individuals was overwhelmingly concentrated in the Chin State villages. There were 15 cash grant programs across the nine villages in Chin State, compared to only three or four in each of the other states and regions.

Credit programs were observed mostly in Ayeyarwady Region and Mandalay Region, which had 18 and 12 projects respectively, compared to two credit programs in Shan State and six credit programs in Chin State. Researchers reported that the only credit provider in Shan State had been the MADB, which had been unable to operate in the areas previously affected by conflict, thus limiting the credit available. Farm input projects were concentrated in Shan State and Ayeyarwady Region, which had ten and 14 projects respectively, compared with three in Chin State and three in Mandalay Region.

FIGURE 12: NUMBER OF EXTERNAL ASSISTANCE PROJECTS BY SPECIFIC LIVELIHOODS ACTIVITY



Aid programs focused on different livelihood activities, with agriculture being the main focus of such programs across regions. In Shan State and Chin State, the next largest focus area in terms of number of aid programs were livestock; in Mandalay Region and Ayeyarwady Region, more aid programs focused on casual labor. Agriculture was covered in all the villages across all the regions, but livestock, fisheries and casual labor activities were only targeted by aid programs in a subset of the villages.

THERE WAS NO CORRELATION BETWEEN AID LEVELS AND EITHER REMOTENESS OR THE DESIGNATION OF A VILLAGE AS A VILLAGE TRACT VILLAGE.

There were few differences in aid provision between remote and non-remote villages or, accounting for population, between village tract and non-village tract villages. Analysis was performed on whether remote villages received different levels or types of aid from villages that were closer to township capitals. Remote villages were slightly more likely to receive

livelihood aid than non-remote villages, but apart from that the differences among such villages were negligible. There were also few differences in aid provision to village tract and non-village tract villages. Village tract villages did receive greater provision of government services than non-village tract villages, but they also tended to be bigger villages with higher populations.

Needs, Priorities and Community Perceptions

HOUSEHOLDS IDENTIFIED PRIORITIES IN COMMUNITY INFRASTRUCTURE, FARM INPUTS, LIVESTOCK, AND EDUCATION—BUT NEEDS WERE MORE STRONGLY IDENTIFIED BY VILLAGE LEADERS AND ELITES.

Across the regions, households expressed similar priorities, citing community infrastructure, farm inputs, livestock and education, though reported priorities varied by respondent, and a caveat is needed to interpret the data. Table 17 and Figure 13 give the breakup of needs expressed—by both region and type of respondent—in key informant interviews, focus group discussions and household interviews.

Needs reported also varied by the type of respondent, and a caveat is needed to interpret the data above: certain sets of respondents, especially village leaders, expressed needs more clearly than other types of respondents, such as women and poorer households, who did not clearly articulate needs in response to interview questions. Farmers emphasized farm inputs as a need, especially in Ayeyarwady Region and Shan State. Landless households and women both emphasized livestock interventions as a major need. Village leaders and village development committee members tended to list larger village-level needs, including infrastructure, health, education and water and sanitation. Within infrastructure, road transportation was emphasized as an important need for facilitating access to markets for inputs and outputs.

VILLAGERS REPORTED THAT AID BENEFITED THEM AND MOSTLY MATCHED THEIR PRIORITIES, BUT REPORTED SOME ISSUES WITH CREDIT AND SEEDS

Overall, aid programs conducted needs assessments within the village before launching interventions and villagers generally perceived aid interventions to fit their needs, despite a few complaints referring to specific aid programs. One common complaint was about the repayment terms of credit programs aimed at farmers that demanded monthly repayments, which was cited a mismatch to the seasonal income from agriculture for farming households. One of the major microfinance NGOs operating in the areas responded to such complaints by readjusting the payment schedules to match the timing of farmers' income streams. In Chin State, households reported not liking revolving fund programs into which they had to put savings (SRGs) due to low repayment rates and difficulties in getting their money back. Households in this region cited knowledge of cash grant programs across the border in India as a factor in undermining the willingness of borrower households to repay money.

In Ayeyarwady Region, a number of households reported that aid programs were delivering inadequate quantities of credit and seeds. Households in one village also reported problems with targeting, citing the example of a seeds program that provided higher quality seeds to only a section of the farmers. In another village, households cited the example of a program that provided one power tiller per group of ten farmers. During the agricultural season, this proved inadequate and farmers had to continue renting power tillers from others. In another village, the power tiller project stopped due to

people not wanting to maintain the tiller and leaving the "power tiller committee."

FIGURE 13: NEEDS IDENTIFIED BY HOUSEHOLDS

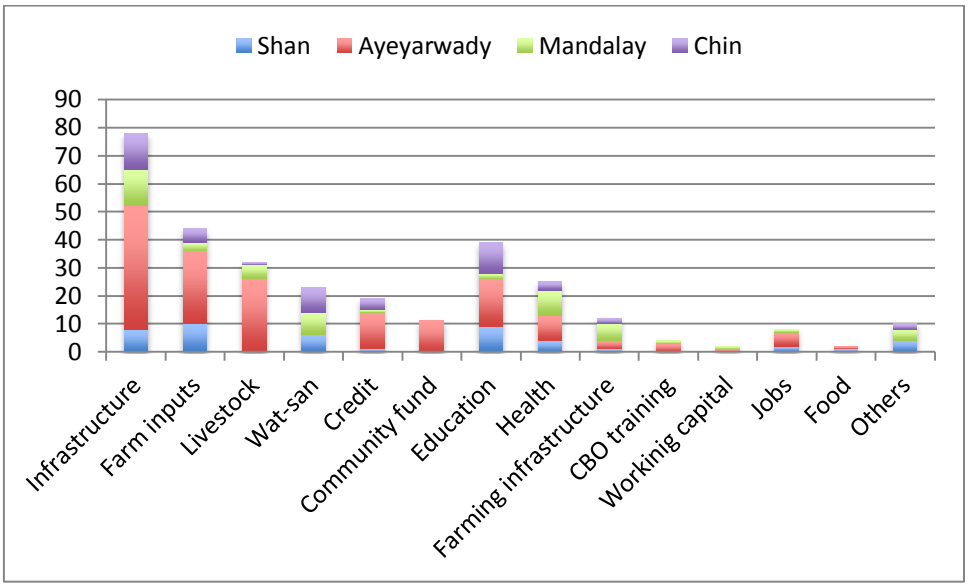


TABLE 17: NEEDS EXPRESSED BY TYPE OF RESPONDENT

	Village Leader	VDC members	Farmers	Landless	Fishers	Women	Youth
Infrastructure	37	12	9	3	1	3	13
Farm inputs	5	4	28	1	5	0	1
Livestock	2	1	3	10	9	7	0
Water and sanitation	11	4	4	3	0	0	1
Credit	0	1	9	3	3	3	0
Community fund	3	5	0	0	0	0	3
Education	20	6	3	0	0	6	4
Health	15	3	0	2	0	3	2
Farm infrastructure	3	2	5	1	0	1	0
CBO training	0	4	0	0	0	0	0
Working capital	0	0	1	0	1	0	0
Jobs	0	0	0	4	1	0	3
Food	0	0	1	1	0	0	0
Others	0	3	4	0	0	0	3

Households in the region reported a number of issues relating to credit programs. Households reported being able to borrow up to 300,000 *kyats* per farmer but stated that this amount was inadequate. Farmer households stated that they needed at least 100,000 *kyats* per acre to cover farm production costs. Landless households also cited difficulties with meeting the two-weekly

repayment schedules of some credit programs, as their income was irregular. In one village, households reported being dissatisfied with a credit program (a livestock program under which they were given animals on credit), as they were not aware of the 15 per cent interest rate on the value of the animal taken until three months after the program had started.

In Shan State, perceptions of aid programs varied, with households in one township reporting that they did not need external assistance. In villages in Hsi Hsaing Township, households reported that aid programs addressed their needs. In villages in Keng Tung Township, households reported that they did not really need aid and that they were not that interested in aid projects. In villages in Kyauk Me township, aid projects had just started and households largely reported being satisfied with the aid programs.

