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**WORKSHOPS TO PRESENT THE INITIAL RESEARCH FINDINGS FROM  
A NATION-WIDE SURVEY AND ANALYSIS ON SOCIAL PROTECTION  
AND POVERTY DIMENSIONS IN SUPPORT OF RURAL DEVELOPMENT  
AND POVERTY REDUCTION ON MYANMAR**

**Nay Pyi Taw and Yangon, Myanmar, 29–30 September 2015**



Report of the

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## PREPARATION OF THIS DOCUMENT

This is the report of the workshops held in Nay Pyi Taw and in Yangon on 29 and 30 September 2015 to discuss the findings of a nationwide survey of social protection needs and opportunities in the context of rural development and poverty reduction, with a focus on fisheries-dependent communities. Appendix 3 includes the survey commissioned by the Food and Agriculture Organization of the United Nations in partnership with the Myanmar Department of Rural Development. The findings are reproduced as submitted by the authors with minor editing. The list of participants provided in Appendixes 1 and 2 reproduce the details as provided by the participants. The report was prepared by Florence Poulain, Fisheries and Aquaculture Officer, Policy and Economics Division, FAO Fisheries and Aquaculture Department, Rome, Italy and Mike Griffiths, Director of Research, Social Policy and Poverty Research Group (SPPRG), Yangon, Republic of the Union of Myanmar.

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### ABSTRACT

The Food and Agriculture Organization of the United Nations is exploring evidence of the linkages between poverty, social protection and natural resource management with a view to implementing programmes to empower rural communities in the transition to sustainable natural resource management and poverty reduction.

In Myanmar, it commissioned analyses of social protection needs and opportunities in the context of rural development and poverty reduction with a view to enhancing understanding of the role of social protection in the transition to sustainable natural resource management and poverty reduction, with a focus on fishing communities. The analyses were conducted in collaboration with the Myanmar Department of Rural Development.

The initial findings, which were discussed with state and non-state actors on 29 and 30 September 2015 in Nay Pyi Taw and Yangon, Myanmar, highlight the need for significant expansion of social protection services as a key component of rural development and for urgent interventions for households in fishing communities. Further research and methodological analysis are needed to verify the initial findings and inform rural development and poverty reduction programmes.



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**ABBREVIATIONS AND ACRONYMS**

CESR	Comprehensive Education Sector Review
DRD	Rural Development Department (Myanmar)
DRR	Disaster Risk Reduction
FAO	Food and Agriculture Organization of the United Nations
FHH	Households headed by women
INGO	International Non-Governmental Organization
LIFT	Livelihoods and Food Security Trust Fund
MHH	Households headed by men
NAPA	National Action Plan for Poverty Alleviation and Rural Development
NGO	Non-Governmental Organization
PwDs	Persons with disabilities
SPPRG	Social Policy and Poverty Research Group



## **INTRODUCTION**

Agriculture, fisheries and forestry are often carried out in ways that compromise the sustainability of natural resources. When faced with unemployment, sickness or exclusion, poor families tend to sell assets, shift to unsustainable fishing practices or less risky but low-yield crops, or take their children out of school to work thereby weakening future prospects. Social protection can contribute to the reduction of poverty and hunger and to resilience building while promoting inclusive and sustainable development. The Food and Agriculture Organization of the United Nations (FAO) is exploring evidence of the linkages between poverty, social protection and natural resource management with a view to developing instruments and programmes to enable rural communities to transition to sustainable natural resource management and poverty reduction.

Despite research to assess poverty and the provision of social protection in Myanmar, knowledge about the linkages between poverty, social protection and sustainable rural development is incomplete. To address this gap, the Social Policy and Poverty Research Group (SPPRG) was contracted to carry out a nationwide survey and fieldwork to analyse social protection needs and opportunities in the context of rural development and poverty reduction.

The objective was to contribute to:

- increased understanding of poverty from the perspective of poor communities, taking gender and ethnic minority considerations into account, to inform rural development and poverty reduction programmes;
- understanding needs for and access to social protection at the community level and in the contexts of natural disasters and climate change with a view to ensuring that social protection programmes address the needs of poor communities; and
- engage Myanmar's Rural Development Department (DRD) in dialogue with poor communities to increase its understanding of poverty and vulnerability, and hence poverty reduction and sustainable rural development needs.

DRD provided field support and technical assistance for the survey. FAO provided financial and technical assistance. Additional financial support was provided by the Livelihoods and Food Security Trust Fund (LIFT) through SPPRG. The survey findings, reproduced as submitted by the authors, are given in Appendix 3.

The provisional research findings were discussed with state actors on 29 September 2015 in Nay Pyi Taw and presented to non-state actors in Yangon on 30 September 2015. The proceedings of the workshops are summarized below.

## **NAY PYI TAW WORKSHOP**

### **Opening and introductory session**

In partnership with DRD, FAO organized a workshop to present the initial findings from a Nationwide Survey and Analysis of Social Protection and Poverty Dimensions in Myanmar on 29 September 2015 at the DRD office in Nay Pyi Taw. Those present included representatives of the ministries on the Poverty Reduction Committee<sup>1</sup> and representatives of the Department of Rural Development and Planning from 14 states and regions (see Appendix 1).

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<sup>1</sup> Including Rural Development, Fisheries, Agriculture, Health, Education, Planning, Information.

In his opening remarks, the Deputy Minister for Livestock, Fisheries and Rural Development noted that the Government was working to create an enabling environment to ensure the participation of all stakeholders in rural development and socio-economic development. With reference to the National Strategy for Poverty Alleviation and Rural Development, he stressed that effective poverty reduction programmes required an evidence-based approach to match interventions to people's actual needs. He explained that the Ministry was researching the dimensions of poverty, vulnerability and social protection in rural communities, and that the findings showed that: i) poverty definitions should include the livelihoods dimension to reflect the priorities of rural communities; ii) increased access to credit and other financial services should be reflected in rural development and poverty reduction programmes to help poor households to achieve sustainable livelihoods; and iii) access to social protection needed to be increased in rural communities as part of poverty reduction and rural development and to build the resilience of rural communities to disasters and economic shocks and hence enable self-development.

The FAO representative in Myanmar expressed gratitude to the Government for its collaboration and its assistance in hosting the workshop, recalling that the President of Myanmar had emphasized the need for social protection as part of the reform process in his speech to the National Social Protection Forum in June 2012. Noting that one of its objectives was to make agriculture, forestry and fisheries more productive and sustainable, the FAO representative observed that social protection was a major element in achieving this outcome. With reference to the initial findings of the workshop, she re-emphasized that poverty definitions in Myanmar should include the livelihoods dimension to reflect the priorities of rural communities, that low-risk credit should be an element of rural development and poverty reduction programmes, that access to social assistance should be increased, and that livelihoods should be diversified. It was particularly important to address the higher levels of vulnerability of households headed by women and households in fishing communities. The FAO Representative also recalled that recent floods have significantly affected rural populations, which is also an immediate challenge for poverty reduction.

### **Overview of the background paper on national survey findings**

The SPPRG Director of Research presented the methods and initial findings of the research study.

1. **Methods.** The analysis involved a qualitative study that included fieldwork and a quantitative household and community survey, with data collected by DRD staff; 60 enumerators had been trained, and a further 20 staff had been trained as supervisors. The survey covered all of Myanmar's 14 states and regions, plus Nay Pyi Taw Council: 160 interviews were conducted and circa 22,000 households were surveyed, using a survey tool to capture household socio-economic status, livelihoods, vulnerability, access to social assistance and opinions on the dimensions and causes of poverty and proposed interventions for poverty reduction.
2. **Poverty definitions and dimensions.** Rural households primarily described the dimensions and causes of poverty in terms of livelihoods, incomes and assets. The conceptualization of poverty was significantly influenced by household location and context.
3. **Priorities for poverty reduction and rural development.** Among rural households, 75 percent accorded high priority to increased access to low-interest and zero-interest credit, 47 percent to interventions that created livelihoods for young people, and 36 percent to micro-enterprises; this was consistent with the descriptive paradigms relating poverty to livelihoods.
4. **Vulnerability profiling** revealed an overall vulnerability rate of 24 percent, with considerable variability between states and regions; households headed by women, households dependent on casual labour as their primary income source, landless households, households with disabled persons, and households in fishing communities had the highest levels of vulnerability.
5. **Social protection.** Among rural households, 80 percent had accessed social assistance: loans accounted for 69 percent of the assistance, and fewer than 25 percent of households reported accessing assistance of any kind from government sources. Poor households, households headed by women and households with low levels of social capital and participation were less likely to

receive assistance of any kind, less likely to receive assistance from the Government or through insurance schemes, and more likely to receive assistance in the form of loans.

6. Fishing communities. Households in fishing communities experienced significantly higher rates of vulnerability and lower rates of access to formal and informal social assistance compared with non-fishing communities.
7. Natural resource management. Despite clear linkages between poverty reduction and natural resource management, knowledge and skills relating to the latter were low in rural communities. Participation in natural resource management was reported in fewer than one in five rural communities, but awareness levels were higher, particularly for forest management. Management of natural resources was identified as a poverty reduction priority by 9 percent of the population; 1 percent identified disaster risk reduction. This indicated that although awareness and skills were lacking there was a sense that “something must be done” in terms of disaster risk reduction and resource management.
8. Debt burden. At least one household in ten spent at least 10 percent of its income on debt repayments; this was linked to reduced investment in education and livelihoods. Debt repayments consumed 12 percent of household income; over 50 percent of households were borrowing primarily from high-risk lenders, and 6 percent of households were classified as “high-risk” in this respect. When asked about priority interventions for poverty reduction, respondents usually identified low-interest or zero-interest loans.
9. Social capital. Rural communities had high levels of social capital; there were active traditional social organizations in 63 percent of all communities. The level of engagement at community level was strongly associated with access to social assistance from community organizations, but there were relatively low levels of participation in community events among women and persons with disabilities.
10. Landlessness households were twice as vulnerable as landed households, and had higher rates of vulnerability in all areas except livelihood diversity. In the rural communities surveyed, 49 percent of households reported that they did not own land; just over half reported planting any kind of crop in the previous year.
11. Livelihoods. Most rural households were engaged in agriculture or related livelihoods. In a third of such households, however, the main income source was reported as casual labour; half of all rural households had only one income source. Fewer than 20 percent of households reported any regular income. Livelihood diversity was strongly linked to high economic status, low poverty rates, high levels of social capital, and high rates of children’s school attendance.

### **Summary of discussions**

Participants noted that the survey sampling approach had been designed to include different geographical areas in a given township and a mix of hard-to-reach and accessible communities. The length of time taken by respondents to complete the questionnaire had averaged 30–45 minutes per household, and although DRD had tried to ensure that the enumerators were familiar with local dialects, unfamiliarity meant that more time was needed to complete the questionnaire. It was confirmed that the survey sample was purely rural, with some peri-urban villages included.

With regard to the perspectives on poverty it was suggested that existing indicators should be used to measure poverty at the national level. The meeting accepted, however, that the findings were not intended to make a new indicator for poverty but to increase understanding of the different dimensions of poverty, and especially to take into account the perspectives of rural communities.

Concerning the causes of poverty as reflected by public opinion, a question as to the difference between price fluctuation and market instability elicited the reply that they were two selection options: price

fluctuation referred mainly to instability of prices for goods consumed and products sold; market instability referred to the lack of reliability among markets selling produce.

Participants noted that children's participation in the labour force was indicated in the questionnaire as a deliberate choice, and that the default selection for "participation in livelihood activities" for school-aged children would be "non-student". They also noted that the relatively high rates of school-aged children indicated as participating in household income-generation correlated with school dropout rates, but accepted that the findings should not be treated as statistics on child labour.

There was agreement that livelihood diversification was needed, but that more insight was needed to determine how to achieve it. Participants suggested that an integrated approach was needed that looked at markets, skills, policy, links with the private sector and natural resource management. The meeting also discussed the issue of debt burden in rural areas, noting that the main request from people affected by floods was for cash to relieve debt.

The chief technical adviser of the FAO/LIFT project Formulation and Operationalization of the National Action Plan For Poverty Alleviation and Rural Development through Agriculture (NAPA) hoped that the information collected would prove useful for the envisaged national action plan. He also raised the issue of using different indicators to map poverty, and observed that communities often supported good natural resources management without knowing it. Finally, he stressed the importance of livelihood diversification in terms of avoid indebtedness.

Discussion of the concept of vulnerability used in the study, particularly the difference between vulnerability and poverty, led to agreement that understanding of the vulnerability concept would be useful for poverty reduction in that it would help planners to understand the contributory factors of resilience and risk, and to identify households at risk of falling into poverty or worsening poverty.

Several participants affirmed the value of social protection as a component of poverty reduction, but asked for clarification as to the definition of social protection. The meeting noted that among the various working definitions the National Strategic Action Plan for Social Protection used: "... social protection includes policies, legal instruments and programmes for individuals and households that prevent and alleviate economic and social vulnerabilities, promote access to essential services and infrastructure and economic opportunity, and facilitate the ability to better manage and cope with shocks that arise from humanitarian emergencies and/or sudden loss of income." It was suggested that the emphasis on social protection should be in line with the initial research findings in terms of long-term developmental solutions rather than short-term options, with emphasis on strengthening traditional social organizations and clear linkages between grassroots approaches and national policy on delivery of social protection.

With regard to vulnerability in fishing communities, several participants noted that the situation was worsening as a result of the decreasing quality and quantity of catches and lack of access to markets, and that more studies should focus on monitoring the socio-economic situation of fishing communities, especially with respect to the effects of climate change. Discussion of the causes of vulnerability identified several factors: fishing communities tended to be younger and more subject to change (such as an in/out migration) than more established rural communities, and more susceptible to the effects of climate change. The meeting noted that the reason why nobody in Ayeyarwadi region appeared to indicate natural resource management and disaster risk reduction (DRR) as important for poverty reduction was that respondents had been asked for their top three priorities only: in many cases these options might be considered important but not in the top three choices. The meeting agreed on the need for systematic mapping of the types of resources and approaches needed for accurate and systematic management of natural resources.

### **Workshop conclusions**

In the final session ten recommendations based on the initial research findings were discussed and finalized, with the addition of a recommendation on DRR, as follows:

1. Poverty definitions and dimensions. Poverty definitions in Myanmar should include the livelihoods dimension to reflect the priorities of rural communities.
2. Priorities for poverty reduction and rural development. Livelihood creation and increased access to credit should be prioritized in rural development and poverty reduction programmes.
3. Vulnerability profiling should be used to improve targeted interventions for poverty reduction because it would help to identify factors contributing to vulnerability. Programmes for poverty reduction and rural development should address the greater vulnerability of households headed by women, households dependent on casual labour as their primary income source, landless households, households with persons with disabilities, and households in fishing communities.
4. Social protection. Access to social protection in rural communities should be a larger component of poverty reduction and rural development. Further research was needed to determine levels of accessibility and adequacy of social assistance. Links with local social-protection organizations should be established.
5. Fishing communities. Priority should be given to vulnerable fishing communities for poverty reduction and rural development, particularly to increase access to social assistance, with a focus on natural resource management and livelihood diversity. The long-term effects of climate change in fishing communities should be monitored.
6. Natural resource management. Rural development and poverty reduction programmes should include activities to improve natural resource management at the community level and should support the development of links between national policies and community actions. Further research was recommended to map Myanmar's natural resources.
7. Debt burden. Poverty reduction programmes should increase access to financial assistance such as low-interest and zero-interest loans.
8. Social capital. Rural development activities should be carried out with community organizations to enhance social capital and maximize effectiveness and inclusiveness.
9. Landlessness. Rural development and poverty reduction programmes should address the needs of landless households.
10. Livelihoods. Rural development and poverty reduction programmes should increase the diversification of livelihoods in rural households.
11. Poverty reduction and rural development programmes should include measures to reduce the effects of natural disasters and monitor the effects of climate change.

The Director General of DRD confirmed that the 11 recommendations would be submitted to the Office of the President and the Poverty Reduction Committee for consideration. He also observed that this initial research had been extremely useful, and agreed that further studies would be needed. In closing the meeting, he thanked all the delegations for their enthusiastic participation.

## **YANGON WORKSHOP**

### **Opening and introductory session**

A workshop hosted by FAO on 30 September 2015 at its Yangon office presented the initial findings of the Nationwide Survey and Analysis of Social Protection and Poverty Dimensions in Myanmar. It was attended by representatives of United Nations agencies and international and national non-governmental organizations (NGOs). The list of participants is given in Appendix 2.

The FAO representative in Myanmar welcomed the participants and summarized the outputs of the previous day's workshop in Nay Pyi Taw with state actors. She explained the process whereby FAO is considering the inclusion of social protection in its activities and noted that this and future studies would serve to augment knowledge and guide the Government, FAO and other partners with regard to rural development and social protection.