In Mandalay Region, households reported that there was a good fit between aid programs and their needs but that the quantum of aid was insufficient. In six villages, villagers wanted new wells for water, but the aid project focused on renovating old ponds.

Aid Delivery, Targeting and Decision-making

Across regions, aid was primarily delivered through local and international NGOs. As illustrated in Figure 14, local and international NGOs comprised the largest proportion of implementing agencies for external assistance projects. Within aid projects, a majority used local village development committees set up as part of the project to deliver aid within the village. As listed in Table 15 below, village development committees (VDCs) were the primary mechanisms for the delivery of aid to beneficiaries within the village. Of 247 different schemes reported, 70% used VDCs, 40% used local Village Administrators and 4% used informal village leaders to deliver aid. Only 9% of programs routed aid directly to beneficiaries without a village-level intermediary.

In some villages, problems were reported with the existence of multiple VDCs, where the lack of membership overlap among committees caused social tension.

Multiple village development committees (VDCs) promoted by different aid projects were found within the same villages. In Chin State, there were three to five VDCs in each village, but villagers did not report that as being a problem. In Shan and Mandalay, one to two VDCs were found in each village. In Ayeyarwady Region, each village had approximately three to five VDCs. Households reported the presence of multiple VDCs as a problem, leading to tensions within the village. Unlike in Chin State, where there was significant overlap in the membership of the VDCs, six of the nine villages in Ayeyarwady Region had little overlap in membership of the multiple VDCS within the village. One of the aid providers in the region also reported difficulties with multiple VDCs as it led to difficulties in preventing overlap in beneficiaries, which is against LIFT rules.

FIGURE 14: IMPLEMENTING AGENCIES FOR AID PROGRAMS

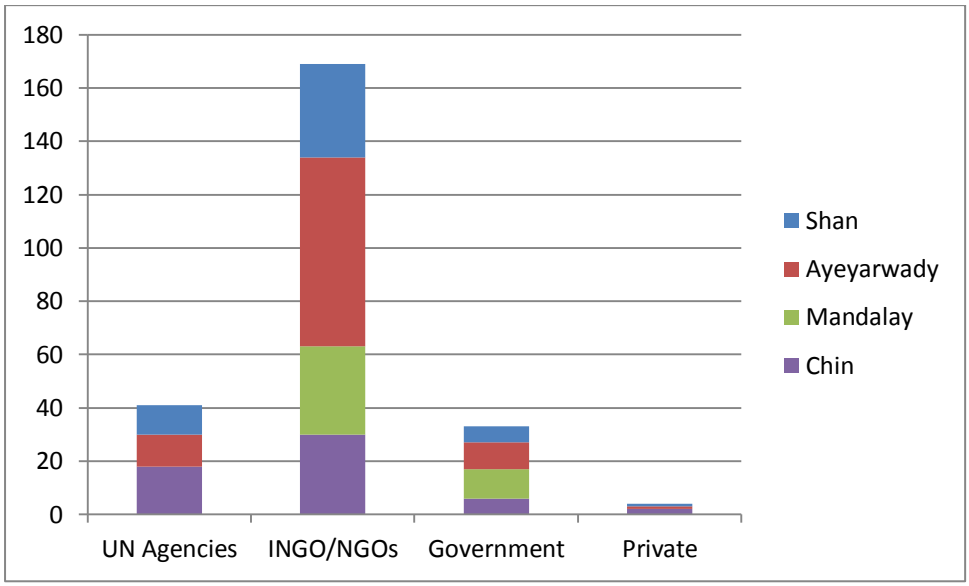


FIGURE 15: METHODS OF AID DELIVERY

Method of distribution	Number of schemes
Village Development Committee	175
Village Administrator	40
Directly to Beneficiaries	22
Village Informal Leaders	10

AID PROVIDERS MADE MOST DECISIONS ABOUT AID PROGRAM DESIGN AND TARGETING, WHEREAS BENEFICIARY SELECTION DECISIONS WERE TAKEN AT VILLAGE LEVEL.

Project design decisions tended to be made by aid providers; whereas identification of project beneficiaries tended to be made within villages. According to perceptions of households and key informants at the village level, decisions on project design and on targeting methods were made by aid providers and decisions on project beneficiaries were made by villagers through local structures such as VDCs. Project design decisions (such as the decision to provide livestock for landless households, inputs for farmers and cash grants for the poorest) and project targeting decisions (such as whether the project would cover all households or only a selected sub-group such as landless households) were almost always decided by the aid provider before beginning consultations at the village level. The implementing agencies gave this information to the VDC or village administrator, who developed a proposal for which beneficiaries who should be part of the project.

Household satisfaction with beneficiary selection appeared to be linked to participation in decision-making. In most villages, VDCs selected beneficiaries in conjunction with the whole village in mass meetings. In four villages where beneficiary selection decisions were made without consulting the wider community, households reported being less satisfied. For example, in one village in Mandalay Region, villagers reported perceived bias in the selection of beneficiaries of a cash grant program targeted at poor people. When the VDC selected beneficiaries, they did so without holding a mass meeting, and simply decided among themselves who was to benefit. In this case, the beneficiaries

selected were mostly relatives of VDC members and were not the poorest people within that village. Generally, there were few complaints about targeting – that is, the design of aid projects and the beneficiary groups that the projects sought to reach – but there were complaints about the process of beneficiary selection in different villages and regions.

Community Contributions

Requiring community members to contribute to a local development project is commonly thought to increase how invested they are in its success and improve sustainability. It also, however, requires people's time, money and labor, which can be a burden in an environment where people are struggling.

COMMUNITY CONTRIBUTIONS WERE USUALLY ORGANIZED ON THE PRINCIPLE OF EQUALITY RATHER THAN EQUITY, THOUGH THE POOREST HOUSEHOLDS WERE SOMETIMES EXEMPT. COMMUNITIES DID NOT REPORT A BURDEN FROM SUCH CONTRIBUTIONS.

In the QSEM villages, the types of projects most likely to require community contributions were public goods projects such as rice banks and road construction projects. All rice bank and road construction projects observed[6] (which were all in Chin State) during QSEM 2 research visits required community members to contribute their labor and local materials in some way. The road projects also required villagers to provide meals for laborers. Aid directed at individuals—such as cash for work programs, livelihoods training and the provision of food and household goods—did not require community members to contribute.

There were two systems of labor contribution. In the first system—usually for larger-scale projects—all households, except for those with no able-bodied members, contributed their time equally. For example, for one school-building project in Shan State, people from five households at a time took turns to help with construction using a daily labor rotation system. Poorer households, who might be expected to need their time and labor more to meet basic needs, were expected to contribute as much time as richer households. Yet no complaints were made about this by villagers.

In the second system, only those with a formal project role, such as VDC members, contributed labor. These cases, however, tended to be for projects where labor was required to distribute aid, such as for example, delivering bags of seeds and feed for livestock, rather than to build public works. Nevertheless, VDC members often complained that this participation left them with little time to fulfill their household duties. In some villages, they also complained that ordinary villagers did not contribute to projects, preferring to judge projects without contributing.

Systems of financial contribution were mixed and were also usually organized on an equal contributions basis. Of five projects organized along an 'equal contributions from all households' basis, the poorest households in a village and those composed only of elderly people were exempted from making

[6] There were nine rice bank projects, all funded by the same UN agency, and five road-building projects, provided by government, the private sector and the army.

such contributions. In such cases, usually the village administrator or people involved in the project had discretion over which households to exempt from contributions. There were no complaints from villagers—even from the poorest households—over mobilizing money for aid projects.

In the projects that required community contributions, community members reported that such contributions were not a burden for them. Their views appeared to be influenced by their broader history and expectations of external assistance. Such villages were ones that, by virtue of their remoteness, had very little history of external assistance and instead had a history of self-sufficiency. For example, in the absence of other services, the communities had hired teachers through raising household contributions.