The FAO fisheries and aquaculture officer explained the background to the study and the processes involved, noting that a further workshop would be held in November 2015 at which all studies would be presented and discussed to inform policy and action. The final report would be prepared and distributed by FAO in due course.

### **Presentation of the findings and summary of discussions**

Having heard the SPPRG Director of Research describe the methods and initial findings of the research, participants affirmed its usefulness. With regard to the status of the other social protection studies, the meeting was informed that the Myanmar study was the first to be completed. Concerning the selection of the research sample, the meeting understood that all states and regions had been included but that townships had been selected to represent geographical variations within states and regions and to represent communities that were more or less accessible; sampling of households in communities had been randomized. The meeting noted that some bias could result from the inclusion of remote communities. With regard to the use of weighting at the township level the meeting was informed that the data were not available from current census publications but that when the information became available it should be applied to determine any statistically significant differences from the current approach. The meeting understood that there had so far been no analysis of variations between villages classified as "hard-to-reach" and more accessible communities. With regard to the enumerators, the meeting was informed that they were DRD staff and that a significant proportion were women. And given that the enumerators were from a government department, the meeting considered the possibility of interviewer/responder bias, but accepted that the low frequency of infrastructure-related responses, which is the responsibility of DRD, suggested that the rate of bias in the form of responses intended to please the enumerators had been low. Participants noted that the study had not included urban populations nor communities where there was active armed conflict, though several of the areas included had experienced recent conflict. Villages had not been selected according to size to avoid bias of excluding only smaller communities; the meeting noted that average village size varied significantly among states and regions.

Concerning the findings about the dimensions of poverty and poverty reduction, the meeting felt that the number of different poverty paradigms could lead to confusion but accepted that the survey figures were not new estimates of poverty percentages so much as a reflection of different people's views and categorizations of poverty. The survey had recorded public opinion with regard to poverty perspectives; it was not a re-definition of poverty: respondents had been asked "On what basis are you saying a household and community are poor?" and responded accordingly, but had not been explicitly asked about changes over time. With regard to further analysis to examine correlations between landlessness and other data points, the meeting noted that other studies and analyses could be undertaken with the dataset obtained.



Participants noted that livelihood diversification could be viewed in different ways: different types of economic activity, or diversification of different types of an activity such as crop diversification, could be identified. The study in question had not, for example, specified types of crops but it was acknowledged that multiple approaches to diversification were important.

In the discussion of the vulnerability section, participants agreed that it looked mainly at resilience at the household level rather than risk of exposure to shocks. Landlessness had been captured through three indicators: whether a respondent had planted the previous year, and whether they owned the land or not, with a separate question on land ownership itself. The meeting accepted that given the contentious nature of definitions of land ownership, it was important to capture this using multiple points in the questionnaire.

Participants commented that the data were rarely disaggregated by gender, but agreed that although gender-disaggregated data were not obtainable for some sections, gender analysis could be achieved by looking at factors such as women's participation in the labour force, the gender of household heads, or households with economically active women. It was acknowledged that further gender analysis would be needed.

With regard to the major issue of access to loans, the meeting felt that debt forgiveness might have been further explored and noted that debt-related issues were a significant feature in various parts of the research, and that the provision of additional credit could add to the debt burden. Some participants suggested that a "debt forum" could be arranged to bring together stakeholders such as international NGOs, co-operatives, financial service providers, banks and policymakers to address the growing crisis of household debt. A longitudinal study over four or five years was also suggested with a view to understanding debt changes over time.

Concerning social protection, some participants advocated more effective mobilization of existing resources such as traditional community-level organizations as part of the social protection programme in Myanmar.

The meeting noted that the definition of fishing communities had included communities where 40 percent of households were dependent on capture fisheries and aquaculture as their main livelihood. Participants observed that the effects of climate change combined with cases of over-fishing and pollution were contributing to increased hardship in rural communities.

It was noted that FAO would provide copies of the finalized report. In addition, FAO grants free access to all data not identified as restricted. In closing, the FAO fisheries and aquaculture officer thanked all concerned for their participation in the discussion.

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### **Appendix 3. Dimensions of poverty, vulnerability, and social protection in rural communities in Myanmar**

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We confirm that the report herein represents a true representation of the research findings, to the best of our knowledge.

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### Executive Summary

This research is a joint project of the Department of Rural Development and the Social Policy and Poverty Research Group, with funding and technical assistance from the Food and Agriculture Organization of the United Nations (FAO) and the Livelihoods and Food Security Trust Fund (LIFT). The project, undertaken over a period of 6 months in the first part of 2015, had the following objectives:

- to gain an understanding of poverty from the perspective of poor communities in Myanmar in order to inform pro-poor rural development programmes;
- to gain insight into the needs, and current access to availability of social protection at community level, in order to inform the development of social protection programmes in the context of sustainable rural development;
- to engage the Myanmar Rural Development Department (DRD) in a dialogue with poor communities, to increase the understanding of and provide insights into both poverty and vulnerability, and in turn, poverty reduction and sustainable rural development, with an emphasis on social protection as a key component of these activities, and with a particular attention to fishing communities.

The research was conducted in two stages, with an initial exploratory, qualitative phase conducted in three different areas in Myanmar (coastal, hilly and plains) with a view to establishing key insights to inform the shape of a larger national survey. The national survey sampled circa 22,000 households across all 14 States and regions, plus Nay Pyi Taw Council, using a survey tool designed to capture key elements of household socio-economic status, livelihood practice, vulnerability, access to social assistance, and opinions on the dimensions, causes and proposed interventions for poverty and poverty reduction. The key findings of the research are summarized here, and then described in detail in the subsequent document:

1. **Conceptualization of poverty:** Rural households primarily describe the **dimensions and causes of poverty** using descriptives which are based around a **paradigm of livelihoods**. When considered what criteria to use to differentiate between poor and non-poor households, or poor and non-poor communities, and when describing the causes of poverty, the main four descriptive paradigms were livelihoods, income/debt, assets, and access to information and services. Although most respondents typically offered a set of responses which related to several categories, livelihoods was the most commonly expressed paradigm at 31% of all responses. Households whose main livelihood was agriculture were less likely to describe livelihood concerns than these casual labour households, and they were more likely to describe income and access issues. These variations illustrate that households conceptualize poverty in different ways, each of which is significantly influenced by their own situation and context.
2. **Poverty Reduction:** When indicating preference and prioritization for interventions to reduce poverty, rural households place a high priority on **increased access to low and no-interest credit** (75% of all households), interventions which create **livelihoods for youth** (47% of all households), and **micro-enterprise** (36%), consistent with the descriptive paradigms relating poverty to livelihoods.



3. **Vulnerability profiling** demonstrated considerable variability between States and regions, whilst also demonstrating different vulnerability patterns present in different areas and amongst different types of households. The **classification of 24% of all rural households as vulnerable** is consistent with previous surveys, and identifies a sub-section of the rural population either at high risk of poverty or who are likely to be classified as poor. **Female headed households, households dependent on casual labour as their primary income source, landless households, households with persons with disabilities, and households in fishing communities all demonstrated higher levels of vulnerability.** Application of the vulnerability model can help to identify contributory causes to underlying vulnerability, enable targeted interventions which are aimed at addressing regional or type-specific vulnerability, and contribute to improving household and community resilience.
4. **Social Protection:** Over 80% of rural households describe having accessed social assistance, primarily for food security needs (60%) and emergency health care needs (50%). However, **the vast majority of assistance is received in the form of loans (69%), and less than 25% of households reported ever accessing assistance of any kind from government sources.** Accessing assistance in the form of loans was strongly associated with higher risk of problem debt and overall vulnerability. Evidence suggests that there is an ‘inverse care’<sup>8</sup> law, with evidence that poor households, female headed households, and households with low levels of social capital and participation are less likely to receive assistance of any kind, less likely to receive assistance from government or through insurance schemes, and more likely to receive assistance in the form of loans. This study also confirms previous research on the widespread existence and activity of traditional social organizations as a significant source of social assistance, with respondents in 68% of communities reporting activities by traditional community social organizations.
5. **Fishing communities: Households in fishing communities experience significantly higher rates of vulnerability when compared with non-fishing communities (38% vs. 24%),** higher rates of food insecurity and poorer asset profiles, especially for livelihood assets. **Households in fishing communities also reported lower rates of both formal and informal access to social assistance compared to non-fishing communities** both overall (65%) and for all categories of assistance apart from fisheries-specific crisis. When we exclude other informal sources, we find that only 25% of households in fishing communities have ever had access to sources of assistance other than family, compared to nearly half of households in non-fishing communities. Additionally, households in fishing communities were less likely to receive assistance from government sources (10% vs. 27%) and assistance was more likely to be in the form of loans rather than cash, service or training (84% vs. 61%). In fishing communities, access to waterways and lack of control over markets and prices were significant factors described in relation to poverty. These findings confirm the need for urgent and targeted development for fishing communities, with a focus on improving livelihood assets, diversity, and access to social assistance.

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<sup>8</sup> The inverse care law, first described by Julian Tudor-Hart, describes the phenomenon whereby “The availability of good medical care tends to vary inversely with the need for it in the population served”  
<http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2871%2992410-X/abstract>

6. **Natural Resource Management:** despite clear linkages between poverty reduction and natural resource management, knowledge and practice of natural resource management remains low in rural communities. **Active engagement and participation in natural resource management activities was reported in less than one in five rural communities**, although awareness levels, particularly for forestry related management, were higher. Management of natural resources and disaster risk reduction were identified as key priority interventions for poverty reduction by 9% and 1% of the population respectively, indicating that although awareness and practice levels are low, there is considerable public support for such interventions. This suggests low levels of awareness for specific activities for natural resource management, but a higher degree of awareness that ‘something needs to be done’ regarding disaster risk reduction and resource management.
7. **Debt:** Debt and access to credit represent a major issue for rural households. More than one in every ten households spends at least 10% of their income on debt repayments, and this is linked to a reduction in investment in education and livelihoods. **Debt repayments consume nearly 12% of all household income, and over half of households are borrowing primarily from high risk lenders. Nearly 6% of households across the nation can be labelled as “high risk.”** When asked about priority interventions for poverty reduction, respondents most frequently prioritized low or no-interest loans. The selection of this response was strongly correlated with high levels of debt and high-risk debt. These findings should alert policy makers to the urgent need and demand for interventions which enable rural households to escape from ‘problem debt’ and reduce the debt burden.
8. **Social capital:** Rural communities demonstrate **high levels of social capital**, as evidenced by participation in community events and meetings and the **existence of active traditional social organizations in 63% of all communities**. The level of engagement at community level was strongly associated with having accessed social assistance from community organizations, suggesting a link between community participation and social capital. However, imbalances such as the relatively low levels of participation by women and persons with disabilities in community events and meetings demonstrate the need to address issues of gender inequality, as well as to purposefully build positive social capital within communities. The research findings highlight two issues. Firstly, there is a strong potential to draw on the capacity of traditional social organizations to play a role in the delivery and development of social assistance. Secondly, there is also a need to strengthen and preserve social capital, given the strong correlations between social capital, equity and poverty and vulnerability.
9. **Landlessness is associated with high degrees of household vulnerability, with landless households experiencing over twice the overall vulnerability rates of landed households and higher rates of vulnerability in all areas except livelihood diversity.** In the rural communities surveyed, nearly half (49%) of households reported that they did not own land, and just over half reported having planted any kind of crop the previous year. Of those who reported owning land, the mean acreage owned was just under 1 acre, the median acreage was 3 acres, and just under 6% of land-owning households owned more than 15 acres. As well as being associated with higher rates of vulnerability, landlessness is associated with higher rates of expenditure on debt and higher rates of disability. This research demonstrates the need to incorporate interventions which increase effective access to land as a key component of poverty reduction and rural development

10. **Livelihoods:** The majority of rural households are engaged in agriculture or related livelihoods. However, **in over on-third of households, the main income source was reported as casual labour, and more than half of all rural households have only one income source. Less 20% of households reported any regular income.** Livelihood diversity is strongly linked to higher economic status, lower poverty rates, higher levels of social capital, and higher rates of school attendance by children. Active participation in livelihoods by women, persons with disabilities, and older persons can increase livelihood diversity, reduce economic dependency, and reduce vulnerability. 13% of all rural households rely on only one income generating individual, and a further 14% have four or more economic dependents. Diversification of livelihoods is a key element of increasing resilience and reducing vulnerability in rural households.

## Introduction

National development aimed towards graduation from least developed status is measured by three things: per capita gross national income (GNI), human assets, and economic vulnerability to external shocks. The latter two are measured by two indices of structural impediments, namely the human assets index and the economic vulnerability index<sup>9</sup>. Alongside this, measures of poverty need to take into account dimensions of household vulnerability, resilience, and economic potential, in order to provide useful guidance on effective poverty reduction and rural development programmes. The Millennium Development Goals served to frame the issue of poverty in a more comparative, quantitative light, whereby measurements of poverty were crucial to setting and measuring progress against targets. This led to more intense debates on the nature of poverty itself and the question: “what exactly is being measured?” Like definitions of health, definitions of poverty are numerous and contested. Generally based around a concept of the “deprivation of both physical goods and services and socio-economic goods,”<sup>10</sup> quantitative measures of poverty have historically used income (income deficit), asset (asset deprivation), consumption (mostly food poverty), and power (powerlessness and social exclusion), or combinations of these and other factors, to measure poverty. Different definitions are rooted in different understandings or conceptualizations of poverty, relating further to different knowledge paradigms and ultimately, political priorities.

The intrinsic link between poverty and vulnerability means that the two need to be considered in tandem. Vulnerability can be measured in three main dimensions: exposure to/risk of adverse effects from natural disasters and economic shocks, resilience to the impact of such adverse events, and access to timely, effective, and appropriate assistance in order to reduce the medium and long-term impact of adverse events. When measured from a livelihood/economic perspective, key elements of vulnerability and resilience relate to the risk of loss of livelihoods to adverse events and the relative resilience to be able to rebuild livelihoods after the adverse events. The wider issue of access to assistance, broadly termed here social protection, also needs to be considered when examining the nature and dimensions of poverty and vulnerability.

In the Myanmar context, poverty has frequently been defined in narrow terms and based either on consumption, income, or asset profiles. Each of these contributes to an understanding of poverty, but the question remains: “Whose poverty are we measuring?” A key question in the debate on poverty measurement and poverty reduction is how poverty is defined and understood by poor communities, poor households, and those who live near to them. Thus, these current measures of poverty have not sufficiently captured the complexity and diversity of poverty in Myanmar, and poverty reduction approaches have not had the benefit of an adequate evidence base. One key objective of poverty measurement is “to make the poorest and most vulnerable visible in the arena of public policy,”<sup>11</sup> and the goal of research is to uncover, highlight, demonstrate, and explain the various dimensions and aspects of poverty and vulnerability to decision makers. In particular, measures of poverty in Myanmar need to recognize the heterogeneity of poverty: “The poor are not a homogeneous group, and sharp divisions exist amongst them by sex, region, occupation, land ownership, housing, education, access to infrastructure and even clothing.” This means

<sup>9</sup> <http://unohrlls.org/about-ldcs/criteria-for-ldcs/>

<sup>10</sup> Robison LJ, Siles ME, Schmid AA (2004) “Social Capital and Poverty Reduction: Towards a mature paradigm” in “Social Capital and poverty reduction in Latin America and the Caribbean: towards a new paradigm” ECLAC/Michigan State University

<sup>11</sup> Sen B and Begum S (2010) “Identifying and targeting the extreme poor: a methodology for rural Bangladesh” in Lawson D, Hulme D, Matin I and Moor K (2010) “What works for the poorest? Poverty reduction programmes for the world’s extreme poor.” Rugby: Practical Action

that although we may be able to classify ‘the poor’ by some measure, more nuanced measures are needed to differentiate between different types and dimensions of poverty. This differentiation will inform more targeted, effective, and evidence based policy decisions and poverty reduction strategies.

Hence, the objective of this research is not to attempt to redefine poverty, or even to advocate a certain approach to measuring poverty. Rather, the objective is to enrich the debate on poverty and poverty reduction by shedding light on the different dimensions of poverty. In order to accomplish this goal, the study utilizes a range of research approaches which draw on both ‘grassroots’ perspectives and more ‘top-down’ surveys, qualitative and quantitative tools, and numerically-driven indicators and public opinion surveys. Using these approaches, the research provides evidence which highlights the dimensions of rural poverty and vulnerability in a way which incorporates multiple perspectives and illustrates the diversity and complexity of rural poverty.

This study draws on data from two studies conducted in Myanmar in 2015. The first was a qualitative survey conducted in January 2015 using semi-structured interviews amongst rural households, exploring dimensions and perspectives on poverty as well as exploring opinions on causes of poverty and coping mechanisms. The second was a quantitative survey conducted in 150 communities in all States and regions of Myanmar in May 2015, utilizing insights gained from the qualitative survey. This study explored aspects of poverty and vulnerability at household level in a more structured way, as well as opinions and perspective of rural households on poverty and priorities for poverty reduction. The complete methodology is described in Chapter 19 (Methodology), and the survey instruments are reproduced in Appendix 1. Overall, the research posed three main sets of questions:

- What are the dimensions of poverty in rural Myanmar? Who is considered poor, and why? What are the criteria used at the community level to differentiate poor from non-poor?
- What are the causes of poverty as experienced by poor communities from their perspective? To what extent is poverty ‘caused’ by lack of assets, lack of ability to apply assets, or lack of a suitable environment in which to effectively apply assets and which can protect against shocks?
- What are the behavioural characteristics (including social protection options) for poor communities? What do poor people do to survive? What do they do to get out of poverty? What are the available safety nets? What do non-poor individuals and households do to try and prevent themselves from becoming poor?

Analysis of both phases of the research is presented in the following chapters. Chapter 1 summarizes the overall demographics of the sample. Chapter 2 describes findings relating to poverty, both in terms of the opinions and perspectives of rural households with regards to poverty and through a discussion of the implication of those findings when applied to rural household vulnerability and poverty data. We first asked: “How do rural communities conceptualize poverty?” Next, the diversity of opinions and perspectives on poverty are critically explored, as poverty is by no means a uniformly experienced state. This chapter also looks at the underlying causes of poverty as described in the research, including aspects of mindset change and proposed policy changes given priority by respondents. Chapter 3 uses the ‘Umbrella Model’, developed with funding from the Livelihood and Food Security Trust Fund (LIFT), as a conceptual framework to explore household vulnerability. Chapter 4 examines the behavioural trends and coping mechanisms of rural households, which then provides a wider framework for analyzing social protection needs and access to social protection. Chapter 5 looks at the differences in poverty, vulnerability and social

protection in fishing and non-fishing rural communities in Myanmar, comparing a large sample of fishing communities with a population weighted sample of communities where livelihoods other than fishing are present in the majority of households. Chapters 6-17 explore different dimensions of poverty, including debt, health, water and sanitation, livelihoods, natural resource management, disability, ageing, gender, land, education, food security, education, and social capital. Chapter 18 proposes some conclusions, and Chapter 19 provides the detailed methodology for the study and a bibliography of indicators and key terms.

#### A note on statistics

This research is designed to enable statistically significant comparisons of different populations and sub-groups, as well as to explore significant correlations and relationships between different social and economic phenomena. In order not to clutter the text, we have not included p-values, t-test values, or confidence interval notations in the text. However, significance testing was conducted for every comparison, and we have only highlighted findings which were demonstrated to be statistically significant. For comparison of proportions or percentages, we have used McNemar's test or Chi-squared test statistics and have reported a finding as significant only if the test statistic demonstrated a p-value of less than 0.01, indicating a 1% chance or less that the finding resulted from chance (and hence representing a finding which is likely to be reflective of the true state of the population). For comparison of averages we have used the t-test and again reported as significant only differences where the p-value is less than 0.01. For linear regression analysis, we have used either Pearson's co-efficient or Spearman's rank correlation, either simple or multi-factorial: we have reported the results as significant if the correlation co-efficient is significant to a p value of less than 0.01. For multiple regression analysis, ANOVA table values are quoted, and significant findings are reported if the p-values are less than 0.01 and the indicators concerned were shown to have a significant influence on the factor being tested.

### 1. Demographics: Characteristics of rural households

#### Chapter Summary

Based on the sample collected here, the typical rural household in Myanmar is male-headed, has between 4 and 5 household members, has at least one school aged child, and derives most of its income from agriculture or casual labour. These figures vary slightly between different States and regions, and they also differ from national census data in small but significant ways. This study showed a slightly higher average household size, a smaller proportion of female headed households, a lower rate of disability, and slightly lower proportions of household members over 60 and over 70 than did the census. Variations may be due to differences in approaches to recording household members.

Table 1.1 Comparison of key demographic data between research sample and national census

Demographic	Research Sample	Census (rural households)
Average household members	4.7	4.4
% Female headed	16.1%	22.2%
% over 60	7.73%	8.8%
% over 70	2.84%	3.6%
% PwD	2.9%*	4.6%*

\*Note: Research sample used self-declaration, whereas census used modified Washington criteria

### Sample population for qualitative and quantitative research

One of the key stages of effective social research is to establish the nature and identity of the people who are participating in the research. This allows the reader to determine the extent to which the respondents are ‘typical’ or where bias may be present by over-representation of certain groups or characteristics in the sample.

In this study, there were two sample populations. For the qualitative phase, randomly selected households were chosen from communities which were purposively selected in three States and regions: Pyapon Township in Ayearwaddy Region (fishing communities); Chaung-Oo Township in Sagaing Region (lowland farming communities); and Matupi Township in Chin State (upland farming communities). The overall sample demographics for the initial qualitative study are seen in Table 1.2.

Table 1.2 Respondent profile for qualitative sample

Respondents	%
Male	60%
Female	40%
Age Ranges (under 18)	1%
Age Ranges (18-35)	20%
Age Ranges (35-60)	69%
Age Ranges (over 60)	10%
<b>Main Occupations</b>	
Farmer	46%
Government Employee/ Community Health Worker	1.5%
Religious Leader	0.5%
Community Leader	3%
Dependent/no job	4%
Seller (Vegetable/ Grocery)	3.5%
Casual Labour	26%
Fishing	8%
Handmade Bamboo Craft	4%
Livestock	0.5%
Mason	3%

The second sample consisted of respondents from 40 randomly selected households in each of 10 communities, which were selected by stratified criteria from 4 townships in each of the 14 states and regions plus 3 townships from Nay Pyi Taw Council. The proposed sample thus consisted of 1,600 respondents from 40 communities in each state and region, for a total of circa 22,000 participants from 590 communities. The list of communities sampled is available in Appendix 1.

Overall, the completion rate for questionnaires received was over 98%, with a small number of questionnaires rejected from Yangon Region and Tanintharyi Region due to enumeration irregularities. Three townships did not return their questionnaires in time, so the overall completion rate against the projected questionnaire sample size was 92.2%.

The initial sample from states and regions was not weighted by population (see Chapter 19 for methodology); this was done in order to provide an adequate number of participants at state and regional levels to allow disaggregated analysis and to allow for significant representation of key rural livelihoods such as fisheries. However, using the latest census figures as a sampling frame, an adjusted sample was also calculated to reflect proportionality, using census figures for rural populations to determine the appropriate ratio for each State and Region (Table 1.3). At the time of writing, census data was unavailable for all townships, and hence township-adjusted weighting was not possible.

Table 1.3 Sample weighting for each State/Region based on census data for rural populations

State/Region	Proposed sample	Total Sample	Weighting factor <sup>12</sup>	Remarks
Kachin	1600	1200	0.5383	Late return one township
Kayah	1600	1584	0.0832	
Kayin	1600	1555	0.4647	
Chin	1600	1637	0.1424	
Sagaing	1600	1201	2.2599	Late return one township
Tanintharyi	1600	1385	0.4750	Exclusions due to enumerator errors
Bago	1600	1600	1.4584	
Magwe	1600	1601	1.2785	
Mandalay	1600	1596	1.5496	
Mon	1600	1455	0.6264	
Rakhine	1600	1583	0.6776	
Yangon	1600	1406	0.9622	Exclusions due to enumerator errors
Shan	1600	1176	2.3155	Late return one township
Ayearwaddy	1600	1604	2.0364	
Nay Pyi Taw	1200	1185	0.4074	
<b>Total</b>	<b>23,600</b>	<b>21,768</b>		

<sup>12</sup> Weighting factors are based on the state/region level population and not on actual township level data. Results may therefore be biased if sampled townships are found not to be representative of population by state/region (note by FAO technical editor).



Hence, the demographic profiles below are displayed as the demographics of the population-weighted sample as based on the weighting ratios outlined above.

Table 1.4 Demographics of population weighted sample By Union and State and Regions

	Average number household members	Average age of household members	% over 60	% over 70	% over 80	% over 90	under 1 children %	under 5 children %	% school aged children	Average children/ household in HH with children	% female headed household
Union	4.8	24.5	7.7%	2.8%	0.8%	0.1%	0.9%	9.9%	23.4%	2.1	16.1%
Kachin	5.3	25.8	6.1%	2.2%	0.7%	0.1%	1.6%	13.3%	28.5%	2.7	19.1%
Kayah	5.2	19.3	4.8%	1.8%	0.6%	0.1%	0.7%	12.2%	27.1%	2.6	16.7%
Kayin	4.7	20.9	6.6%	2.2%	0.6%	0.1%	1.5%	13.5%	26.7%	2.4	20.8%
Chin	5.6	17.5	5.4%	1.7%	0.5%	0.2%	1.1%	15.9%	29.4%	3.1	14.5%
Sagaing	5.7	28.6	7.6%	2.8%	0.8%	0.0%	1.6%	10.6%	23.2%	2.5	20.2%
Tanintharyi	4.8	24.5	7.8%	2.8%	0.9%	0.2%	0.8%	10.9%	26.3%	2.3	17.1%
Bago	4.4	23.0	9.4%	4.0%	1.3%	0.2%	0.6%	9.9%	23.4%	2.0	17.8%
Magwe	4.5	23.7	9.8%	4.3%	1.3%	0.1%	0.7%	7.5%	18.9%	1.8	19.2%
Mandalay	4.8	23.0	8.5%	3.1%	0.9%	0.1%	0.4%	7.8%	20.0%	1.9	15.0%
Mon	4.5	24.5	9.5%	3.8%	1.2%	0.1%	0.7%	11.5%	25.7%	2.2	19.0%
Rakhine	4.6	22.7	8.9%	3.7%	1.2%	0.2%	0.5%	8.9%	24.5%	2.0	12.8%
Yangon	4.3	25.8	7.2%	2.9%	0.6%	0.1%	0.6%	8.6%	21.9%	1.9	16.4%
Shan	4.8	28.5	6.1%	1.6%	0.4%	0.1%	0.5%	8.9%	24.4%	2.1	13.4%
Ayearwaddy	4.5	20.3	6.5%	2.0%	0.7%	0.1%	1.1%	11.5%	24.8%	2.1	11.4%
Nay Pyi Taw	4.8	29.0	7.6%	2.8%	0.8%	0.1%	1.2%	9.2%	22.7%	2.1	13.8%

Overall, the survey sampled recorded a slightly higher average household size than the census (4.7 vs. 4.4), but a smaller proportion of female headed households than the census (16.1 vs. 22.2 %), and slightly lower proportion of household members over 60 (7.73 vs. 8.8%) and over 70 (2.84 vs.

3.6%). The overall prevalence of disability in the survey (2.9%) was slightly higher than the National Disability Survey (2.23%)<sup>13</sup> but lower than the census (4.6%) and was based on self-disclosure. Variations in these numbers may be related to methodology. The census data relied on modified Washington criteria, and the disabled sample identified was composed of a higher number of older persons with age-related deterioration in function. The census data for self-reported disability, which was the method utilized in this sample, was around 2.5%. The National Disability Survey (2009-2010) used modified International Classification of Function (ICF) criteria, which is largely based on function, but modified according to underlying disability profile.

Table 1.5 Disability profiles of population weighted sample By Union and State and Regions

	households with older person	households with PwD Member	PwD	physical disability	hearing disability	sight disability	intellectual disability	children with disability	disabled working age adult	disabled older person (>70)
Union	16.2%	11.8%	2.9%	27.0%	35.4%	14.0%	23.7%	1.5%	58.9%	17.9%
Kachin	16.5%	44.6%	8.5%	15.1%	52.0%	19.1%	13.8%	2.2%	71.6%	35.4%
Kayah	11.2%	25.1%	4.8%	46.1%	20.7%	20.7%	12.3%	1.3%	63.7%	45.8%
Kayin	12.9%	11.9%	2.5%	30.3%	36.2%	8.6%	24.3%	1.4%	53.5%	17.9%
Chin	12.3%	24.1%	4.3%	29.9%	25.1%	20.0%	25.1%	1.2%	73.2%	21.9%
Sagaing	19.5%	11.0%	1.9%	23.5%	35.6%	9.1%	31.8%	1.4%	53.8%	11.5%
Tanintharyi	16.0%	13.9%	2.9%	32.6%	20.2%	16.6%	30.6%	1.7%	64.2%	11.3%
Bago	19.2%	18.6%	4.3%	18.8%	41.6%	12.4%	27.2%	1.8%	53.4%	28.3%
Magwe	22.6%	12.8%	2.8%	30.2%	29.3%	19.5%	21.0%	2.0%	52.2%	13.8%
Mandalay	18.4%	10.0%	2.1%	36.9%	30.6%	14.4%	18.1%	1.3%	52.5%	15.4%
Mon	20.3%	9.1%	2.0%	26.3%	27.1%	9.0%	37.6%	1.3%	54.9%	8.8%
Rakhine	20.1%	19.5%	4.2%	29.8%	35.9%	18.8%	15.5%	1.4%	66.3%	19.8%
Yangon	14.2%	10.0%	2.3%	31.2%	26.2%	14.9%	27.7%	1.5%	58.9%	14.1%
Shan	9.6%	8.3%	1.7%	31.6%	25.5%	15.3%	27.6%	1.1%	63.3%	11.5%
Ayearwaddy	10.4%	14.8%	3.3%	27.8%	40.1%	9.7%	22.4%	1.3%	60.8%	30.5%
Nay Pyi Taw	17.0%	8.2%	1.7%	38.1%	18.6%	10.3%	33.0%	1.7%	45.4%	10.0%

<sup>13</sup> [http://siteresources.worldbank.org/DISABILITY/Resources/Regions/East-Asia-Pacific/JICA\\_Myanmar.pdf](http://siteresources.worldbank.org/DISABILITY/Resources/Regions/East-Asia-Pacific/JICA_Myanmar.pdf)

The livelihood profiles in Table 1.6 are described as the main livelihood type from which a household derives the majority of its income. Casual labour is not sector-specific, and it may involve daily wage involvement in agriculture, fisheries, construction or other sectors.

Table 1.6 Livelihood profiles population weighted sample By Union and State and Regions

	Agriculture as main livelihood	Fisheries as main livelihood	Casual labour as main livelihood	Animal husbandry as main livelihood	Selling as main livelihood	Employment as main livelihood	Remittances as main income
Union	46.7%	4.3%	38.8%	3.9%	5.6%	0.1%	2.0%
Kachin	36.8%	0.4%	47.4%	3.8%	7.0%	0.3%	1.8%
Kayah	79.9%	0.3%	17.1%	0.4%	2.8%	0.0%	0.1%
Kayin	38.9%	2.4%	37.5%	5.1%	9.1%	0.1%	12.1%
Chin	55.9%	1.4%	24.2%	18.9%	2.6%	0.2%	5.7%
Sagaing	56.6%	1.1%	32.6%	5.3%	5.8%	0.1%	0.6%
Tanintharyi	31.5%	11.6%	36.7%	1.4%	12.6%	0.0%	4.1%
Bago	36.1%	0.5%	49.0%	3.3%	5.9%	0.1%	4.1%
Magwe	61.6%	0.6%	28.9%	6.7%	3.8%	0.0%	3.8%
Mandalay	52.3%	1.0%	37.1%	5.6%	4.8%	0.1%	0.3%
Mon	35.1%	3.0%	48.0%	2.1%	8.7%	0.0%	7.0%
Rakhine	34.2%	11.1%	51.2%	3.2%	4.2%	0.0%	0.7%
Yangon	25.0%	4.7%	52.8%	2.8%	8.4%	0.6%	0.8%
Shan	78.9%	2.7%	28.5%	1.5%	2.4%	0.0%	0.0%
Ayearwaddy	26.6%	14.7%	39.8%	2.7%	5.8%	0.1%	0.4%
Nay Pyi Taw	47.6%	0.3%	47.3%	4.0%	6.5%	0.2%	2.1%

## 2. Dimensions and Definitions of poverty

### Chapter Summary

Based on analysis of responses to open-ended questions from 160 respondents, and more structured questionnaires applied to circa 22,000 respondents from all states and regions of Myanmar, poverty in rural areas was described in four main ‘paradigms’ or ‘narratives’:

- the ‘livelihoods’ paradigm, which described criteria, characteristics and causes of poverty in terms of lack of livelihood opportunities, jobs, and where the lack of jobs resulted in either economic hardship or migration.
- the ‘income/debt’ paradigm, whereby criteria, causes and consequences of poverty were described in terms of having insufficient income, unsustainable debt levels and too many economic dependents (non-working household members).
- the ‘access’ paradigm, which described the criteria and nature of poverty in terms of lack of access to resources, skills, information, infrastructure, education, public services and markets.
- the ‘asset’ paradigm, which described poverty in terms of lack of assets, both at household level and community level, including public buildings.