Transparency, Aid Equity & Complaints

COMMUNITY MEETINGS APPEARED TO BE THE MOST EFFECTIVE TRANSPARENCY MECHANISM

Aid projects and implementing agencies used a variety of transparency mechanisms to communicate key information about the projects. The kinds of transparency mechanisms used varied. Figure 16 below lists the types of transparency measures observed by region.

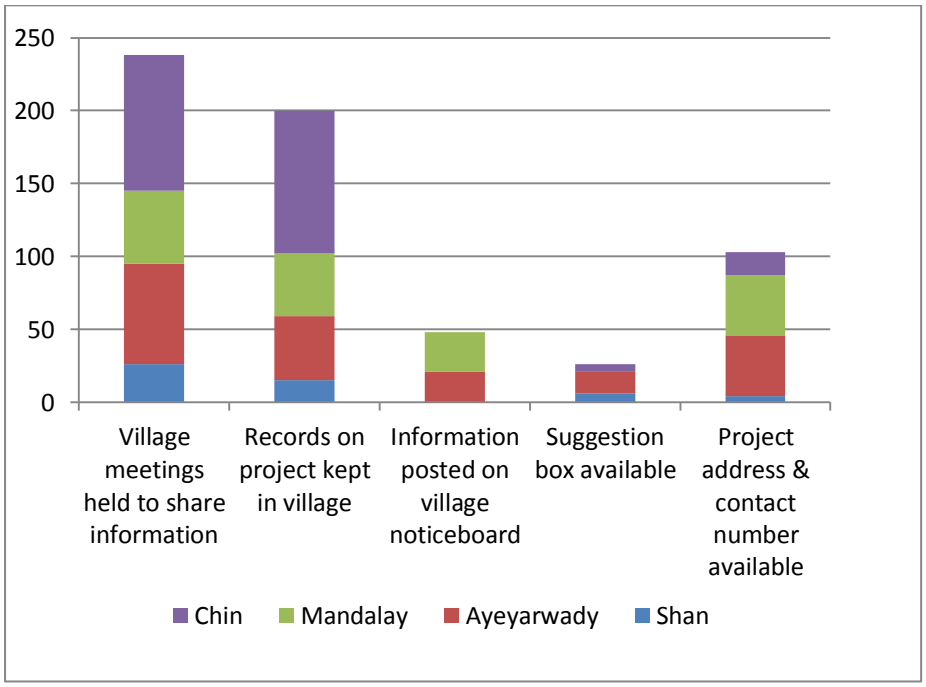
The most effective transparency mechanisms appeared to be village meetings, when well-organized. Households reported different types of village meetings. In Mandalay Region, many villages reported that village meetings were nominal in nature. A common pattern was for the village elders and respected people to hold meetings in advance of the village-wide meeting to decide who would be the chair, secretary and cashier and to select beneficiaries. Then they would use the village meetings to announce these decisions, rather than to consult households. In Shan State, by contrast, households reported that more active village meetings were held. There, village leaders called mass meetings to announce the aid project and ask for households to submit their names if they wanted to participate.

Sometimes village leaders reported difficulties with mobilizing the whole community for such meetings. For example, in four out of nine villages in Ayeyarwady Region, it was difficult to get the whole community to participate in mass meetings; instead, participants consisted of village development committee members. In the five other villages with wider participation, village elders and the village administrator worked closely together to mobilize people.

Other types of transparency measures were found to be less effective. Villagers reported seldom reading notice-boards, passing on information instead through word-of-mouth. Notice-boards were often found in village public spaces such as outside monasteries, but information on them, including basic contact information—was often found to be outdated. For example, only one out of the nine villages in Ayeyarwady Region was found to have clear, updated information on aid projects on its notice-board. Information was passed more through conversations between villagers when going to markets or visiting other households. In some specific cases in Bogalay Township in Ayeyarwady Region, villagers reported low transparency. For example, in one

village, the village leader provided information on the availability of low-interest loans only to his friends and relatives.

FIGURE 16: NUMBER OF PROJECTS USING PARTICULAR TRANSPARENCY AND PROJECT-FEEDBACK MECHANISMS



Section Five: Social Relations and Institutions

THERE WAS REGIONAL VARIATION IN SOCIAL RELATIONS, WITH THE IMPACT OF AID-RELATED SOCIAL TENSION FELT IN AYEYARWADY REGION AND THE IMPACT OF A HISTORY OF CONFLICT FELT IN SHAN STATE.

In the repeat states and regions, Mandalay Region and Chin State, the findings for social relations and institutions in QSEM 2 were substantially similar to those in QSEM 1. In these regions, social cohesion continued to be strong, and villagers acted collectively for the benefit of the entire village.

The introduction of the new states and regions, Ayeyarwady Region and Shan State, into the fieldwork, however, introduced new dynamics and regional variation, with social tension in the Ayeyarwady Region and broader conflict impacts in Shan State. Although social bonds were strong in the Ayeyarwady Region, in about half the villages they had become weaker as a result of aid-related social tension. In Shan State, there was sub-regional variation in the nature of village leadership, and in one township in a ceasefire area, the impact of the history of conflict on ordinary people's lives and on the local political economy was clearly visible.

Power, social capital and credit relationships appeared to be linked. Having power in the village appeared to depend on the individual having sufficient income and having a strong social network. Poorer people—who were often dependent on their better-off fellow villagers for credit and other inputs necessary for their livelihoods—were less likely to be active in village affairs, propose action, or make complaints. Leaders and influential people in the village were not necessarily rich, nor was land ownership or family influence associated with being influential.

Social Capital and Collective Action

SOCIAL CAPITAL CONTINUED TO BE STRONG…

With the exception of half the villages in Ayeyarwady Region, social capital and collective action continued to be strong and important in all four regions covered under QSEM 2. Across the regions, there were many examples of villagers working together for the benefit of the community, such as, for example, to repair roads, monasteries, and primary schools.

In Mandalay Region and Chin State, the repeat states and regions, social bonds continued to be strong. Collective action and reciprocal arrangements were common. In Mandalay Region, for example, researchers found a village of 70 households in Thazi Township that had requested a primary school from the government. Since the government could not give the full amount, the village made up the shortfall of 1.4 *lakh kyats* by collecting 5000 *kyats* from each household. In Chin State, people similarly helped each other during the agricultural cycle. Since rice crops growing at different elevations did not ripen at the same time, the owners of high altitude land helped those with low-altitude land, knowing they would receive later help in return.

Such reciprocal arrangements of labor and resource-sharing were common too in Shan State. Seven out of nine villages in Shan State operated the *'letsa laik'* system to enable people to make use of limited resources through

sharing labor and resources. A typical exchange was between water buffalo owners and landowners. If a land owner borrowed a pair of buffalo to plow an acre, then the land owner worked in return on the buffalo owner's land for six days. Sometimes people also helped each other by bartering seeds or services. For example, if one household gave another household a basket of rice seeds to sow, they in return would receive assistance in some farm-related activity such as shucking corn. In Kengtung Township in Shan East, where there were wet rice fields, villagers had a traditional irrigation committee that maintained and cleaned canals and oversaw the fair distribution of water.

BOX 4: USE OF COLLECTIVE ACTION TO HELP POOR FARMERS WITH INPUTS, HELP THE VILLAGE COPE WITH CONFLICT, AND PROTECT ENVIRONMENTAL RESOURCES

In one hillside cultivation village in a former conflict area in Shan South, villagers set up a community rice bank to help households cope with hardship and informal taxation. Villagers reported in previous years they had been required to give cash, labor, bamboo and food both to the army and non-state armed groups. In 1997, the villagers had set up a rice bank to help villagers cope, for example by giving seeds to people in financial difficulty or for religious donations. The rice bank enabled people to pay the various armed groups outside the village, while also providing for the costs of the headman's travel to town on work, and to pay for the salary and costs of the local schoolteacher.