Although the consistent majority of households conceptualized poverty primarily in terms of livelihoods, there was significant diversity in terms of the extent to which each paradigm was used to describe poverty. Firstly, at state and regional level, there was significant correlation between the actual household status and the descriptive paradigm, whereby households who had either no income sources or who were completely reliant on casual labour for income were more likely to select classification and causes of poverty which were in the livelihood paradigm. Differences were also noted at household level, whereby households which were landless were significantly more likely than landed households to tend towards the access paradigm, and households which were primarily dependent on casual labour were more likely to tend towards the livelihoods paradigm. Households whose main livelihood was agriculture were less likely to describe livelihood concerns than these casual labour households, and they were more likely to describe income and access issues. These variations illustrate that households conceptualize poverty in different ways, each of which is significantly influenced by their own situation and context.

Likewise, causes of poverty were described with responses which reflected five main paradigms: livelihood related problems (lack of livelihood, lack of skills), income and debt problems, external factors such as climate change, market fluctuation and lack of infrastructure, access issues such as lack of capital, lack of education and lack of land access, and mindset issues.

Overall, the main priority areas expressed to facilitate poverty reduction were improved credit access, improved livelihoods, and assistance for micro-enterprise. Interestingly, over one in five respondents also indicated the need for humanitarian assistance to be delivered more directly, rather than through humanitarian agencies. Not surprisingly, there was strong correlation seen between the dominant paradigms of poverty and chosen interventions in individual regions: high rates of debt-related vulnerability corresponded to a priority for interventions relating to credit, while higher rates of livelihood-related poverty corresponded expressions that livelihood opportunities should be prioritized.

### Background to measuring poverty

Recent surveys to determine the degree of poverty in Myanmar have utilized a variety of approaches, such as consumption,<sup>14,15</sup> asset profile,<sup>16</sup> and mixed methods,<sup>17</sup> each yielding different results. Although quantifiable, objective measures of poverty are necessary to formulate targets and gauge progress, poverty reduction programmes need also to acknowledge the multidimensionality of poverty both in terms of how it is measured and how it is addressed. “The need for rethinking of methods arises not due to any failure on the part of researchers analyzing poverty to develop their disciplinary toolkits. Rather, the need for some rethinking of methods arises from the complex, multidimensional nature of the concept of poverty itself.”<sup>18</sup> It is therefore important to be clear what we are measuring when we attempt to measure poverty, as “Different poverty definitions span different "spheres of concerns", not all of which may be easily measured....should the definition of poverty be confined to material aspects of life, or include social, cultural and political aspects?”<sup>19</sup>

Broadly accepted dimensions of poverty include resource insufficiency (commonly manifested in low incomes and expenditures), vulnerability to adverse shocks (such as illness, violence and loss of livelihood), and powerlessness in the political, social and economic life of one’s community and country<sup>20</sup> Even within these categories, there is also the need to determine the extent to which we are measuring the “space of utility or resources (broadly adopted by different versions of the monetary approach) or in terms of the freedom to live the life one values (as in the capabilities approach)”. We can conclude that due to this complexity and multi-dimensionality, “no single measure, no matter how cleverly designed nor carefully measured, could ever provide an encompassing treatment of so complex a concept.”<sup>21</sup> This means that we need to ensure that our measurement of poverty and the definition upon which it is based takes into account the different dimensions of poverty and uses a range of indicators to attempt to capture not simply the rate of poverty, but the scope and nature of poverty as experienced by the poor themselves. Hence, conceptualization of poverty should include the following aspects: definition of poverty (multi-dimensional) and its causes, identification of key behavioural characteristics of the poor, impact of poverty, access to resources and trends in the quality of services, and identification of mechanisms used by communities in coping with poverty challenges<sup>22</sup>.

<sup>14</sup> [http://www.mm.undp.org/content/myanmar/en/home/library/poverty/publication\\_1/](http://www.mm.undp.org/content/myanmar/en/home/library/poverty/publication_1/)

<sup>15</sup> Kim, M (2013) Rural Poverty Alleviation in Burma ’s Economic Strategy: A Comparative Evaluation of Alternative Interventions to Increase Rural Access to Capital  
[http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/6666/KimMariana\\_MP.pdf?sequence=1](http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/6666/KimMariana_MP.pdf?sequence=1)

<sup>16</sup> Shreiner M (2012) [http://www.microfinance.com/English/Papers/Scoring\\_Poverty\\_Myanmar\\_EN\\_2009.pdf](http://www.microfinance.com/English/Papers/Scoring_Poverty_Myanmar_EN_2009.pdf)

<sup>17</sup> WFP (2014)

[http://www.wfp.org/sites/default/files/FINAL%20Nutrition%20and%20Food%20Security%20Survey%20of%20the%20Dry%20Zone%20of%20Myanmar-%20June%20July%202013-%20100214\\_0.pdf](http://www.wfp.org/sites/default/files/FINAL%20Nutrition%20and%20Food%20Security%20Survey%20of%20the%20Dry%20Zone%20of%20Myanmar-%20June%20July%202013-%20100214_0.pdf)

<sup>18</sup> Barret CB (2005) “Mixing qualitative and quantitative methods in analyzing poverty dynamics” from “Quantitative and Qualitative Methods for Poverty Analysis” Sage/Cornell, <http://www.saga.cornell.edu/saga/q-qconf/proceed.pdf>

<sup>19</sup> Caterina Ruggeri Laderchi, Ruhi Saith and Frances Stewart (2003) Does it matter that we don't agree on the definition of poverty? A comparison of four approaches QEH Working Paper Number 107 University of Oxford

<sup>20</sup> World Bank (2001). World Development Report 2000-2001, Oxford: Oxford University Press.

<sup>21</sup> Barret CB (2005) “Mixing qualitative and quantitative methods in analyzing poverty dynamics”

<sup>22</sup> Njeru EHN (2005) Bridging the qualitative-quantitative methods in poverty analysis. Social Sector Program Coordinator, Institute of Policy Analysis and Research (IPAR) <http://www.saga.cornell.edu/saga/q-qconf/proceed.pdf>

Laderchi, Saith and Stewart (2003) pose eight questions/concerns when measuring poverty, including aspects of multi-dimensionality, the issue of measuring poverty over time, the universality of poverty definitions, and to what extent poverty measurements are subjective or objective<sup>23</sup>. Drawing on these questions, we can frame three main areas of inquiry to assess the usefulness of our current and proposed definitions and surveys of poverty:

- (1) What does it mean to be poor or vulnerable in this setting? How does this vary across individuals, households, and communities and over time? (i.e., are we asking the right questions of the right people at the right time?)
- (2) Are we using the correct variables and in the right manner? (i.e., which data collection method and what data type(s) will provide the best information to answer our questions?)
- (3) Are our methods robust (systematic) and relevant (suitable to the context)?

#### Dimensions of Poverty: Findings from Qualitative Survey

In considering the first set of questions, on dimensions of poverty, the assumption behind the questions is that residents of rural communities will be able to articulate opinions on the criteria which they utilize, either deliberately or sub-consciously, to differentiate poor households from non-poor households. The challenge of such questions is two-fold: firstly, although most people are familiar with the term and concept of poverty, evidence from contemporary research demonstrates a difficulty with properly conceptualizing poverty in specific terms. Hence, considerable time was taken by interviewers to facilitate adequate comprehension of the question in order to elicit responses from responders. A second difficulty was, perhaps not surprisingly, a conflation of three issues: criteria for poverty (characteristics), causes of poverty and consequences of poverty. Analyzing the responses, it was clear that this conflation reflects a reasonable articulation of the lived experience of poverty—namely, that the things which we use to describe the characteristics of poverty are frequently experienced as both causes, and consequences, and that likewise, cause and consequence are often cyclical (e.g. lack of education due to poverty, and poverty due to lack of education). This presents perhaps the first key finding of this stage relating to the dimensions of poverty; namely that the findings here suggest that attempts to articulate a clear set of ‘causes’ of poverty as distinct from ‘characteristics’ and consequences may be misleading.

From the initial open-ended, qualitative phase, descriptions of poverty largely fell into three main categories: economic characteristics relating to income and assets (including housing condition and land ownership), livelihoods, and socio-demographic characteristics such as female headed households, widows, economic dependents, and lack of education. Economic criteria were not surprisingly focused around ‘not enough income’ and ‘income less than expenditure’, as well as assets (‘no assets’, ‘no livelihood assets’, ‘poor quality housing’). A significant proportion of respondents considered households poor if they did not own land, or in some cases, if their land ownership was below a certain threshold (which varied from area to area). Households with non-working dependents such as older people or persons with disabilities, or households which were female-headed or with widows, were also more likely to be considered poor, again with a strong sense of conflation between the characteristics and causes of poverty.

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<sup>23</sup> Caterina Ruggeri Laderchi, Ruhi Saith and Frances Stewart (2003) Does it matter that we don't agree on the definition of poverty?

A number of respondents also described ‘lack of education’ as a criteria for poverty, and this descriptive had several different meanings. Firstly, it referred to the condition whereby people who are ‘uneducated’<sup>24</sup> tended to be poor and not to be able to support education for their children. It was also used to describe an ‘uneducated’ mindset, sometimes applied more collectively, whereby uneducated people tend to make worse choices and be more powerless: their lack of education contributes to a mindset and behaviour which contributes to their ongoing poverty. Of interest was the significant number of respondents in all areas who considered households with high levels of debt to be poor, which is again a conflation of cause, characteristic and consequence. In a context where high levels of debt are common, there was still a perception that certain levels of indebtedness, or certain patterns of indebtedness, are associated with being poor. Responding to open-ended questions conducted in the qualitative stage, most respondents were able to articulate a number of criteria which they utilized, albeit in a fairly informal and unsystematic way, to determine whether a households would be called ‘poor’. Deeper analysis of these responses suggested four main ‘paradigms’ or ‘narratives’ for poverty (where a ‘narrative’ is not a story, but a descriptive framework of ‘what it is’). The first was the ‘livelihoods’ paradigm, which described criteria, characteristics and causes of poverty in terms of lack of livelihood opportunities or jobs and where the lack of jobs resulted in either economic hardship or migration. The second paradigm is the ‘income/debt’ paradigm, whereby criteria, causes and consequences of poverty were described in terms of having insufficient income, unsustainable debt levels, and too many economic dependents (non-working household members). The third paradigm is the ‘access’ paradigm, which described the criteria and nature of poverty in terms of lack of access to resources, skills, information, infrastructure, education, public services and markets. The fourth paradigm is the ‘asset’ paradigm, which described poverty in terms of lack of assets, both at household level and community level, including public buildings. Most respondents had a bias towards one paradigm, but there was significant overlap between categories in the responses of individuals. Interestingly, there were no respondents in either survey who described poverty in terms of ‘lack of food,’ despite the questionnaires being administered in areas with known high levels of food poverty. This is likely to be for two reasons: 1) according to rural culture and norms, admitting any lack of food is shameful, and hence even direct questions are unlikely to elicit a positive response, and 2) the description of poverty in terms of ‘insufficient income’ is a strong proxy for food insecurity.

Based on these findings, the wider national survey was conducted to explore the following:

1. An overall sense of which dimensions of poverty are considered significant when considering whether or not a household is poor
2. An overall sense of which dimensions of poverty are considered significant when considering whether or not a community is poor
3. An understanding of which dimensions are considered significant by which people, or which type of households
4. Perceptions of the causes of poverty and proposed priority interventions for poverty reduction

#### Criteria for estimating poverty at household level

Respondents were interviewed about their perspectives on poverty, including the criteria they would use to classify poor households, criteria they would use to determine if a village or community was poor or not, and their opinions on the causes of poverty.

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<sup>24</sup> Typically defined by educational standard achieved



Respondents were asked what defines a household as poor and given the opportunity to respond in their own words. The enumerators recorded their responses, indicating if any of the responses were similar to the categories in the questionnaire (based on findings from the qualitative study). Any responses not similar to the pre-set choices were recorded as ‘other’ and notations made for future analysis. Each respondent could list up to three ‘choices’ to be recorded in the response matrix. Table 2.1 displays the proportion of participants’ responses by category.

Table 2.1 Criteria for poverty at household level from National Weighted data

Category	Lack of income	Lack of assets	Lack of livelihood asset	Dependents	Debt	Landlessness	Lack of education	Widow/woman headed household	Poor housing	Lack of own business or livelihood	Other
selected	83.7%	30%	32.1%	26.2%	23.4%	31.2%	25.1%	6.4%	5.7%	29.3%	2%

#### Criteria for estimating poverty at community level: analysis of qualitative and quantitative data

In terms of criteria for determining whether a community was considered poor or not, again there was significant conflation between characteristics, cause and consequence. Drawing first from responses from the qualitative survey, the responses were grouped into four main categories: infrastructure, livelihoods, resource management and social capital. Infrastructure issues which were considered to be relevant to determining poverty were roads and transportation (an almost universal response) and the quality of buildings (including public buildings such as schools, clinics, monasteries and other meeting places). A lack of essential services such as electricity, schools, healthcare and water were also considered to be important characteristics in defining poverty. In terms of livelihood issues, although general responses of ‘lack of livelihoods’ and ‘lack of work opportunities’ were cited, many of the responses were more specific.

A number of respondents alluded to the positive impact of local businessmen (bosses) who provided work and investment in their own communities and noted that poor communities typically lacked such individuals. Access to markets was highlighted as a concern: it referred not only to physical access, but also lacking information about prices and being disempowered through the process of the multiple ‘brokers’ and agents involved in selling produce. Villages where the majority of people engaged in casual work were more likely to be considered poor, and interestingly, although migration itself was not regarded as universally negative, most respondents considered communities where there was a high level of migration due to lack of local work opportunities to be poor. The lack of a long-term view in agricultural practice was mentioned in two elements: the negative impact of overuse of artificial fertilizers on long-term soil quality and, as mentioned by a number of respondents in Chin State, the positive benefits of long-term forest conservation (where certain specifics of slow-growing trees are associated with better soil maintenance). Villages which did not, or could not, pay attention to these things were considered poor, as were villages where access to natural resources such as farmland, rivers and lakes was restricted or insufficient in yield to adequately sustain livelihoods. The issue of ownership of waterways was raised in fishing communities in Ayearwaddy Region,



where private ownership of fishing rights requires users to pay in either cash or catch for fishing in certain waterways. This situation was associated with poverty by many respondents and expressed primarily as a symbol of powerlessness.

Almost all respondents expressed perspectives on a kind of 'poor mindset' characterized by having weak 'ethical character', 'lack of education' and 'lack of social character'. Whilst difficult to translate directly, the sentiments expressed can be summarized in three terms: firstly, fecklessness, (having no sense of responsibility; indifferent; lazy); secondly, uneducated-and thereby likely to continue in traditional farming practice and be resistant to change; thirdly, that such villages lack positive social capital in terms of organization, leadership, and a lack of flourishing social organizations. This last descriptive was very common, and most respondents expressed the notion that villages with flourishing social organizations were not poor. It is difficult to separate the cause and effect from this perspective: do wealthy villages draw more people with surplus time and money and thereby offer a more fertile ground for collective social action and social capital than in poor villages, where the daily struggle to survive negates any attempts at forming social organizations? Or does the existence of social organizations, which traditionally provide assistance to households for funerals and sometimes healthcare and care for the elderly, provide a safety net which enables poor households to cope, and hence leads to better organized, more cohesive and wealthier communities? Respondents also classified as poor communities which had overall 'poor health' and 'low education'. Respondents in rural communities across the country each selected up to three criteria by which they would ordinarily classify a poor community. The percentage of responses in each category is noted in Table 2.2.

Table 2.2 Criteria for community poverty from National Weighted data

	Roads	Lack of public service	Lack of livelihood	Lack of livelihood resources	Lack of knowledge and technology	Lack of employers in community	Low education standard	Low ethics moral standard	Poor quality buildings	Lack of employment opportunity	Lack of long-term agriculture	Lack of health knowledge	High % of casual labour	Lack of market link	Other
Union	45%	27%	44%	7%	7%	22%	40%	3%	8%	36%	3%	7%	38%	4%	1%
Kachin	37%	22%	52%	5%	5%	18%	61%	5%	8%	38%	3%	11%	30%	4%	1%
Kayah	34%	15%	24%	13%	20%	16%	65%	4%	9%	45%	4%	12%	37%	4%	0%
Kayin	40%	36%	41%	10%	9%	28%	30%	6%	8%	29%	3%	6%	31%	4%	0%
Chin	45%	24%	39%	8%	8%	16%	59%	3%	7%	33%	11%	15%	19%	8%	1%
Sagaing	48%	26%	36%	8%	10%	26%	41%	7%	7%	38%	5%	8%	34%	3%	1%
Tanintharyi	50%	18%	48%	5%	4%	28%	32%	4%	8%	37%	2%	6%	36%	4%	2%
Bago	42%	39%	49%	4%	3%	22%	28%	2%	6%	41%	3%	7%	47%	4%	1%
Magwe	41%	23%	42%	13%	9%	21%	47%	2%	9%	37%	5%	8%	36%	4%	2%
Mandalay	56%	26%	52%	4%	4%	22%	36%	1%	6%	35%	3%	3%	43%	4%	1%
Mon	39%	29%	51%	4%	4%	32%	30%	2%	10%	38%	1%	5%	36%	2%	0%
Rakhine	58%	23%	35%	5%	7%	21%	44%	3%	6%	33%	3%	8%	36%	5%	0%
Yangon	49%	20%	48%	3%	3%	24%	26%	1%	3%	40%	1%	5%	46%	2%	1%
Shan	36%	18%	34%	7%	6%	12%	63%	3%	7%	40%	2%	13%	34%	5%	4%
Ayearwaddy	44%	38%	50%	12%	8%	24%	31%	1%	14%	27%	1%	4%	36%	6%	1%
Nay Pyi Taw	28%	16%	53%	5%	3%	27%	40%	2%	15%	37%	1%	8%	57%	3%	1%

Poor village infrastructure (especially roads) was selected by nearly half of the respondents as a community poverty definition. Three of the next four most frequently selected criteria were livelihood related: high percentage of casual labour, lack of livelihoods, and lack of employment opportunities. Respondents tended to select criteria based on their own situations: respondents from households heavily reliant on casual labour were more likely to cite “high percentage of casual labour” as a dominant criteria for poverty.

#### [Causes of Poverty: analysis of qualitative and quantitative data](#)

During the 160 qualitative interviews conducted in Ayeawaddy Region, Sagaing Region and Chin State, the majority of respondents gave extensive and articulate comment. Initial analysis of this data showed responses which fell into three categories: lack of critical capacity for livelihood, external factors such as markets and climate change, and ‘mindset’ issues and attitudes.

The capacity issues cited as significant causes of poverty correspond roughly with categories drawn from the sustainable livelihoods framework: human capital (lack of skills, and access to skills, to enable alternative livelihood, particularly for young people, resulting in out-migration and a depletion of the rural labour force; high levels of non-working dependents), natural capital (lack of land assets (both ownership and access, a particular problem in some of the communities in Ayeawaddy and Sagaing Region, and poor quality of land, more a problem in Chin State)), financial capital (lack of investment capital and the a high proportion of income being spent on debt servicing due to high interest rates and lack of access to suitable credit instruments in rural communities), social capital (lack of education), and physical capital (poor transportation infrastructure resulting in inefficient market linkages and hence non-viable rural livelihoods). One of the most commonly quoted responses given as a cause of poverty was ‘lack of own business,’ whereby those who had more economic control over their means of livelihood were less likely to be poor. This entails issues relating to human capital and perhaps also political capital, through relationship to economic empowerment and control of key economic processes.

External factors cited as causes of poverty include market factors such as price instability, both for buying and selling commodities, and market instability. Climate change and natural disasters were also commonly cited reasons for poverty: these are linked to floods, drought and crop failure in rural areas. Although the understanding of climate change is relatively local, there is a significant awareness of the extent of and nature of changing weather patterns and their impact on rural livelihoods.

Finally, mindset and morality were commonly listed as reasons for poverty. The literal translation of ‘wrong mindset’ includes three aspects: a stubborn unwillingness to consider alternatives to centuries-old agricultural practices, a lack of long-term planning, and an unwillingness to embrace more co-operative, and potentially more efficient, approaches to agriculture. The moral and ethical issues linked to poverty referred to issues such as “lack of moral discipline” leading to gambling and alcohol abuse, and in turn to poverty, as well as the more general ‘fecklessness’ described in earlier sections.

In fishing communities, access to waterways and lack of control over markets and prices were significant factors described in relation to poverty. Although land ownership issues are admittedly complex, the private control of rivers and creeks is a more significant concern to freshwater fishing communities, where fees for fishing rights are levied in some areas.

In an attempt to differentiate between the ‘root’ and ‘long-term’ causes of poverty and the current dynamics of poverty, participants were also asked why they thought that poverty would increase. This question also

sheds light on understandings of the barriers to escaping from poverty. One common response was that debt repayments take up so much income that there is nothing left to invest in education, livelihood, and social development: this means that livelihood is a means of survival only. Other responses were grouped into four categories: human capital, mindset issues, government intervention, and climate change.

Human capital concerns were represented through discussion of the lack of access to general education being linked with worsening poverty, as was a lack of access to technical knowledge for sustainable livelihoods and agriculture. Many respondents expressed a desire to embrace new forms of agriculture but a lack of access to technical knowledge. Mindset issues (which will be explored more fully in the next section) included not only issues of ‘moral discipline,’ but also the observation that a lack of exposure to the wider world (including other areas of Myanmar) had contributed to a limited perspective and an unwillingness to embrace new ideas. Communities where members had migrated to other areas or countries and then returned reported the positive impact of those individuals’ experiences on widening the perspective of other community members and ‘nudging’ change.

Government intervention was linked with worsening poverty in three ways. Firstly, the lack of access to markets was linked to both poor transport infrastructure and the perception that agricultural export markets are controlled by a small number of ‘cronies’: as such, the producers are disempowered. This is perceived to be a weakness in government policy. Secondly, financial policy leading to inflation has increased the price of basic commodities and was linked with worsening poverty. Thirdly, there were prevalent reports of ‘lack of government support’. This typically referred to the need for more active involvement from government to address agricultural livelihoods concerns (such as access to credit, crop insurance and land tenure issues), and to enable access to technical knowledge to improve the efficiency of production and crop diversification. Climate change was also again noted as a common reason for worsening poverty.

In summary, reasons for worsening poverty given in qualitative surveys included an unsustainable debt burden, the lack of human capital, mindset issues, government policies (rural development, macro-economic policy, market management, water rights and land tenure management, and investment in agricultural technology and infrastructure), and climate change.

When these questions about why people become poor were analyzed quantitatively in the wider population, the responses reflected five main paradigms: livelihood related problems (lack of livelihood, lack of skills), income and debt problems, external factors (climate change and disasters, market fluctuation, and lack of infrastructure), access issues (lack of capital, lack of education, and lack of access to land and water resources), and mindset issues. Percentage responses by category are noted in Table 2.3.

Table 2.3 Causes of Poverty, from National weighted sample

	Lack of own livelihood	Lack of capital	Income less than expenditure	Debt is too much	Wrong mindset	Market fluctuation	Low education level	Natural disaster and climate change	Lack of sustainable agriculture	Lack of access to land	Lack of livelihood skills	Lack of basic infrastructure and	Lack of moral and ethics	Too many dependents	Unstable markets	Other	Low price of produce due to climate change	Loss of equipment for livelihoods
Union	67%	65%	60%	14%	3%	9%	17%	6%	3%	2%	14%	11%	1%	14%	2%	1%	7%	1%
Kachin	63%	72%	54%	12%	7%	9%	28%	2%	4%	3%	22%	9%	1%	7%	3%	2%	3%	1%
Kayah	23%	69%	48%	23%	11%	6%	32%	4%	2%	6%	12%	14%	1%	17%	1%	0%	25%	0%
Kayin	68%	58%	44%	15%	10%	6%	15%	4%	4%	3%	27%	7%	2%	17%	2%	0%	2%	0%
Chin	59%	76%	51%	14%	10%	8%	27%	5%	5%	2%	10%	10%	1%	5%	2%	4%	5%	2%
Sagaing	71%	50%	57%	11%	3%	6%	16%	8%	3%	4%	17%	15%	3%	20%	2%	2%	8%	1%
Tanintharyi	61%	53%	56%	20%	6%	8%	19%	6%	4%	2%	12%	17%	1%	12%	2%	1%	5%	0%
Bago	68%	69%	57%	16%	4%	10%	13%	5%	4%	2%	14%	14%	1%	14%	2%	0%	4%	0%
Magwe	53%	62%	62%	21%	3%	11%	17%	8%	2%	4%	8%	10%	1%	13%	3%	1%	19%	0%
Mandalay	58%	70%	59%	12%	2%	10%	17%	15%	1%	2%	9%	15%	0%	8%	2%	0%	17%	1%
Mon	66%	68%	68%	13%	4%	12%	14%	3%	3%	1%	18%	6%	1%	13%	2%	0%	3%	0%
Rakhine	60%	60%	49%	15%	6%	3%	31%	10%	5%	2%	11%	20%	1%	9%	0%	0%	7%	1%
Yangon	73%	64%	62%	18%	1%	5%	10%	2%	0%	1%	9%	11%	0%	20%	0%	0%	2%	0%
Shan	64%	66%	65%	12%	3%	14%	27%	2%	1%	1%	12%	4%	1%	14%	5%	2%	2%	0%
Ayearwaddy	83%	72%	66%	12%	2%	7%	11%	0%	3%	1%	19%	5%	0%	12%	1%	0%	1%	0%
Nay Pyi Taw	63%	68%	73%	11%	2%	5%	17%	8%	1%	2%	6%	12%	1%	10%	2%	0%	18%	0%

### Mindset issues

Various political leaders in recent times have talked about the need for ‘mindset change’ in order to achieve national development, although there has been little substance underlying this broad assertion. Rural residents were asked about this concern, and they generally accepted that this was a valid idea. It was noted that mindset change requires three elements: education and knowledge, embracing long-term thinking and change, and changes to governance. Most respondents expressed the need for better education and more access to general knowledge, as well as access to different livelihood techniques and technologies, weather information, and market prices. Most respondents expressed the need to change strongly embedded habits of planting the same crops in the same manner and being resistant to change; they expressed the need to embrace more long-term planning in terms of agricultural practice and natural resource management, as well. Many respondents also expressed that a change in mindset was needed amongst those who manage and govern community affairs, both locally and regionally. Wider political instability was perceived to lead to poverty, and a need was expressed for more transparent government and administration, more competent leadership at the community level, and better leadership to enable stronger unity and co-operation at the community level.

When asked what could be done to help change peoples’ mindsets, respondents had many suggestions. These included improvements to education, provision of training and awareness events to broaden peoples’ perspectives, increased access to information on weather and markets, and improved access to livelihood related knowledge. Suggestions were also given to improve transportation links to reduce isolation, to provide more effective and transparent government administration and stable policies, and to increase all-around development at the village level (such as providing rural electrification, enabling people to read and watch television at night and improving general knowledge). Of note, an innovative suggestion was made to conduct ‘mentoring’ for village leaders, whereby experienced community leaders assist new community leaders to develop the skills needed to promote unity and strong social cohesion at village level.

### Rural poverty paradigms

If we look at the trend of responses from the national survey to the questions on classification of poverty for households and communities, we can construct ‘paradigms’ for how poverty is conceptualized by households in rural communities, and based on this, begin to look at how different households view poverty with different paradigms. Initially, we classify responses into four main categories, based loosely on the categories emerging from the qualitative phase: livelihoods, income, assets, and access. A fifth category of ‘others’ is also included. Equitable probability of inclusion for responses from different categories in each of the three sections (household characteristics, community characteristics and causes of poverty) was ensured. Then, we add up the total number of choices in each category according to the wider paradigmatic framework, and plot them in a radar plot (Figure 2.4). We can also calculate the percentages of all responses which fall into each of the five categories. The ‘framework bias’ looks like that in Table 2.5, showing the proportion of all responses to the questions on criteria for poverty at household and community level according to each category.

Overall, analysis of the national sample showed similarities to the qualitative results, with over half of respondents describing poverty primarily using the ‘livelihoods’ paradigm. However, as in the qualitative sample, livelihood-related issues were a dominant, though not exclusive paradigm: many individuals also articulated other issues. Livelihoods was the dominant paradigm for nearly 60% of households.

Figure 2.4 Poverty dimension paradigms



Table 2.5 Cumulative selection of criteria for poverty paradigms as percentage of total opinions

	Livelihood paradigm	Income paradigm	Access paradigm	Asset paradigm	Other paradigm
Union	30.9%	23.1%	18.1%	20.9%	7.0%
Kachin	30.2%	19.8%	21.3%	22.9%	5.9%
Kayah	24.2%	24.8%	23.7%	21.6%	5.7%
Kayin	31.4%	21.6%	18.7%	20.7%	7.6%
Chin	25.7%	21.4%	23.8%	23.3%	5.8%
Sagaing	33.7%	22.3%	18.6%	19.0%	6.4%
Tanintharyi	33.1%	22.9%	16.7%	20.7%	6.7%
Bago	35.0%	23.2%	16.3%	19.0%	6.5%
Magwe	27.7%	25.2%	18.4%	22.6%	6.2%
Mandalay	29.5%	23.4%	17.9%	22.8%	6.4%
Mon	32.3%	22.5%	15.3%	20.7%	9.1%
Rakhine	28.8%	23.8%	21.6%	19.4%	6.4%
Yangon	35.9%	25.3%	14.0%	16.2%	8.6%
Shan	25.3%	23.2%	21.0%	20.6%	9.9%
Ayearwaddy	31.3%	21.9%	17.6%	23.2%	6.0%
Nay Pyi Taw	33.6%	23.8%	13.9%	23.5%	5.2%

The majority of respondents described poverty in terms most closely fitted with the livelihood paradigm, followed by the income/debt paradigm, the assets paradigm, and the access paradigm. However, as noted above, many of those whose responses tended to the livelihood category also included responses which were linked to income, debt, assets and access.

Overall, male and female respondents did not greatly differ in their descriptive paradigms. However, households which were landless were significantly more likely than landed households to tend towards the access paradigm, and households which were primarily dependent on casual labour were more likely to

tend towards the livelihoods paradigm. Households whose main livelihood was agriculture were less likely to describe livelihood concerns than these casual labour households, and they were more likely to describe income and access issues. These variations (shown in Table 2.6) illustrate that households conceptualize poverty in different ways, each of which is significantly influenced by their own situation and context.

Table 2.6 percentage of choices, by livelihood type

	Livelihood	Income	Access	Asset	Other
Agriculture main	28.71%	24.75%	21.03%	20.15%	5.36%
Casual labour main	33.33%	22.49%	16.38%	21.35%	6.44%

Applying these criteria to the measurement of poverty, we can predict that measurements using different criteria will identify different populations, and different percentages of the population. As an illustration, the proportions of households which would be considered poor according to three of these paradigms were calculated from survey data. For livelihood poverty, we classified as poor all households who have no income source or whose income is entirely derived from casual labour. For income poverty, we classified as poor all households who spend more than 70% of their income on food and debt and who do not regularly invest in savings. For asset poverty, we classified as poor all households who are in the lowest quintile for asset value and have no valuable assets such as gold, cars or large vehicles.

Using these, we can see that, applied to different parts of the country, the populations and proportions of the population identified will be different (Table 2.7). For example, using the livelihood paradigm will classify as poor a much higher percentage of households in Yangon than it would in Kayah State; but applying the income criteria would identify a higher proportion as poor in Kayah than it would in Yangon. Based on these criteria, we can see that each highlights a different percentage of the population, with considerable variation between and within State and Regions. It is apparent that the use of different criteria will capture different dimensions of poverty, highlight different profiles of poverty, and produce different percentages of poverty in varying states and regions. Interestingly, there was strong correlation between choosing responses in the livelihood paradigm and the likelihood of being classified as poor in the livelihood category at both household and state and regional level. In other words, in states and regions where there were a higher proportion of households reliant on casual labour or with a lack of income sources, there was a higher percentage of people whose responses were classified in the 'livelihoods' paradigm. This suggests that people who have no livelihoods or who are spending a large proportion of the income on food and debt are more likely to conceptualize poverty in terms of their own experiences of joblessness or lack of income.

Table 2.7 Percentage of households within different poverty paradigms, by state and region

	No livelihood	Spend more than 70% on food and debt	Assets in lowest quintile
Union	17.8%	9.2%	16.3%
Kachin	18.4%	6.3%	18.7%
Kayah	5.4%	20.3%	5.3%
Kayin	16.9%	11.2%	10.6%
Chin	6.3%	15.8%	13.2%
Sagaing	14.9%	7.0%	5.8%



Tanintharyi	18.3%	6.1%	17.0%
Bago	22.4%	2.8%	19.4%
Magwe	15.1%	18.1%	14.1%
Mandalay	19.9%	6.5%	16.2%
Mon	26.4%	3.2%	14.7%
Rakhine	23.0%	15.0%	23.9%
Yangon	31.1%	14.6%	18.9%
Shan	10.3%	6.0%	9.6%
Ayearwaddy	14.5%	10.4%	28.0%
Nay Pyi Taw	20.8%	21.0%	16.7%

### Poverty Reduction: Public Opinion

In the initial qualitative phase, we asked respondents to consider what should be done in order to reduce poverty, looking initially at priority interventions at household and community levels. Responses can be grouped into three main headings: supporting livelihood development, strengthening social protection, and developing communities.