The rice bank was still operational at the time of the fieldwork in 2012. It operated on the basis of profits from crops (mainly paddy and sesame) grown from cleared and collectively cultivated hillside land Depending on the crop, each household contributed about five baskets of paddy and one of sesame. Having collected the crops, the rice bank sold some of the paddy and sesame, while lending some as seed to poor farmers. In 2012 about 25 people had borrowed seeds, with a maximum loan of four baskets. People took out the loans at planting time and repaid them at harvest at 75% interest, meaning that if someone took out four baskets, they would repay seven. This system reduced overall the amount that the villagers had to put into the communal fund.

The village has a publically-owned forest area, and two other areas held by the village as a whole, which an organization of village leaders maintains under a traditional arrangement. The purpose of this area is protect the watershed, provide a place for the water buffalo in the hot season, and to provide for greater stability in the seasons. The village leaders' organization has stopped the chopping of firewood in order to preserve the area and has also prevented the expansion of the area of land under cultivation. However, people are allowed to repair and build homes within the community using the forest land under some restrictions – they must contribute 20% of the outside price of the wood they take from the communal forest into the public fund. In the forest area each family has their own bamboo grove where they can grow bamboo for their own use.

The specifics of collective action varied within Shan State and reflected the different traditional systems of social organization of the main predominant ethnic groups. The ethnic composition of the Shan State villages

varied: some were predominantly Shan, others Pa-O or Danu. The Danu and Pa-O villages were in predominantly Shan areas. Researchers observed a strong sense of a separate identity in these villages, especially in the three Pa-O villages, where villagers emphasized their appreciation of their village leaders' efforts to promote the Pa-O language and culture.

…THE EXCEPTION WAS THE AYEYARWADY REGION, WHERE HALF OF VILLAGES EXHIBITED AID-RELATED SOCIAL TENSION.

The exception to the overall strength of social capital and collective action was in Ayeyarwady Region, where half the villages reported that social bonds had weakened in recent years. In at least six out of nine villages in the region, villagers reported that forms of social conflict had arisen in their villages as a result of external assistance provided after Cyclone Nargis. In these villages, aid organizations had required that various committees be set up to deal with assistance. Overlapping membership, jealousies or disharmony among committees had created factions within villages. Households reported that although villagers had previously worked together for the benefit of the village, they no longer did so. In three villages, there were splits in the villages between the zones of influence of different organizations. Villagers reported that they still maintained contact with people from the other side, but that relations were not cordial. In one village, villagers reported that the split had come about because, the 'Hundred Household Head' (a type of village administrator) had, at the request of an aid organization, formed a committee, but had only called his friends and associates to participate.

Nevertheless, although social capital had weakened in many villages, there were still some examples of collection action in the Ayeyarwady Region, as the case study below of people working together to receive assistance from an aid provider demonstrates.

BOX 5: VILLAGERS WORK TOGETHER TO PERSUADE AID PROVIDERS TO BUILD A ROAD

In one Nargis-affected village of 40 households in Ayeyarwady Region, one aid organization came and told the villagers they were going to build roads in the area. The village tract administrator, who lived in another village, told the organization that they should not build roads in this village because it was small and the people would be unable to manage it. The organization thus decided not to build a road into the village. The villagers, however, wanted to prove their ability to manage a road. A group of workers from the village built 1300 feet of road themselves. The village covered the cost of labor, with shop owners contributing food. After seeing that the villagers had built the road, the organization changed its mind and provided the village with cash for materials and work. The village now has 2859 feet of road.

The findings of deteriorating social relations in some villages in Ayeyarwady Region stand in contrast to those of earlier assessments. All the villages visited under QSEM 2 in Ayeyarwady Region were affected by Cyclone Nargis. Such assessments as the *Social Impact Monitoring* reports in the years immediately after the cyclone found that villagers were given equal humanitarian assistance and that the quality of social relations was generally good. Since that time, however, villagers in six villages reported that these humanitarian interventions had been responsible for the decline in social

relations, saying that there had been a proliferation of committees and that the targeting methods and criteria used had engendered unequal treatment within the villages, causing splits among the populace.

This tension spilled over into other areas of village life, such as pagoda festivals, for which villagers no longer worked together.

BOX 6: AID-RELATED SOCIAL TENSION IN AN AYEYARWADY REGION VILLAGE

In one village in Ayeyarwady Region, an organization came after Cyclone Nargis to build schools and roads. To do this it formed a committee to oversee the project. The headman (village administrator) was on this committee. Meanwhile, a second organization came to distribute power tillers, which also required setting up a committee. The same village administrator joined this second committee along with other village elders. Members of the first committee felt a rivalry towards the second committee: the participation of the village administrator in the second committee implied to them that he had divided loyalties.

One day, the first organization held a village meeting to distribute their money, but the members of that committee were travelling and could not attend. The headman went to the meeting to accept the money on behalf of the entire committee. However, the members of the committee thought that the headman had accepted the money not on their behalf, but on behalf of the *second* committee, the power tiller committee. Enmity and tensions grew between members of the two committees, and eventually a fight broke out in which one committee member hit and split open the head of someone from the other committee.

Villagers reported that social relations had been spoiled ever since then, with the village divided into two factions. This division has had a wider impact on the ability of villagers to engage in collective action and maintain public goods. For example, whereas villagers had previously regularly acted together to clean and maintain their village pond, they had since divided the pond in two, with responsibilities separated accordingly. At the time of the fieldwork, one half of the pond had been cleaned, while the other had not.

AID PROGRAMS AFFECTED TRADITIONAL SYSTEMS OF SOCIAL ORGANIZATION AND COLLECTIVE ACTION IN A THIRD OF VILLAGES IN MANDALAY REGION.

The impact of external assistance on traditional systems of social organization and collective action were also reflected in three villages in Mandalay Region, where an aid provider had started a cash-for-work program to work on water ponds. Villagers reported that in the past, they had done this kind of work on their own initiative using collective funds for the village's benefit, but that they were now disinclined to do such work without pay.

CONFLICT AND CRIME

CONFLICT AND CRIME WAS RARE, WITH A FEW EXCEPTIONS.

The findings related to conflict and crime during QSEM 2 were similar to those of QSEM 1, which found little crime. Few cases of theft were reported, despite the economic hardships faced by households. In the two townships in Shan East that were in former conflict areas, households reported that the 2012

ceasefires meant that they were no longer subject to various forms of taxation and extraction by the army or non-state armed groups.

TABLE 18: CONFLICT AND CRIME OBSERVED BY REGION

Region/State	Conflict or crime observed
Shan	Drug-related criminality, disputes over village forest land.
Ayeyarwady	Social conflict related to external assistance, land rights disputes from Nargis
Mandalay	Conflict over village development committee post
Chin	One incident of opium growing

BOX 7: THE POLITICAL ECONOMY OF CONFLICT IN SHAN STATE

THE HISTORY OF THE POLITICAL ECONOMY OF CONFLICT WAS EVIDENT IN SHAN STATE, AS WERE THE BENEFITS OF THE RECENT CEASEFIRES.

In the year before QSEM 2, local conflict, illegal activity, militias and organized crime had led to extortion, unpredictability and instability for the lives of ordinary villagers in a village in Kengtung Township In Shan East.

Households in one village in Shan East reported that in August and September 2011, people claiming to be Shan nationalists had appeared at the top of a mountain nearby. The nationalists sent a letter to leaders of villagers below the mountain, calling for a meeting. No village leaders went. A second letter later arrived, this time written in red ink, saying, "If you do not come to us now, we will come to you." The headman of the village told the researchers that he and some others went to avert trouble for his villagers. He did not disclose the details of what transpired, but reported that he was asked to provide rice. The villagers were expected to contribute collectively, though the headman, who was richer than the others, said that he paid the bulk of the rice himself. (Other villagers said that this leader was rich and suspected that he and his family may be involved in drug production and trading).