As part of supporting livelihood development, the need for greater access to appropriate credit was an almost universal response given by participants. They described the need to be able to access credit instruments which provided lower interest rates and flexible repayment schedules. Currently in some areas, the only credit available requires monthly repayment; household income is irregular, however, dependent on the sales of crops or animals on a more seasonal basis. The need for support to establish small businesses was also noted, as was the need to strengthen links to markets (by increasing access to information and enabling more direct market access, rather than going through the brokers and cartels). There was also an expressed need to provide youth with the skills and access to livelihood programmes linked to the rural economy, in order to prevent massive out-migration of the rural labour force and to reduce the need to engage in dangerous and unsustainable livelihood practices.

The need to strengthen social protection was frequently reported: this included the need to support vulnerable groups such as older persons and persons with disabilities, to improve access to and the quality of health services and health information, and to establish a system for a minimal household income. Recognizing the value of community organizations, many respondents also requested that assistance be given to strengthening these groups so that they can provide more effective and comprehensive social assistance. Overall village development was linked with the alleviation of household poverty. Surprisingly, the element of this development most frequently noted was not one of building infrastructure such as electricity and roads, but the need to promote a better 'mindset' at the community level. This, in turn, would reduce the prevalence of negative behaviours such as gambling and alcohol abuse and promote unity and harmony at the community level. Several respondents also expressed strong opinions that international assistance should go directly to communities, rather than through development agencies. They feel that this would enable a more efficient use of resources and a better matching of community needs with the assistance provided. These views were surprising considering that the communities where they were expressed had had no previous exposure to international assistance.

When asked who bears the responsibility for and their role(s) in reducing poverty, respondents identified five different categories: Individuals, the community, the state/regional government, the national government, and non-governmental organizations (NGOs) and international organizations. Responsibilities at the individual level focused primarily on changing one's mindset: To develop a long-term view and willingness to accept change; to access more training and skills, and; to develop more financial discipline to save and invest money. At the community level, expressed responsibilities included: Strengthening linkages with government and government programmes in order to provide community members with improved access to government assistance (such as Ever Green and agricultural loans), developing village infrastructures, taking responsibility at a community level for the protection of natural resources, and engaging in disaster risk reduction and mitigation. Key responsibilities identified at the state/regional government level included rural development, effective local government, loan programmes, the provision of local market-relevant vocational training, job creation and promotion, and the effective use of technology for sustainable use of local resources.

At the national level, responsibilities identified included broader job creation, more effective and diversified loan programmes, timely and flexible agriculture and livelihood loans, and support for livestock, fisheries and agriculture development. Also mentioned were effective and transparent government, an investment in youth capacity building for the next generation, investment for small businesses at the household level, and nationally owned factories (such as rice mills and similar products) which are less expensive than those privately owned. Activities considered to be the responsibility of NGOs or international organizations included livelihood training, investment funds for small business, and the provision of information about poverty reduction. From this initial qualitative research, a list of governmental and non-governmental poverty reduction interventions was designed. Enumerators then asked respondents in the national survey to prioritize these interventions, recording up to three selections per participant. Responses which did not correspond to the choices on the list were recorded as 'other' and then reclassified at data entry.

	Low/no interest loans	Education opportunity	Natural resource management	Livelihood for youth	Minimum basic household income	Micro-enterprise	Market development	Direct humanitarian assistance	Community based organizations	Basic health services	Protection for vulnerable groups	Mindset change	Policy for agriculture and fisheries	Improve technical capacity	Improve basic infrastructure and roads	DRR	Loans for agriculture	Support for livestock and fisheries	State-owned processing factories	Training for small business	Other
Union	75%	33%	9%	47%	6%	36%	5%	21%	4%	9%	4%	2%	1%	2%	16%	1%	10%	9%	3%	1%	1%
Kachin	75%	42%	11%	59%	6%	29%	6%	20%	5%	12%	6%	3%	2%	2%	6%	1%	9%	7%	2%	1%	1%
Kayah	57%	28%	19%	56%	10%	17%	3%	24%	3%	12%	4%	4%	2%	3%	23%	2%	15%	16%	2%	0%	0%
Kayin	57%	32%	16%	47%	7%	29%	10%	13%	4%	8%	7%	3%	1%	3%	8%	1%	13%	11%	6%	2%	0%
Chin	66%	43%	17%	35%	6%	26%	7%	27%	4%	13%	3%	3%	3%	4%	14%	2%	7%	11%	2%	2%	3%
Sagaing	66%	23%	7%	48%	5%	36%	5%	30%	7%	10%	4%	3%	1%	1%	21%	1%	15%	11%	1%	1%	2%
Tanintharyi	73%	26%	11%	39%	6%	38%	8%	21%	9%	9%	3%	1%	2%	2%	17%	1%	7%	8%	2%	1%	1%
Bago	82%	17%	12%	48%	6%	38%	5%	25%	3%	8%	5%	2%	1%	1%	13%	1%	13%	9%	5%	1%	0%
Magwe	72%	36%	13%	49%	10%	28%	4%	18%	3%	14%	4%	1%	0%	1%	17%	0%	11%	9%	3%	0%	1%
Mandalay	87%	29%	9%	37%	2%	47%	2%	12%	8%	10%	2%	1%	1%	1%	21%	0%	10%	8%	6%	0%	0%

Mon	74	42	14	60	8%	27	4%	19	4	7%	4	2	1	2	8%	0	3%	6%	1	1	0
	%	%	%	%		%		%	%		%	%	%	%		%		%	%	%	%
Rakhine	64	30	7%	42	8%	31	4%	23	4	7%	4	3	2	4	16	2	10	13	4	0	0
	%	%		%		%		%	%		%	%	%	%	%	%	%	%	%	%	%
Yangon	81	26	9%	56	4%	45	2%	11	1	6%	2	0	1	0	23	0	3%	2%	7	0	0
	%	%		%		%		%	%		%	%	%	%	%	%			%	%	%
Shan	78	41	9%	41	8%	29	6%	29	4	8%	1	1	1	2	9%	1	5%	8%	1	2	3
	%	%		%		%		%	%		%	%	%	%		%		%	%	%	%
Ayeyarwadd	75	44	5%	47	5%	42	4%	17	2	9%	8	1	1	1	16	0	10	8%	1	0	0
	%	%		%		%		%	%		%	%	%	%	%	%	%		%	%	%
Nay Pyi	72	43	6%	67	5%	31	4%	17	2	6%	3	2	1	1	13	0	12	6%	3	1	0
	%	%		%		%		%	%		%	%	%	%	%	%	%		%	%	%
Taw																					

Table 2.8 Public opinion on poverty reduction priorities, percentage of respondents who selected

The percentages shown in Table 2.8 are therefore the percentage of respondents who selected a particular choice, rather than a proportion of all the responses. Overall, the main priority areas expressed to facilitate poverty reduction were improved credit access, improved livelihoods, and assistance for micro-enterprise. Interestingly, over one in five respondents also indicated the need for humanitarian assistance to be delivered more directly, rather than through humanitarian and development agencies. Not surprisingly, there was strong correlation seen between the dominant paradigms of poverty and chosen interventions in individual regions: high rates of debt-related vulnerability corresponded to a priority for interventions relating to credit, while higher rates of livelihood-related poverty corresponded expressions that livelihood opportunities should be prioritized.

### 3. Vulnerability

#### Chapter Summary

The umbrella model to measure household vulnerability has been applied in rural communities in Myanmar since 2010, measuring vulnerability using ten dimensions or factors: economic dependency, debt profile, income/expenditure profile, assets, food security, livelihood diversity, water/sanitation, social participation and decision making (participation in community decision making processes). Applied to this sample, the overall population classified as vulnerable is 24.25%, with significant variations between states and regions. There are higher overall rates of vulnerability in Chin State (43.6%), Rakhine State (43.3%) Bago Region (35.6%) and Kachin State (33.4%). In Chin State, a significantly higher than average proportion of households are categorized as vulnerable in the food security and health sectors, whereas in Rakhine, the key drivers are water and sanitation issues, food security, and disempowerment. In Kachin State, the areas sampled had higher rates of economic dependency, food insecurity, and health related vulnerability; in Bago, a key issue again was water and sanitation. Of note, although Shan State had much lower overall vulnerability levels, there were still significant proportions of the population who had suboptimal livelihood diversity. Variations in the proportion of income from casual labour, frequency of rice consumption, and proportion of expenditure on debt are all strongly associated with changes in vulnerability category. Households reliant on casual labour are twice as likely to be classified as vulnerable compared to other households, and female headed households are 50% more likely to be classified as vulnerable than are male headed households.

The vulnerability model allows for a more nuanced approach to identifying households which are at risk of deleterious effects of natural disasters and economic shocks, and the vulnerability model is strongly correlated with poverty. Not surprisingly, given the construction of the model, the vulnerability factors most strongly correlated with poverty are insufficient income and lack of assets.

#### Vulnerability Concepts

One of the key objectives of rural development is the emergence of resilient communities and households. Hence, vulnerability is a key concept for rural development, since the identification of vulnerabilities allows them to be reduced or mitigated and results in more resilience. An appropriate understanding of vulnerability is framed around five key questions:

- Who is vulnerable?
- To what are they vulnerable?
- Why are they vulnerable?
- What can be done to reduce their vulnerability?
- What is the likely impact of an intervention on their vulnerability?

The concept of ‘vulnerable groups’ has been applied recently to both relief and development programmes in an attempt to ensure that those most at risk are enabled to obtain necessary assistance. This approach is typically based around fairly fixed categories of ‘vulnerable groups’ such as women headed households, persons with disabilities, and older persons; socio-economic criteria such as land tenure or income are also sometimes used to classify people as vulnerable. On the basis of their classification as ‘vulnerable’ or ‘not’,

a person or household may be entitled to some form of assistance. This approach assumes that all people with certain demographic criteria (persons with disabilities or older persons, for example) are vulnerable, and would therefore need assistance. Whilst it may be true that certain groups of people are more likely to be vulnerable to certain hazards than others, it is also true that all individuals in those groups may not be vulnerable. Furthermore, those who are vulnerable are probably not vulnerable in the same ways or for the same reasons. This current practice of assigning people to ‘vulnerable groups’ and assuming that their members are homogenous and thus equally vulnerable frequently fails to adequately differentiate between those who are truly vulnerable and those who are not. Moreover, by failing to make detailed analysis of the causes and contributors to vulnerability at a household level, the most effective interventions are not designed. Inevitably, being classified as ‘vulnerable’ is also a relative term: it refers not to an absolute, fixed state, but one which is judged in comparison with others and is subject to change. This further highlights the need for an approach to measuring vulnerability which is not based on fixed demographic characteristics (otherwise, all persons with disabilities and all older people will always be vulnerable, no matter what). Vulnerability needs to be considered in relative terms, and in relation to a certain set of probable threats.

Having established an understanding of vulnerability and the challenges of measuring it in a manner which is based not on fixed demographic characteristics, but is consistent with a rights-based approach, we can describe a new approach to measuring vulnerability. This approach has the potential to measure aspects of household vulnerability in a more detailed way than is usually done, potentially allowing us to understand more about why THIS household is more vulnerable than THAT household to a certain type of hazard. Understanding this type of vulnerability profile then allows us to consider what needs to be done to reduce the vulnerability of a certain household, rather than simply classifying the household as vulnerable or not.

In general, poverty is linked to vulnerability to natural disasters, economic shocks, and other hazards in a cyclical fashion: poorer households are more vulnerable to both exposure to and negative impact from shocks, and increased exposure and impact contribute to chronic poverty. Hence, any understanding of poverty must also include an understanding of vulnerability. It may be that some households can be considered ‘poor’ but not necessarily vulnerable, and likewise, some vulnerable households may not necessarily be poor. The overall advantage of measuring vulnerability is that it can help to identify not only households which are already poor, but those that are at risk of becoming poor. This identification of ‘near-poor’ households with vulnerabilities to specific hazards can be of great benefit to poverty reduction programmes. To what extent there is overlap between households classified as poor and households classified as vulnerable is a critical question, and it will be explored further as we consider a specific tool to measure vulnerability.

#### [Umbrella Model to measure household livelihood vulnerability](#)

The umbrella model for measuring household livelihood vulnerability was developed in 2010 by the Livelihood and Food Security Trust Fund (LIFT), in an attempt to introduce more rigorous and measurable selection criteria which ensured that interventions reached those who really needed them. The model is so called because of its use of a user-friendly umbrella style radar plot to illustrate the relative degree of ‘protection’ which a household has against shocks and hazards. The tool draws on Moser’s ‘Asset Vulnerability Framework’, ‘which measures household economic vulnerability according to ten factors (indebtedness, productive income, livelihood diversity, dependency ratio, asset profile, water and sanitation, food security, health, social capital and decision making power), and was developed according to a

livelihood and vulnerability framework developed by the LIFT (Myanmar)<sup>25</sup>. The full list of factors and linked indicators is included as Table 3.1.

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<sup>25</sup> Griffiths M, Woods L (2009) Vulnerability Analysis: the Building Blocks for Successful Livelihood Intervention. UNOPS: Yangon



Table 3.1: Vulnerability factors, contributions to vulnerability, indicators and sources

Factor	Contribution to vulnerability	Indicator	Source and validation
Indebtedness	High levels of non-productive debt put livelihood assets at risk (collateral); repayments may reduce essential expenditure; high levels of existing debt can reduce ability to access additional credit.	Debt repayment as proportion of income Repayment: income ratio >30% is usually risky	World Bank 1997 <sup>26</sup> , adapted
Income	Low or negative income: expenditure ratio can lead to reduction in essential spending, increase risk of debt or negative coping responses. High proportion of income spent on non-productive items can lead to under-investment in livelihood, leading to higher risk.	Proportion of income expended on non-productive items (food, health, rent, fines)	World Bank 1997, adapted
Assets	Ownership of livelihood assets, convertible assets or crucially, land (in the form of usage right) can provide short term protection against shocks.	Moser's asset vulnerability Framework, adapted for survey by MMRD <sup>27</sup>	Moser (1998) <sup>28</sup>
Food Security	Current and prior experience of food insecurity is strongly linked with increased vulnerability to future food insecurity. Likewise, food insecurity leading to malnutrition can affect human capital, and put livelihoods at risk.	Consumption index	UNDP <sup>29</sup> , modified
Livelihood diversification	Income derived from a single source is more vulnerable to shocks. Multiple sources, or the potential to diversify, can increase protection against shocks affected main/key livelihoods.	Livelihood diversity index= number of income generating activities at HH)	DHS (2006) modified
Health	Chronic or frequent illness in primary earner OR one requiring care threatens livelihood security and reduces income, as well as increasing health expenditure; unplanned health expenditure is a common cause of negative coping (e.g. conversion of livelihood assets to cash).	Income generating household member days per year lost work through illness	UNDP modified
Water and Sanitation	Water is an essential for health and many livelihoods; more time taken to draw water reduces time for other activities; unsafe water sources increase risk of ill health which reduce livelihood effectiveness; unreliable water supplies increase resource expenditure.	Average time to collect water	DHS (2006) <sup>30</sup>

<sup>26</sup> World Bank, 1997. Survey of living conditions: Uttar Pradesh and Bihar. Household Questionnaire, December 1997–March 1998.

<sup>27</sup> Myanmar Marketing Research & Development (MMRD).

<sup>28</sup> Moser C (1998) Reassessing urban poverty reduction strategies: The asset vulnerability framework. World Development 26, No 1, pp 1-19

<sup>29</sup> UNDP (2006) Integrated Household Living Conditions Analysis. Yangon: UNDP

<sup>30</sup> DHS (Demographic Health Survey), 2006. Measure DHS: model questionnaire with commentary. Basic Documentation, Number 2.

Dependents	Household members not engaged in livelihoods.	Household Dependency scale	TLMI <sup>31</sup> adapted
Social Participation	Persons with higher levels of social participation build up social capital, which can increase the likelihood of relief and assistance in times of difficulty.	Participation in village events	TLMI, adapted from p-scale (KIT)
Decision making	Persons with more influence in decision making can have stronger negotiating position for livelihood related factors such as fair pricing, land and asset use.	Participation index	SPPRG

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<sup>31</sup> Griffiths M (2007) Economic Vulnerability Score: applications for Community Based Rehabilitation. Internal.

Factors were measured using standardized indicators, which were then converted by mathematical formulas to a scale from 0-1 to allow input into the vulnerability model. The indicators can be collected at a household level or at a community level. Provided that there is a consistent method to convert to a scale, different and even multiple indicators can be used to measure the different factors. This is essential as different indicators, or different calibrations, may be required for different populations or geographical areas. Scores are plotted on a 10-point radar plot, either as a single household plot, a village aggregate, a township or even State level aggregate. A sample model for a household 'plot' is displayed as Figure 3.2 Higher scores indicate more 'protection' and hence less vulnerability.