Soon after delivering the rice, the army division commander came to the village and saw the Shan nationalist encampment on top of the mountain. A two-month spate of fighting ensued, with most taking place on the mountain itself. Some villagers fled to a nearby town for a short while, but the leaders stayed. No one was hurt and eventually the army cleared out the encampment. Everyone who had fled returned and, by the time of the fieldwork, the situation in the village had returned to normal.

Villagers told researchers of a long history of having to deal with many such non-state armed groups in the area. Under the previous government, local armed groups had been allowed to keep their arms, turning the militias into "border guards," a title which gave them positions in the government system. After 2004, it was not clear whether these border guards still had government sanction to continue in their positions, but they kept their weapons, which villagers said they used to arm themselves while they grew opium.

Under QSEM 2, the researchers found that overall, crime and conflict continued to be minor throughout the study villages, with the exception of the aid-related social conflicts discussed above in Ayeyarwady Region and incidents in one township in Shan State of drug-related crime in Shan State. Although small disputes were common in all regions (for example related

to problems such as animal-trespassing, fighting among drunk people, and arguments over debt), households reported that village leaders resolved most such conflicts to their satisfaction.

In Chin State, households in one village told researchers that other villagers had been involved in growing opium outside the village but that local authorities had stopped the practice. In Shan State, there had been some recent criminal activity related to the drug trade in one village in Shan East (Kengtung township). Villagers reported that a neighboring village (not a LIFT-supported village) was involved in the drug trade with Thailand and had prospered from it. Villagers from the LIFT village themselves, however, had recently been subjected to a local drug lord coming into their area and setting up operations.

In former conflict zones in Shan State, households reported that ceasefires had benefited them, reducing the incidence of extortion, forced labor and informal taxes. Three of the villages in Shan State, two in Shan South and one in Shan North, were in 'brown areas' that, until the ceasefires of 2012, had been under both government and non-state army control. Households reported that recent ceasefires had benefited them, reducing the incidence of extortion, forced labor and informal taxes being paid to the non-state armies. In two villages in Shan South, villagers stated that there had been taxation from the Shan State Army for the last 30 years and that they had been required to pay between 60,000-100,000 *kyats* per village, depending on the number of households in the village. In the same area, there were also Red and White Pa-O armies, whom the villagers also had to pay at times. As of 2012, however, the payments have stopped. Villagers also reported that in the past, during the conflict, they had had to provide bamboo, chicken, pigs, beer, and their labor to the (government's) army, although this too had now stopped.

TYPES AND FUNCTIONS OF LOCAL INSTITUTIONS

As under QSEM 1, QSEM 2 revealed a range of local institutions, including: the village administration; traditional leaders, including village leaders and respected persons (*yatmi yathpa*); religious groups; aid providers; and single purpose committees. The groups can be divided into four broad categories: (i) religious groups, which conducted activities related to festivals and forms of social welfare; (ii) groups related to village or government affairs and administration**,** such as the electricity-generation group, fire brigade, the paramilitary, road building, and security, and village development committees; (iii) livelihoods groups**,** such as the farmers' association and *Thout Ahpwe*; and (iv) social and educational groups such as the youth group and school groups. In Mandalay Region, *thout ahpwe*, a harvesting and planting group (not noted before in QSEM 1) was functioning. It was made up of women who were daughters of well-off farmers. Table 19 below provides a comprehensive list of the local institutions found during QSEM 2.

TABLE 19: VILLAGE INSTITUTIONS AND GROUPS BY REGION

Region	Shan	Ayeyarwady	Mandalay	Chin
Electricity generation	x		x	x
Farmers' Association		x		
Fire Brigade			x	
Fishermen Association		x		
Haramaang Foundation				x
Harvesting and Planting Group (*thout ahpwe*)			x	
Health				x
Paramilitary (*pyithu sit)*	x	x		
Religious	x	x	x	x
Road Building and Maintenance				x
School groups	x	x	x	x
Self-reliance Groups/ Women's groups		x	x	x
Village Administrator/ Village Tract Administrator	x	x	x	x
Village Development Committee	x	x	x	x
Village Elderly and Respected Persons (*yatmi yathpa)*	x	x	x	x
Village Funds	x		x	
Village Security	x			
Water user groups	x		x	
Youth groups	x	x	x	x

DYNAMICS OF LEADERSHIP AND POWER

As in QSEM 1, key leaders in most villagers were administrators or elders. Village administrators—formal leaders—tended to play the lead roles in village affairs throughout the study area. This was especially true in Chin State, where village administrators were selected through popular election. In both Chin and Shan State, where villagers perceived themselves as distant from the central government, researchers observed that levels of trust between villagers and their leaders was high.

Overall, researchers observed that leaders worked within a network of village elders and respected people. **The official village leader acted as the interface between the village and the government** at the township level. Leaders had to attend official functions and carry out official communications and official duties. Ability in the Myanmar language was important for leaders to do their jobs, especially in areas where it was not the local language. Researchers also observed that most formal leaders tended to be at least 40 years of age. Positions of power did not appear to be inherited, although there were some villages in Mandalay Region where more than one generation of a family had served as leader. Villagers reported not liking or respecting leaders who were not interested in village affairs or who did not perform their duties well, as in one village in Chin State and several in Ayeyarwady Region.

The government has recently promulgated a new Ward and Village Tract Administration law, which requires that all village officials be elected. This act will also formally recognize the village elders and respected persons. The tradition of having the village elders form a kind of committee or council was not found in Chin or Shan States, with only one village in the latter having that kind of organization. While some of the villages had heard of the directive and had even followed it, many had not. At the time of research, elections had not taken place.

BOX 8: THE WARD AND TRACT ADMINISTRATION LAW AND VILLAGE LEADERSHIP

- Sets clear parameters on how administrator the level should be elected or selected
- The law will promote a more uniform system of election or selection: Before enactment of this law, there were no clear legal framework for elections or selection, leading to wide variation among villages. In some villages, *yat mi yat hpa* selected the leader, while in others there was ballot voting or appointment by township officials.
- Households in groups of 10 will elect "10 Household Leaders," who will elect village tract administrators through secret voting. Only the "heads of households," who in the vast majority are men, will be allowed to vote.
- The new law does not explicitly refer to the function of the "100 Household Leader," leaving many villages without a leader. Previously, the 100 Household Leader acted as village leaders, no matter the number of households in the village. This role was often more powerful than that of the village tract administrator, and he was responsible for administrative, security and development affairs, while also playing a role in dispute resolution. He also acted as a conduit between higher authorities and would seek to mitigate the demands of the states from the villagers.
- Township administrators must formally appoint five elders (*yat mi yat hpa*) to supervise the (s)election process. Before the new law was enacted, the *yat mi yat hpa* were seen as an informal group with which township authorities did not deal directly in most cases. Formal, organized groups of *yat mi yat hpa* are associated most closely with Bamar regions of the country.
- The law stipulates specific terms for the ward and village tract administrator, fixed at three times serving in the role.
- The functions and duties of the ward or village tract administrator are similar to the previous position of village tract State Peace and Development Council chairman. These duties relate towards the state, much less towards the citizens.
- Unlike previously, the village tract or ward administrator post carries a salary, with a certain amount allocated for office expenditures.

Courtesy Susanne Kempel. See also "Village Institutions and Leadership in Myanmar: A View from Below" by Myanmar Development Research and Susanne Kempel and MDR 2012

There were several examples from across the study villages of village leaders working on behalf of and with villagers to pursue a common good, or negotiating on behalf of disenfranchised groups within the village. In Chin State, for example, the leaders of two villages worked successfully to have and aid organization provide them with a rice bank even though a rice bank had originally been denied. The village administrator called a mass meeting and persuaded the villagers to repay their debts to a revolving fund that had been set up under the village development committee in order to show the aid organization that the village could act responsibly. The aid organization reconsidered their decision in favor of the villages. Box 9 overleaf presents a case where the village leader repeatedly arranged for landless laborers to be allowed to grow on the uncultivated land of rich villagers.