Figure 3.2: sample 'Umbrella' vulnerability profile for a Township



This model looks primarily at relative resilience (the capacity to cope with shocks and hazards) rather than relative exposure. Hence, it is best applied to determine which households are more vulnerable within a given population, rather than for absolute comparison between regions or countries. Vulnerability was defined in relative terms, by measuring the relative deviation of a particular household score from the overall population mean. If the household score for each factor (for example, health) was more than one standard deviation below the overall population score average, then that factor was classified as 'vulnerable'. Overall, a household was classified as 'vulnerable' three or more of the ten factors scored over 1 standard deviation lower than the population mean for those factors.

There are several significant features of this model which need further explanation before we can consider the application of the model. Firstly, the model classifies vulnerability at a household, rather than individual level, thus moving beyond fixed demographic characteristics to more dynamic socio-economic characteristics. However, this may mean that some individual vulnerabilities may be masked (such as the vulnerability of older persons within a household). However, in measuring the resilience of a given household, we make the assumption that resources are distributed according to need within a household, thus imputing the overall household vulnerability onto its members. Secondly, as mentioned above, the model relies on measurement against the population average to determine vulnerability. Hence, if a household is classified as vulnerable, it is has at least three factors which score significantly lower than the overall population average. In essence, a household is judged according to its neighbours.

Following this, the use of a statistical approach to measure vulnerability (one standard deviation below the average) does mean that vulnerability is dependent on how equally scores are distributed. If some scores were very widely distributed, this would lead to a wider range and a larger standard deviation, meaning that only those with very low scores would be classified as vulnerable. Likewise, if scores are bunched close together, with very little difference between households, then very small differences could lead to being classified as vulnerable. One solution could be to take the average of the scores for all the factors and use that as the basis for classifying vulnerability. However, this would require that each indicator have the same sensitivity and range, in order to contribute equally to the overall score. As this is very difficult to do, the ‘three and above’ rule (three or more factors more than one standard deviation below the mean) was used. This allows for some errors in households where there may be one or two scores which are low, but the household itself is reasonably secure. However, as with any approach, there are strengths and weaknesses.

This model has been tested in various contexts to assess its suitability in determining vulnerability and in assisting beneficiary selection. Generally speaking, the model offers a superior approach to more crude tools such as wealth ranking, as it can identify households who are not the ‘poorest of the poor’ but who nonetheless are at risk of becoming so. Field testing has demonstrated high levels of satisfaction amongst users and households. Validation is challenging, as there is no comparable ‘gold standard’. However, the tool has been used as a baseline for several development projects, and final end-project assessment is expected to demonstrate whether or not the model was useful in enabling accurate profiling and targeting of vulnerable households. Prior to the current research, this model has been applied in several different projects, and data has been gathered on over 6,000 households in 7 states and regions of Myanmar (including specific data on over 1,000 households of persons with disabilities). When compared with standard demographic profiling (which would identify as ‘vulnerable’ any household which is either landless, female headed, has a person with disability, or an older person), the umbrella model has higher specificity and a strongly positive f-test, indicating a high degree of effectiveness in identifying households who would be considered poor or vulnerable by other means.

### Vulnerability Profile of Rural Households

Using the above method, and based on comparing the scores of each household with the overall weighted population mean and standard deviation, just under a quarter of all rural households were considered vulnerable (Table 3.3). The proportion of households classified as vulnerable for each category differs according to the ‘spread’ or distribution of scores, which is reflected by the standard deviation. Some categories, such as debt, had a wide distribution of values, reflecting significant differences across households. Others, such as income and expenditure, were clustered closely around the average, with most households being either just above or below the mean.

Table 3.3 Vulnerability Profile of Rural Households

1 overall vulnerability	24.25%
2 % vulnerable in dependency category	14.79%
3 % vulnerable in debt category	16.77%
4 % vulnerable in income/expenditure category	24.89%
5 % vulnerable in livelihoods category	11.75%
6 % vulnerable in food security category	11.23%
7 % vulnerable in WATSAN category	28.54%

8 % vulnerable in health category	18.03%
9 % vulnerable in assets category	18.93%
10 % vulnerable in social capital category	15.95%
11 % vulnerable in decision making category	7.74%

Applying multiple regression analysis to the factors in the model, we can determine which factors exert a more independent influence on the model (i.e. small changes in that factor result in a higher chance of being classified as vulnerable). In this model, regression analysis shows that small changes in factors such as decision making, dependency, and livelihood diversity are significantly linked with increased likelihood of being classified as vulnerable. However, the degree of influence of small variations in different factors differs between states and regions: Small variations in water and sanitation scores had a significant influence on vulnerability in Kayin State; whereas variations in health were more significant in Mon State. In Magwe Region and Kachin State, small variations in livelihood diversity were more significant. These variations reflect the extent to which each factor has an influence on overall vulnerability, independent of the others. We also measured the strength of association between certain characteristics and the likelihood of vulnerability. Three characteristics had a large impact on categorization of vulnerability: proportion of income from casual labour, frequency of rice consumption, and proportion of expenditure on debt.

We can also see that vulnerability patterns differ between different socio-economic groups. When comparing households which are dependent on casual labour (Table 3.4), their overall vulnerability profile is significantly different from other households (except, interestingly, in the livelihoods category). This suggests that the impact of casual labour on other aspects of rural vulnerability is highly significant. It also suggests that the classification of households which are predominantly dependent on casual labour as vulnerable is not dependent on their livelihood diversity status.

Table 3.4 Vulnerability profile of households dependent on casual labour and others

	Casual labour dependent	Other
1 overall vulnerability	35.07%	13.89%
2 % vulnerable in dependency category	15.50%	11.45%
3 % vulnerable in debt category	22.64%	10.41%
4 % vulnerable in income/expenditure category	34.64%	14.93%
5 % vulnerable in livelihoods category	10.13%	10.20%
6 % vulnerable in food security category	13.34%	7.90%
7 % vulnerable in WATSAN category	30.25%	21.92%
8 % vulnerable in health category	20.87%	12.95%
9 % vulnerable in assets category	33.61%	7.69%
10 % vulnerable in social capital category	18.81%	11.28%
11 % vulnerable in decision making category	9.69%	5.19%

Likewise, as Table 3.5 demonstrates, there are significant differences in vulnerability profiles between male and female headed households in areas such as dependency, income/expenditure, assets, social capital, and decision making, suggesting significant gender-related linkages between empowerment (as evidenced by

involvement in decision making) and economic empowerment (as evidenced by assets and income/expenditure).

Table 3.5 Vulnerability profile of Male and Female headed households

	Male headed	Female Headed
1 overall vulnerability	22.49%	32.94%
2 % vulnerable in dependency category	14.13%	18.15%
3 % vulnerable in debt category	16.51%	17.84%
4 % vulnerable in income/expenditure category	23.18%	33.48%
5 % vulnerable in livelihoods category	12.54%	7.93%
6 % vulnerable in food security category	11.17%	11.49%
7 % vulnerable in WATSAN category	28.71%	27.43%
8 % vulnerable in health category	17.74%	19.16%
9 % vulnerable in assets category	16.99%	28.78%
10 % vulnerable in social capital category	15.06%	20.62%
11 % vulnerable in decision making category	6.80%	12.51%

Comparisons between states and regions demonstrate considerably higher rates of vulnerability in Chin, Rakhine, Kachin, Bago, Tanintharyi and Ayeawaddy, but the key driver in each area differs. In Chin State, a significantly higher than average proportion of households are categorized as vulnerable in the food security and health sectors, whereas in Rakhine the key drivers are water and sanitation issues, food security and disempowerment. In Kachin State, the areas sampled had higher than average rates of economic dependency, food insecurity and health related vulnerability; in Bago, a key issue again was water and sanitation. Of note, although Shan State had much lower than average overall vulnerability levels, there were still significant proportions of the population who had suboptimal livelihood diversity.

Table 3.6 Vulnerability profiles from weighted national sample and state and regional data

	Overall	vulnerable in dependency category	vulnerable in debt category	vulnerable in income/expenditure category	vulnerable in livelihoods category	vulnerable in food security category	vulnerable in WATSA N category	vulnerable in health category	vulnerable in assets category	vulnerable in social capital category	vulnerable in decision making category
Union	24.25	14.79	16.77	24.89	11.75	11.23	28.54	18.03	18.93	15.95	7.74
Kachin	33.42	25.08	10.08	21.33	5.75	39.00	19.50	45.58	19.17	19.33	2.58
Kayah	20.20	16.10	18.81	22.47	12.94	9.15	9.41	21.59	5.74	15.59	24.31
Kayin	17.94	22.77	8.23	24.05	10.10	15.56	13.18	21.35	13.70	14.47	5.72
Chin	43.62	27.31	3.97	33.35	15.33	58.28	24.25	35.49	13.32	21.87	6.48
Sagaing	17.57	14.65	9.66	25.90	16.40	4.41	12.82	32.97	8.33	19.32	5.66
Tanintharyi	28.95	24.04	23.97	19.57	11.34	19.93	20.22	25.34	19.06	11.70	6.06
Bago	35.56	14.69	29.94	24.88	7.81	5.31	54.44	20.69	23.81	20.00	10.00
Magwe	20.36	7.37	15.68	33.17	8.37	10.18	33.73	12.43	16.30	14.74	7.25
Mandalay	18.92	5.33	8.02	24.56	13.72	2.88	35.71	10.21	17.17	16.92	12.91
Mon	27.84	32.30	18.63	17.39	8.45	8.93	21.31	15.46	18.69	22.89	15.95
Rakhine	43.27	10.61	23.37	27.42	8.28	21.86	56.92	20.47	26.28	19.84	18.89
Yangon	31.01	20.63	29.59	35.28	8.25	14.01	26.10	19.63	21.05	13.23	8.68
Shan	8.84	4.08	15.14	9.52	16.84	5.27	7.99	8.59	11.22	19.47	1.96

Ayearwaddy	28.24	23.69	16.21	29.43	11.72	18.27	31.30	11.47	32.67	6.11	3.37
Nay Pyi Taw	25.32	11.48	18.90	31.05	13.33	6.67	41.52	16.37	17.38	10.80	11.65



If we compare in turn the characteristics of households classified as vulnerable, we can see that this classification is associated with higher rates of food insecurity, debt problems and economic dependency, potentially more accurately identifying households at more extreme risk (Table 3.7). However, as significant proportion of households classified as ‘non-vulnerable’ were landless, and dependent on casual labour.

Table 3.7 Profiles of vulnerable and non-vulnerable households

	Vulnerable	Not vulnerable
Household members	4.52	4.86
Own animal	53.33%	73.99%
Rice less than once per day	5.72%	0.94%
Tin roof	44.70%	61.85%
Landless	66.0%	42.59%
Casual labour	48.35%	29.32%
Economic dependents	2.18	1.79
% on food	43.96%	41.75%
% on debt	16.49%	11.40%

The vulnerability model allows for a more nuanced approach to identifying households which are at risk of deleterious effects of natural disasters and economic shocks, and the vulnerability model is strongly correlated with poverty. Not surprisingly, given the construction of the model, the vulnerability factors most strongly correlated with poverty are insufficient income and lack of assets.

#### 4. How do poor people get help: Social Assistance in rural communities

##### Chapter summary:

The majority of rural households are aware of and use social assistance for needs and crises. The most common need is assistance for food shortages and health emergencies, with educational support needs being the most common developmental concern. Most social assistance is accessed in informal ways (from relatives, neighbours and family members) and in the form of loans (either from relatives or from village money lenders). Only 7% of all assistance reported by rural households was received in the form of cash, service, or training from government and only 4.2% of households reported assistance relating to an insurance scheme. Evidence clearly shows that poor households, female headed households, and households with low levels of social capital and participation are less likely to receive assistance of any kind, less likely to receive assistance from government or through insurance schemes, and more likely to receive assistance in the form of loans.

##### Methodological Issues

Critical to the study of poverty is the study of coping mechanisms which enable either escape from or survival of the experience of poverty. These can be essentially positive coping mechanisms which enable a household to avoid negative consequences of a crisis, shock or unsustainable strain on resources, or more negative coping mechanisms, such as reduced expenditure or consumption of food, removing children from school, and unsustainable debt. Due to a lack of exposure to the more sophisticated instruments and concepts of social protection as practiced and understood in countries with more developed welfare provision programmes,<sup>32</sup> the understanding of social protection in Myanmar is relatively traditional.<sup>33</sup> Although a range of government social assistance programmes do exist, these tend to be patchy in both scope and accessibility. Mapping by the World Bank in 2014 identified a range of social assistance programmes administered by government agencies (shown in Appendix 3) but with the exception of the Social Security programme under the Ministry of Labour, Employment and Social Security, which covers around 750,000 enrolled workers, few of the programmes have significant coverage. Spending on social protection in Myanmar is low, at around 0.57% of GDP. However, state and regional social protection plans demonstrate the widespread existence of ad-hoc government, private and community-funded programmes such as pre-schools, elderly care programmes and interventions for women, children and other vulnerable groups, which are not funded through central government appropriations. Additionally, numerous programmes such as agricultural and rural development loans may be considered as social assistance by those receiving them, further confounding any neat categorization of social protection. Previous surveys have highlighted high levels of unmet social needs,<sup>34</sup> but very low levels of exposure to formal social protection programmes and instruments.<sup>35</sup> Hence, asking people about social protection programmes and instruments has to be adapted to the context, framing the questions in terms of what kind and from where people get assistance for different types of crisis or need. This enables respondents to describe their actual practices rather than trying to fit their responses into relatively unknown categories of formal social protection instruments.

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<sup>32</sup> Typically where social assistance programmes are more formalized, structured and understood in terms of entitlements.

<sup>33</sup> 'Traditional' refers to understandings of social protection which are typically more informal, non-structured and not understood as an entitlement.

<sup>34</sup> For example, only 4.7% of persons with disabilities entitled to government assistance have ever had contact with the service provider.

<sup>35</sup> Griffiths M (2013) Social Protection needs of rural communities in the Dry Zone.

One challenge that arises when surveying social protection is that of overcoming the ‘shame’ element which is often present when households must admit that they have sought help for a certain need. Pilot testing of questionnaires demonstrated the need to re-phrase social protection questions. Instead of asking “Have you received the following type of assistance for the following type of problem in the past year?” participants were asked the less ‘invasive’ questions of “Where/from whom/what kind of assistance could you/would you get in the following situations?”. This approach minimized the shame which may be experienced by responding to more direct questioning and thereby yielded more positive and complete results.

### Qualitative findings

Initially, open-ended questions were asked in the qualitative study to assess commonly experienced crises and the typical sources and types of assistance which are utilized by households in rural communities. Responses to two questions were then analyzed: 1) “what makes poor households more likely to get worse?” and 2) “what can be done to protect households from worsening poverty?” These responses can correlate with an expression of needs, some of which can be categorized as social protection.

One major factor noted in worsening poverty was debt: Respondents noted that debt repayments take up so much of their income that nothing is left to invest in education, social events and livelihoods. Access to appropriate credit,<sup>36</sup> particularly for non-livelihood expenditure such as emergencies and health, was a commonly reported ‘need’. The need to improve the scope of, quality of and access to essential health services was also described by several respondents, although no respondents described a direct link between health and worsening poverty. Necessary key livelihood initiatives expressed included a minimal household income policy, livelihood programmes targeted at youth, reduced migration and less reliance on risky or unsustainable livelihoods; each of these can be linked to social protection. Frequently noted was the need to support vulnerable groups such as older persons and persons with disabilities, although respondents were not specific in the type of support which is needed. Another frequently expressed need was provision of support to community organizations, which are seen to be a major source and provider of social assistance in rural communities. There was no specific mention of interventions such as health insurance, crop insurance, pensions, health benefits, social security schemes, fishery related insurance or assistance or government emergency assistance: This may be due to lack of awareness of such progressive social protection schemes.

The overwhelming majority of respondents (90%) reported debt problems as their key social protection need, followed by education and the need for protection of livelihoods (specifically waterways). Although debt and debt relief are historically not always clearly linked to social protection needs, the relationship between these two issues as demonstrated by responses from the fishing community has several dimensions. Firstly, debt relating to livelihoods has significant social consequences, such as children not attending school, under-nutrition and risky labour practices (further described later in this document). Secondly, lack of social protection and safety nets leads to the accrual of debt relating to emergent healthcare and other social needs (a significant proportion of household debt was related to these unplanned expenditures). Finally, problem debt leads to a breakdown in social structures, resulting in limitations in access to further

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<sup>36</sup> Here, the term ‘appropriate’ credit refers to credit whose accessibility and terms are less likely to incur significant debt-related burdens. For example, some community organizations enable households to access unsecured, interest-free credit at short notice to cover emergency health expenditure. This typically has a fixed repayment period (1-2 months) but for rural communities, is thus much more favourable than the other option, which is secured, 30% compound interest loans from village money lenders. Typically, banks will not lend for health emergencies.

credit, assistance and social benefits. Hence, the issue of problem debt is closely interlinked with social protection.