Relations among leaders in villages were reported as good and cooperative overall, but there were some reports of either bad relations or competition. In Chin State, relationships between leaders were good overall, with leaders talking to each other and villagers paying attention to what their leaders said. Religious figures played a prominent role in leadership affairs. In one village, the relationship between the various leaders was bad because the administrative leader was an alcoholic and asked villagers for liquor when they asked him for help in settling disputes.

BOX 9: A VILLAGE LEADER ARRANGES OFF-SEASON WORK FOR LANDLESS LABORERS

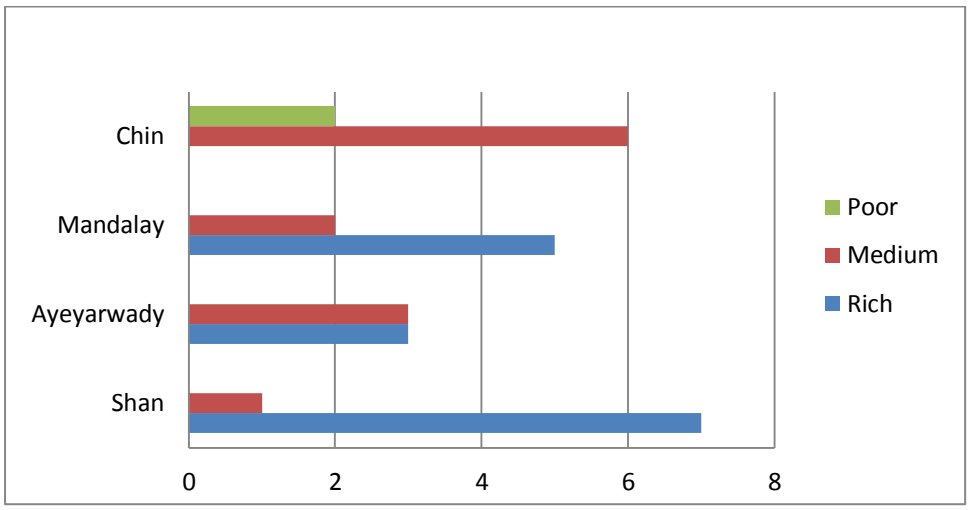
In eastern Shan State in Keng Tung Township was a remote village, with only 30 households. Villagers grew wet rice and collected forest products for sale as their main livelihoods. Since paddy cannot be grown in the hot season, villagers grew potatoes and vegetables. Only one half of the households owned land. Two people owned four acres each, while the other 13 land-owning households had between one or two acres each. Although their holdings were small, an acre of land produced about 30 baskets of monsoon paddy a year, for an estimated value of 100,000 *kyats*.

Every year, the village headman calls together all the farmers who will not cultivate their land during the hot season and asks the landowners whether they will allow landless households to grow vegetables on their land. Thus each year the landless households have been able to grow vegetables during the hot season. This has been going on for about the past 20 years.

In Ayeyarwady and Mandalay Regions, there was some competition between leaders. In four villages in Mandalay Region, the village administrator, the elders and respected people, and the leader of the village development committee tried to influence member selection and village affairs. There were incidents of verbal fights. In two villages in Mandalay Region and three villages in Ayeyarwady Region, competition had led to leaders carving out separate spheres of power and influence. All this competition, with leaders trying to show their power and influence, was not always bad, with one village in Mandalay Region getting a school.

Figure 11 below gives the wealth ranking of core leaders based on researchers' observations and analysis. Wealth rankings were broadly equivalent across regions. Chin State was the only area where there were leaders ranked as "poor" and was also the only area to have no "rich" leaders. Educational levels of leaders were also broadly similar across regions – as illustrated in figure 11 (b) below. Village administrators in Mandalay had the overall highest average educational level, with five leaders with a middle school education, while Chin and Shan State each had a few university graduates as villager administrators.

FIGURE 17: WEALTH RANKING OF CORE LEADERS



People from less well-off backgrounds were less likely to be in positions of power or influence, or take the initiative in village affairs. Poor villagers and landless laborers were dependent on better-off villagers to hire them, and were also therefore unlikely to make complaints or cross the interests of better-off villagers. Poor people were never explicitly excluded, but there was a shared understanding among them that they would not naturally be in a position to be involved in village affairs, and hence would not speak out at a meeting.

TABLE 20: EDUCATIONAL LEVELS OF VILLAGE ADMINISTRATORS[7]

Region	Number of people			
	Primary School	Middle School	High School	University
Ayeyarwady	4	2	2	0
Chin State	4	2	1	2
Mandalay Region	3	5	1	0
Shan State	6	0	2	1

The roles of leaders in dealing with outside actors were largely the same in QSEM 2 as in QSEM 1. Formal leaders dealt with outsiders, including government and aid providers. The roles and responsibilities of formal

[7] Some villages had no village administrators, so that not every state or region adds up to 9 people

leaders included: liaising with the village tract administrator, including bringing back announcements or messages; recording people coming into and out of the village; and maintaining village records, such as of births and deaths. Researchers found that many administrators nevertheless did not maintain regular village records, although they did collect information if and when the village tract administrator requested it.

Another function played by village leaders was to collect farmland tax. However, village leaders reported that since the tax was so negligible—reported at 3 *kyats* per acre—it was not worth collecting. In most villages, village administrators simply paid the tax themselves.

There were numerous examples of leaders negotiating for the benefit of the villagers as a whole, or for the benefit of a vulnerable group. As described in the case study above, in one village in Keng Tung Township, a village leader persuaded land-owning farmers to allow landless people to grow cash crops on land that the owners did not intend to farm that season. In Hsi Hsaing, the leader created an in-kind tithing plan in which land was cleared and farmers contributed their labor and time for the benefit of the local monastery. This was a form of corvée labor—unpaid labor expected by the state or the community—but one that people reported being happy to contribute to because of the spiritual merit they received. Leaders who worked on behalf of the villagers were not necessarily only the formal, government-recognized leaders, for example, in Mandalay Region there were cases of monks who secured various goods and benefits for his village.

BOX 10: VILLAGE LEADERS NEGOTIATING WITH OUTSIDE ACTORS ON BEHALF OF VILLAGERS

In one village in Ayeyarwady Region, villagers had received livelihoods assistance from two aid organizations, one local and one international. From the international organization, the kind of assistance they received depended on their livelihood: farmers received tillers, fisherman received nets and boats, and landless laborers received ducks and pigs. Four villagers, however, were left out of the original count because the international organization thought the four had already received assistance from the local aid organization, but in fact they had not.

The village elders negotiated with the international organization on behalf of the four. The organization replied that the elders must submit a letter of support signed by every villager testifying to the fact that the four were in fact villagers of that village and eligible. The village must have a meeting to discuss the case, and also submit records of the meeting along with the letter. In the end the four received assistance – two got one pig each together with the cost of feed, while the two others each received 70 ducks each.

SECTION SIX: CHANGES FROM QSEM 1

Two regions, Chin and Mandalay, were visited in both QSEM 1 (April-May 2012) and QSEM 2 (September-October 2012). No significant changes in livelihoods strategies, product prices and yields; patterns of social relations; and new aid initiatives were observed across the two regions between the two studies.

A few significant changes were observed within each region. In Chin State, there was a drop in interest rates for microfinance programs by the largest local NGO due to a government policy change announced in July 2012, which capped interest rates of microfinance programs in the regions at a maximum of 3 per cent per month. Chin State borders India, and a drop in the exchange rate for the *kyat* against the Indian rupee has resulted in lower income from sale of livestock across the border for local households. There was also seasonal variation. Since September and October is harvest season, greater demand for casual labor was observed during QSEM 2 in both Chin State and Mandalay Region.

In Mandalay Region, migration increased. Households attributed this to climactic variations that resulted in crop losses and decreased demand for casual labor in the region. However, there were no increase in crop losses and decrease in labor demand between the two studies, suggesting that accumulated distress and the failure of other coping strategies to deal with ongoing shocks was leading to the increased migration. Households reported expecting migration to increase over the next year.

A number of individual village-level changes were observed due to changes in local conditions. In Chin State, one village had suffered damage to village irrigation canals due to excessive rainfall. In another village, the army was constructing a road that would allow the village access to the neighboring village and local households expected market access to improve. One village reported a sudden migration of 20 out of 70 households due to stricter implementation of laws by the government, which ended the prevalent local practice of opium cultivation.

In Mandalay Region, households in three villages reported increases in yield of groundnut crop from 20 baskets to 40 baskets per acre due to better rainfall this season. Households also reported an increase of 2,000 *kyats* per basket of groundnuts. The only new aid intervention observed in the field visit areas in Mandalay was a grant of 600,000 *kyat*s by the government for building a new school building. In two villages, the planned withdrawal of one international NGO from a local project and the creation of a village development committee resulted in tensions within the village for election of the members of the VDC.

In the Nahtogyi township area, a local conflict over the illegal chopping of firewood resulted in a policy change that led to adverse impact on poor households as well. Local villagers complained to the Department of Forestry about illegal cutting of firewood by a local large farmer. The Department sued the farmer in court and introduced more stringent measures against cutting of firewood from local forests that resulted in poor landless households also being prevented access to local forests for cutting firewood.

SECTION SEVEN: CONCLUSIONS & IMPLICATIONS

The first QSEM report highlighted overall regional comparisons and also identified common aspects of the village context. The report highlighted the variance in livelihoods patterns among agro-ecological zones and the multiplicity of livelihood sources for households; the relationship between wealth and livelihoods outcomes; the constraining impact of a lack of credit and high debt for households; the variance in market access of villages in different regions; the impact of water shortages and unusual weather patterns on farmers; a drop in fish yields and apparent rent-seeking in getting fishing licenses; the importance of migration in coping with hardship; the overall strength of social capital within villages; the relatively closed decision-making style of the village administration; and the concentration of aid decision-making power in aid providers rather than recipients.

In the second round of QSEM, researchers focused on getting a more detailed understanding of village livelihoods in order to compare and add depth to the findings of QSEM 1. The second report highlighted again the strong regional variance in livelihood patterns, but also identified emerging cross-cutting themes and region-specific issues. These include the impact of extreme weather patterns in the Dry Zone; social tensions over aid processes in the Delta; the relationship between labor costs, migration and landlessness; and the impact of a history of conflict in parts of Shan State on livelihoods.

The fast pace of Myanmar's reforms has increased the need for an evidence base for policy reforms. The QSEM research platform helps to identify emerging issues and ensure the voices of the rural poor are reflected in national debates and policy dialogues and inform the work of donors and implementing partners. The findings of the second report highlight possible entry points for LIFT and other aid partners. A number of key gaps and potential areas of focus for livelihoods interventions have been identified in the sections above. This section summarizes information relating to potential areas for interventions. Implications of QSEM 2 findings for LIFT supported interventions fall into three different levels of interventions

- Research and policy-dialogue
- Aid program design
- Process of aid delivery

Across these three levels a number of key gaps and opportunities relating to livelihood strategies of the poor and support provided by aid programs have been observed. Several of these issues are not new. However, the QSEM research underlines their continued importance and need for urgent rectification in order to reinforce the prospect of sustainable rural growth. These issues include:

CLIMATE ADAPTATION

The effects of climate change are being felt and are causing hardship. Research, policy and aid actors should pay greater attention to enhancing the adaptation capacity of poor communities to climate change. The QSEM 2 report highlighted the prevalence of climate-related shocks in all the regions

studied, and also identified the linkages between extreme weather patterns, the accumulated distress of associated crop losses, and, in some areas, migration—which in turn has an impact on labor cost and availability. LIFT already supports climate adaption through support to access to water and is cognizant of the relationship between climate change and disaster risk. The QSEM research highlights the importance of this and the need for a comprehensive intervention across different levels from research and policy support to pilot aid interventions that help set the framework for enhancing adaptation capacity of poor communities within the country. Significant further research is needed to (a) identify actual trends in climate changes in the region such as changes in temperature and rainfall patterns, sensitivity of local agriculture to these changes such the amount of decrease in crop yields and trends in crop losses; (b) identify steps needed to build the adaptive capacity of the poorest communities such as changes in crop management practices, crops planted and risk-mitigation measures; and (c) better understand the linkages between climate change, social protection, and vulnerability.

Credit and financial services

There is room for more affordable credit products targeted at farmers and for pilot interventions to develop a range of new financial products that better match and support livelihood strategies of the poor, including micro-insurance services. There is the need for more and more affordable credit products targeted at farmers with borrowing and repayment terms approximating needs and cash flows from farming. Large price fluctuations and declines in crop prices also provide the opportunity for exploring risk management products such as micro and weather-linked insurance services. LIFT has a proposal to scope the prospects for micro-insurance; this should be supported.

Researchers, policymakers and the aid community should focus on building/strengthening formal channels for remittances: The absence of formal remittance services—including for region/state remittances— is a major gap and interventions are needed across the spectrum from research to better understand existing informal channels and effective fees paid for remittances; pilot projects that seek to bring together NGOs, mobile payment providers and banks to experiment with effective and easily accessible models for handling remittances; and policy support so as to develop a favorable policy infrastructure for the development of formal remittance service providers.

Agriculture, Extension and Livestock

There is room to strengthen/institute collective action interventions for farmers to improve their welfare. In QSEM 2, there were no examples found of collective action, such as cooperatives or informal pooling of produce, except in renting trucks to transport produce. This is a key area for aid interventions to explore. There are a number of successful efforts to collectivize farmers and other producers in other parts of the world that have successfully increased incomes of farmers through increasing economies of scale in procurement of inputs; disseminating technological improvements and best practices; transporting produce to markets; and increasing negotiating power in markets.

In agriculture, wide variations in fertilizer use and in use of hybrid seeds suggest the need for interventions that train farmers on optimal use of both inputs, along with policy support. Further research is needed to identify the type and quality of both inputs being used by farmers in different regions. Both research and pilot projects are needed to help develop a template of best practice for use of both inputs by region. Policy support is needed to help create a favorable policy infrastructure for production and distribution of better quality seeds and fertilizers at affordable prices.

Policy interventions are needed to help extend the reach and efficacy of government veterinary services. The wide variations in access to and pricing of veterinary services, and the important role played by government veterinary extension staff suggest the need for policy interventions that help extend the reach and efficacy of government veterinary services.

There is room for further improvements in market information: Across agriculture, livestock and fishing, lack of access to price information in different wholesale markets hampers the ability of producers to negotiate prices with market intermediaries. There is room for aid interventions to include components that collect and publicly display information on prices in both proximate markets from the nearest townships; and data from further markets in Yangon and other cross-border markets in China, India and Thailand to which trade is currently taking place.

Fishing

Research and policy interventions are needed to better understand and manage the depletion of fishing stocks and the resulting drop in catch sizes reported by households. Fishing households in the QSEM reported a steep decline in catch sizes and reported having to spend more time fishing to catch the same amount of fish. The causes of this drop were not clear, but households reported that big fishing trawlers used fine fishing nets that captured all species of sea life in the area. Fishing households themselves, however, reported a range of harmful and environmentally unsustainable fishing practices, such as poisoning rivers. There is thus also the need for interventions that raise awareness and seek to change environmentally unfriendly fishing practices such as the use of poison and explosives.

Aid effectiveness

The government should take steps to ensure that the new village development support committees it has recently set up by decree are sufficiently broad-based and representative and have effective accountability mechanisms. Donors should take steps to end the proliferation of village committees, ideally by using the government-mandated village development support committee to channel aid, and take transparency measures to avoid elite capture: The QSEM 2 report highlighted social tension that had arisen over aid in several villages in the Ayeyarwady Region. In these villages, overlapping membership, jealousies and disharmony among different committees set up by aid organizations had created factions, that spilled over into other aspects of village life. There is room for LIFT to engage with government over using committees established by

government decree to end committee proliferation and putting in place measures to ensure that such committees are sufficiently participatory and representative of a cross-section of the village population. To be effective, appropriate transparency measures would have to be put in place to avoid elite capture.

Grievance handling and other accountability measures should be strengthened. Transparency, accountability and grievance-handling measures emerged as an area that could be strengthened by implementing partners.

APPENDICES

TABLE 21: OBSERVED FERTILIZER AND PESTICIDE PRICES BY REGION

Region	Township	Village Name	Price per 50KG bag	Pesticides
Shan	Hsihseng (South)	Nyaung Kine	18,000	Not Used
		Hti Sone	16,000	Not Used
		Naung Kaung	18,000	6000/tin
	Kyaukme(North)	Bu Khar	12,000	Not Used
		Kone Sone	15,000	Not Used
		Nam Maw Phi Lu	15,000	Not Used
	Kengtung (East)	Wan Pauk pa Lung	12,000	Not Used
		Kat Htike	11,000	Not Used
		Ho Yan	15,000	Not Used
Ayeyarwady	Bogale	Kyun Ka Lay	23,000	Not Used
		Ma Ngu	15,000	2000/tin
		Nga Khu Chaung	25,000	1400/acre
	Mawlamyinegyun	Hti Sa Kaung	23,000	4500/acre
		Myit Kyi Boe	24,000	1,000/acre
		Phyar Lake Awa	23,000	Not Used
	Labutta	Kyun Chaung	24,000	15,000/acre
		Pauk Two	25,000	Not Used
		Kan Gyi Dauk	Not Used	5,000/acre
Mandalay	Thazi	Inn Kone	20,000	10,000/tin
		Kan Gyi Out	22,000	6,000/package
		Than Pwet	21,000	10,000/tin
	Natogyi	Aung Tha	15,000	5,000/tin
		Kyar Pwar	20,000	10,000/tin
		Mya Taung	23,000	Not Used
	Taungtha	Kuayk Phoo	30,000	5,500/tin
		A Lal Chaung Sone	20,000	10,000/tin
		Than Bo	20,000	10,000/tin
Chin	Falam	Thanhniar	24,000	3,000/tin
		Khaung Li	20,000	Not Used
		Baulkhual	Not Used	Not Used
	Thantlang	Tlang Rua	Not Used	Not Used
		Farrawn	Not Used	Not Used
		Hriphi	Not Used	Not Used
	Tonzang	Tong Tung	Not Used	Not Used
		Sal Zang	Not Used	Not Used
		Tui Mang	Not Used	Not Used

TABLE 22: AYEYARWADY REGION: FISHING INPUTS, INPUT COSTS, CATCH VOLUMES AND INCOME

Type of Net / Inputs	Net (Unit Price per Piece)	Remarks	Type of Catch	Amount of catch per month (Viss)		Reported Income per Month (Kyats)		License		Reported License Source
				Peak Season	Normal Season	Peak season	Normal season	Formal fee	Informal fee	
***Kyar* net**	350,000	Used to catch prawns and fish across the stream or river. Fishers usually used between one and three nets	Prawn	140	14	490,000	49,000		135,000	Middleman given rights to fishing plot by DOF.
***Ba win* net**	120,000	Used to catch prawns and fish from the shore line. Different net sizes are used, corresponding to different fishing plot areas.	Prawn, Fish	140	80	200,000	112,000		366,000	Middleman given rights to fishing plot by DOF.
***Ngathala* net (for *haser* fish)**	75,000	Fishers usually use between five and eight pieces on average.	*Haser (Hilsa*) Fish	24	12	240,000	120,000	5,000		Directly from DOF annually.
***Ngaponar* net**	15,000	Fishers usually use 10 or more pieces .	*Ngaponar*	90	30	450,000	150,000			Directly from DOF annually.
***Nga Myae Tan* (1,000 fish hooks)**	3,500	Fishers usually use at least 2,000 fish-hooks and mostly 3000 fish-hooks	Prawn	30	15	450,000	225,000		5,000	Daily license fee to middleman given fishing rights by DOF
Tools - Box (Eel)	500	They use a minimum of 20 boxes and an average of 70 boxes.	Eels	27	18	100,000	70,000			No license required
Tools - Box (Crab)	250	They use a minimum of 30 boxes and an average of 80 boxes.	Crab	120	12	300,000	30,000			No license required

TABLE 23: SHAN STATE - SEASONALITY OF CASUAL LABOR ACTIVITIES

Type of Crop	No. of Villages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Low-land paddy(monsoon)	9				Prepare soil	Plant		Weed		Harvest			
Low-land paddy(summer)	3	Plant			Harvest							Prepare soil	
Up-land paddy	3			Prepare soil		Plant					Harvest		
Peanut	5					Plant				Plant			
Sesame	6									Plant			Harvest
Tobacco leaf	1	Harvest						Plant					
Chilli	3								Plant			Harvest	
Sweet potato	1								Plant				Harvest
Radish	1						Plant			Harvest			
Corn	3			Prepare soil		Plant			Harvest				
Forest products	2									Pick young bamboo, mushroom and chestnuts			
Migration (near villages)	5				Prepare soil				Harvest corn		Harvest paddy		
Other casual labor	9	Harvest sesame			Prepare soil	Plant paddy, peanut, corn; harvest paddy		Weed, farm paddy	Harvest corn, plant radish				

TABLE 24: CHIN STATE - SEASONALITY OF CASUAL LABOR ACTIVITIES

Type of Crop	No. of Villages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Low-land paddy	4			Prepare soil		Sow seed & germinate	Plant		Weed			Harvest	
Up-land paddy	4	Cut trees to prepare land		Burn vegetation	Clean garbage	Plant	Weed					Harvest	
Corn	9	Cut trees to prepare land			Plant				Harvest				
Garlic	3			Harvest					Prepare soil		Weed		
Sesame	3							Spread to plant					Harvest
Cabbage	3	Harvest	Prepare soil, plant		Harvest						Prepare soil, plant		Harvest
Onion	3				Harvest						Prepare soil, plant		Weed
Migration	7	Go to Mizoram			Return from Mizoram				Go to Mizoram			Return from Mizoram	
Other Casual Labor	9				Return from Mizoram		Weed land, plow low land		Harvest corn			Harvest paddy	

TABLE 25: MANDALAY REGION - SEASONALITY OF CASUAL LABOR ACTIVITIES

Type of Crop	No. of Villages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Low-land paddy	4					Plow	Plant		Weed			Harvest	
Cotton	2	Prepare soil	Plant	Harvest		Prepare soil		Plant			Harvest		
Chick peas	3	Harvest										Plant	
Chilli	1					Germinate seed		Plant			Harvest		
Peanut (monsoon)	6					Prepare soil	Plant			Harvest			
Peanut (monsoon)	6							Plant			Plant		
Sesame	9				Plant			Harvest					
Onion	1								Plant			Harvest	
Finding forest product	3	Get bamboo, charcoal										Get bamboo, charcoal	
Migration	3	Mining											
Casual labor	9	Prepare soil for cotton	Plant cotton	Harvest cotton		Plow - paddy	Plant paddy		Weed		Harvest cotton	Harvest paddy	

TABLE 26: AYEYARWADY REGION: SEASONALITY OF CASUAL LABOR ACTIVITIES

Type of Crop	No. of Villages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Low-land paddy (monsoon)	9	Harvest					Prepare soil, germinate seed			Weed		Harvest	
Low- land paddy (summer)	4	Prepare soil/sow seed			Harvest								Prepare soil
Chilli	2			Harvest								Prepare soil	Plant
Green gram	1		Harvest									Prepare soil	Plant
Peanut	1			Harvest									Plant
Migration	7					To Yangon as factory worker, construction worker							
Casual labor (farm)	9	Harvest paddy	Harvest green gram	Harvest chilli and peanut	Harvest summer paddy		Prepare soil					Harvest	
Casual labour(other)	7			Cut and make nippa					Small fishing				

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