When respondents were asked to consider what support is available to prevent poor people from entering into even worse situations, they described interventions by key providers such as government, community organizations, Non-Governmental Organizations (NGOs) and religious organizations. Although very few respondents described anything which resembled formal social assistance or social insurance, some noted government assistance, either on a personal or community level, included micro-credit, village development loans (such as Ever Green), assistance grants, provision of some aspects of health and education services, community libraries, and sometimes technical and vocational training. It was reported that assistance to individuals and households was more likely to be obtained through community social organizations than from government:<sup>37</sup> These groups provide funeral assistance, assistance for emergency healthcare costs, micro-credit, physical assistance, village development activities, support for older persons and persons with disabilities (such as assistance in obtaining essential medicines and assistive devices) and nutrition programmes. In some communities, religious organizations reportedly take care of funeral services and provide overall co-ordination of village development. Where NGOs are present<sup>38</sup> (around a third of the communities sampled), they provide training, livelihood skills, micro-credit and assistance for improved water and sanitation.

In fishing communities, access to social protection is very limited. There were reports of various government loans schemes, primarily for livelihoods, but there were no suggestions of assistance being offered for poor households, older persons, or persons with disabilities. The main sources of social assistance reported were from community organizations, relatives and NGOs. Community organizations provide cash and in-kind assistance for household emergencies such as funerals and health expenditure, while relatives are a key source of credit. NGOs provide training in health and livelihoods, and they are also a significant source of credit for livelihoods. In these communities, there was no mention of any formal social protection services.

#### Access to social assistance: Methods for the rural survey

Findings from the initial qualitative survey were used to develop categories of need, types of assistance, and sources of assistance for the wider survey; these were then framed into a response matrix. The question was presented as follows: “What kinds of assistance can poor households receive? What kinds of assistance has your household received?” Respondents were able to indicate what kind of assistance they received, from whom it was received, and for what kind of crisis according to the response matrix shown in Table 4.1. Here, respondents could indicate that they received a loan from neighbours for food insecurity by placing the number (1) in the lack of food/loan square. Although this matrix does not indicate ‘usage rates’ in a specific time-span, it illustrates patterns of help-seeking behaviour and highlights the awareness and utilization of different sources of assistance.

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<sup>37</sup> Current research indicates a widespread presence of community social organizations, often called ‘Parahita’ organizations, which collect and redistribute funds for social emergencies such as funerals and unplanned health expenditure.

<sup>38</sup> Three of the four Ayearwaddy communities; none of the Chin State Communities; one of the Sagaing Region communities.

Table 4.1 Response matrix for social assistance

Problem	Loan	Financial assistance	Training	in Help kind	Service	Other
Lack of food						
Crop failure						
Emergency health problem						
Disability						
Older person assistance						
Pregnancy/childbirth						
Children's education fees						
Abuse/violence						
Other (specify)						
Closed season in fisheries						

*Assistance: 1. Family/Relatives/Neighbours/Village lenders 2. Village association 3. Government 4. NGO 5. Insurance 6. Other*

Table 4.2 shows the percentage of households who reported having received certain categories of assistance from different sources. Three findings are notable. Firstly, nearly two thirds of all rural households report seeking assistance for food insecurity. This rate varies, but it is over 50% in all States and regions other than Kayah (46%) and Shan State (a remarkably low 14%). Secondly, the majority of assistance received for any kind of crisis was in the form of loans, except in Chin and Kayah States. Finally, in terms of the main source of assistance, the majority of assistance was reported as being received from family, relatives or neighbours. Assistance from the government was reported as the source by 23% of assistance.

Table 4.2 Summary of social assistance from national weighted sample and state and regional data

% accessing any assistance	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayearwaddy	Nay Pyi Taw
Food security assistance all	60.22	80.60	45.65	82.13	80.62	65.56	69.17	61.11	58.52	84.53	63.54	52.97	64.41	14.01	63.21	55.48
Health emergency assistance all	50.25	84.51	46.85	74.04	55.99	48.50	80.73	44.76	35.00	60.55	60.70	38.94	50.25	22.75	64.39	31.70
Assistance as loan	68.53	49.81	47.27	48.20	41.82	59.25	49.23	51.80	58.50	55.62	52.06	74.23	70.68	76.36	59.01	73.23
Assistance as grant/in kind/technical	31.47	50.19	52.73	51.80	58.18	40.75	50.77	48.20	41.50	44.38	47.94	25.77	29.32	23.64	40.99	26.77
Assistance from community organization	15.06	16.24	11.10	20.37	37.16	8.07	21.32	13.17	8.15	26.61	22.16	12.33	4.51	12.14	15.26	6.24
Assistance from government	23.02	37.64	26.86	23.20	45.35	17.64	25.18	52.93	10.14	30.37	20.36	11.25	16.67	1.78	23.88	19.39
Assistance from insurance	4.16	6.00	7.44	2.12	10.02	2.91	2.38	11.42	3.08	9.27	0.76	3.60	1.50	0.85	2.98	1.35

Tables 4.3-4.11 show the levels of and sources of assistance sought for varying felt needs in communities. The tables show the percentage of households describing assistance in different forms and from different sources, as a percentage of all those describing assistance for that need or crisis. Hence, 56% of households who described receiving assistance for food security issues described that assistance as a loan from relatives, neighbours or community leaders.

Table 4.3 Types and sources of assistance for food security crisis

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	56%	7%	0%	7%	4%	0%
Community	2%	1%	0%	0%	0%	0%
Government	4%	4%	0%	0%	0%	0%
Insurance	1%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	11%	0%	0%	1%	0%	0%
TOTAL	74%	12%	0%	8%	4%	1%

Overall, 62% of households reported ever having sought assistance for food security crisis. In the majority of cases, that assistance was received in the form of a loan and was received from relatives/neighbours.

Table 4.4 Types and sources of assistance for crop failure

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	35%	4%	0%	2%	2%	0%
Community	6%	3%	0%	0%	0%	0%
Government	19%	7%	5%	0%	0%	0%
Insurance	1%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	12%	1%	1%	1%	0%	1%
TOTAL	73%	14%	6%	4%	2%	1%

Overall, 8% of households reported accessing assistance for crop failure. The majority was in the form of loans, and government loans were a more common source.

Table 4.5 Types and source of assistance for health emergencies

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	50%	8%	0%	2%	9%	0%
Community	4%	4%	0%	1%	3%	0%
Government	2%	2%	0%	0%	1%	0%
Insurance	1%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	10%	0%	0%	0%	0%	0%
TOTAL	66%	16%	0%	4%	13%	1%

Over half of households reported accessing assistance for health emergencies. Most assistance was received in the form of loans from neighbours or relatives.

Table 4.6 Types and source of assistance for Disability

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	16%	4%	0%	2%	3%	0%
Community	2%	6%	0%	3%	6%	0%
Government	1%	14%	0%	2%	2%	0%
Insurance	0%	2%	0%	2%	1%	0%
Private donor	0%	2%	0%	16%	1%	0%
Other	2%	2%	0%	1%	4%	4%
TOTAL	21%	30%	1%	27%	16%	4%

Nearly one in ten (8%) of households reported accessing assistance for disability. However, much of this seems to be related to temporary disability, as only 9% of all households with a person with disabilities reported having received any kind of assistance. A greater proportion of this assistance was reported as in kind, service or as cash support than was noted for other needs, and the government provided a significant proportion of this assistance.



Table 4.7 Types and source of assistance for elderly care

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	17%	6%	0%	3%	6%	0%
Community	5%	9%	1%	3%	6%	1%
Government	1%	10%	1%	1%	2%	0%
Insurance	0%	3%	0%	3%	6%	0%
Private donor	0%	2%	0%	2%	3%	0%
Other	2%	1%	0%	2%	3%	2%
TOTAL	25%	30%	2%	14%	27%	3%

11.7% of all households reported assistance for elderly care, with the majority being accessed as cash or service, with community organizations providing a significant proportion of all assistance.

Table 4.8 Types and source of assistance for pregnancy

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	36%	8%	0%	4%	18%	0%
Community	3%	7%	0%	1%	1%	0%
Government	1%	3%	1%	1%	5%	0%
Insurance	0%	1%	0%	0%	0%	0%
Private donor	0%	1%	0%	0%	2%	0%
Other	3%	0%	0%	0%	1%	2%
TOTAL	43%	20%	2%	6%	27%	2%

13.7% of all households reported accessing some kind of assistance relating to pregnancy, of which most was either in the form of loans or service. Family, relatives and neighbours were the main providers.

Table 4.9 Types and source of assistance for education

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	85%	1%	0%	0%	0%	0%
Community	0%	2%	0%	0%	0%	0%
Government	0%	5%	0%	4%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
TOTAL	86%	8%	0%	4%	1%	0%

Over a quarter of all households reported accessing some kind of assistance relating to education, which was almost exclusively in the form of loans from relatives and neighbours.

Table 4.10 Types and source of assistance for abuse and violence

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	3%	1%	1%	1%	1%	0%
Community	0%	3%	0%	0%	2%	0%
Government	1%	5%	63%	2%	6%	0%
Insurance	0%	1%	1%	2%	1%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	1%	1%	1%	0%	0%	6%
TOTAL	5%	10%	65%	4%	11%	6%

Only a small percentage of households reported accessing assistance for abuse or violence, and most was in the form of training from government.

Table 4.11 Types and source of assistance for “failure” of fisheries

	Loan	Cash support	Training	In kind	Service	Other
Neighbour	16%	4%	0%	2%	3%	0%
Community	2%	6%	0%	3%	6%	0%
Government	1%	14%	0%	2%	2%	0%
Insurance	0%	2%	0%	2%	1%	0%
Private donor	0%	2%	0%	16%	1%	0%
Other	2%	2%	0%	1%	4%	4%
TOTAL	21%	30%	1%	27%	16%	4%

Overall, 2.6% of all respondents, and 7.6% of households whose main livelihood was fishing reported receiving assistance for failure of fisheries work, and assistance was received mostly from government and private donors. Here, failure of fisheries represents episodes where fishing is either not possible, or severely curtailed, or where access to fishing areas is limited, or where catches are inadequate to sustain household needs.

Significant differences in rates of accessing assistance across all categories was recorded (Table 4.12). Female headed households, households classified as asset poor, households with low levels of recorded social capital, and households with low levels of community participation all reported significantly lower levels of accessing assistance than did male-headed households, wealthier households, and households with high levels of social capital or social participation.

Table 4.12 differential rates of access of social assistance

	Food security	Crop failure	Health emergency	Disability	Ageing	Pregnancy	Education	Abuse/violence	Fishery failure
Poor	64.6%	18.8%	50.5%	9.1%	13.0%	13.6%	24.3%	5.4%	3.8%
Non-poor	58.6%	49.1%	56.2%	7.9%	13.1%	15.4%	29.4%	5.0%	1.8%
Low social capital	62.9%	29.3%	49.0%	8.0%	11.4%	11.4%	24.5%	5.5%	3.0%
High social capital	68.0%	42.4%	54.8%	11.0%	15.9%	23.5%	34.2%	6.4%	3.6%
Low participation	69.9%	26.8%	56.2%	6.5%	12.8%	17.0%	29.7%	3.5%	5.7%
High participation	60.0%	40.0%	50.1%	9.6%	12.6%	14.0%	28.9%	5.6%	2.7%

There were also significant differences in the rates of access to assistance for certain types of crises. In general, poorer households and households with low social capital and community participation were more likely to access assistance for emergencies such as food shortages and health emergencies. These same households were less likely to access assistance for development and livelihood related needs such as crop failure, education, disability and ageing related needs.

Compared to households reporting assistance in the form of cash, services or training, households reporting accessing assistance for health emergencies and food security in the form of loans reported significant higher percentages of income spent on debt and a higher risk of having ‘problem debt’. Of all kinds of assistance types, loan assistance for health emergencies was most strongly associated with higher risk of overall vulnerability. This demonstrates the strong link between accessing loans for social assistance and problem debt, underlining the need to facilitate access to appropriate and adequate social assistance to rural households.

**Table 14.13 SOCIAL ASSISTANCE AS LOANS AND PROBLEM DEBT**

	Debt as % of income	% with problem debt
Loan assistance for health	13.3%	8.0%
Other assistance for health	8.8%	5.0%
Loan assistance for food security	14.0%	8.1%
Other assistance for food security	12.6%	6.6%
Loan assistance for livelihood	12.8%	7.3%
Other assistance for livelihood	10.6%	4.9%

From Tables 4.14 and 4.15 below, we can also see that rates of description of access to social assistance vary modestly but significantly between households classified as vulnerable and those that are not. Vulnerable households are slightly more likely than non-vulnerable households to describe accessing any kind of assistance and are slightly more likely to access both formal and informal social assistance than are non-vulnerable households. These same households are equally likely to access assistance in the form of loans and more likely to access assistance as grants or services than non-vulnerable households. The patterns were similar across most states and regions, although the differences between vulnerable and non-vulnerable households were most pronounced in Shan State (which also had the lowest proportion of households classified as vulnerable). In this analysis, the definition of informal social assistance included family, relatives, community money lenders and community organizations; formal assistance included any type of government assistance or government or private insurance schemes.

Table 4.14 Social Assistance patterns by vulnerable and non-vulnerable households

	Any Social Assistance		Informal Social Assistance		Formal Social Assistance		Social Assistance as Loan		Social Assistance as grant	
	Vulnerable	Not	Vulnerable	Not	Vulnerable	Not	Vulnerable	Not	Vulnerable	Not
Union	83%	80%	64%	63%	41%	38%	70%	70%	30%	27%
Kachin	96%	97%	89%	90%	56%	53%	85%	85%	55%	59%
Kayah	70%	70%	61%	62%	43%	38%	59%	57%	46%	43%
Kayin	97%	97%	84%	82%	42%	42%	77%	78%	52%	50%
Chin	96%	96%	84%	85%	64%	64%	65%	65%	57%	57%
Sagaing	82%	84%	66%	68%	36%	37%	69%	73%	26%	29%
Tanintharyi	98%	98%	82%	81%	49%	52%	72%	77%	47%	45%
Bago	81%	79%	52%	49%	57%	55%	55%	53%	45%	44%
Magwe	85%	87%	46%	50%	57%	52%	76%	76%	14%	14%
Mandalay	90%	90%	86%	87%	33%	33%	82%	85%	39%	37%
Mon	82%	82%	65%	65%	41%	41%	68%	68%	30%	30%
Rakhine	82%	81%	65%	64%	23%	27%	74%	74%	9%	9%
Yangon	88%	88%	55%	53%	43%	44%	86%	84%	9%	9%
Shan	63%	55%	41%	40%	23%	20%	59%	55%	14%	8%
Ayearwaddy	76%	77%	69%	68%	35%	39%	68%	68%	33%	33%
Nay Pyi Taw	73%	67%	61%	57%	26%	27%	68%	62%	12%	14%

Vulnerable households were more likely to describe accessing assistance for all categories of needs than were non-vulnerable households, and the differences in rates of accessing services increases across the extremes of vulnerability (Table 4.16 and Table 4.17). Households with more than three of the ten factors classified as vulnerable typically reported higher rates of access for any type of need, higher rates of access to assistance across the different types of need, and higher rates of access to assistance from family or relatives. There are two likely conclusions from this. Firstly, social needs and requirements for social assistance do not vary greatly except at the extremes of vulnerability (as illustrated by table 14.6). Secondly, the questionnaire did not elicit the value/amount of assistance, frequency of assistance, or specific terms of assistance, which could vary between households.

Table 4.15 Social Assistance types of need/access by household vulnerability status

	Food insecurity		Crop failure		Health emergency		Health	Disability / elderly Vulnerable		Pregnancy		Education	
	Vulnerable	Not	Vulnerable	Not	Vulnerable	Not		Vulnerable	Not	Vulnerable	Not	Vulnerable	Not
Union	63%	59%	11%	10%	53%	48%	15%	13%	13%	12%	27%	24%	
Kachin	83%	79%	5%	6%	85%	84%	38%	38%	37%	37%	61%	60%	
Kayah	48%	45%	14%	14%	49%	46%	12%	10%	26%	22%	31%	32%	
Kayin	81%	82%	14%	10%	76%	74%	22%	20%	20%	18%	40%	40%	
Chin	80%	81%	12%	10%	56%	56%	21%	21%	28%	29%	50%	49%	
Sagaing	69%	65%	15%	14%	54%	47%	5%	5%	3%	6%	16%	18%	
Tanintharyi	73%	71%	7%	7%	85%	85%	38%	33%	28%	35%	43%	54%	
Bago	62%	61%	18%	15%	48%	43%	18%	14%	7%	4%	28%	24%	
Magwe	56%	59%	7%	6%	33%	35%	3%	3%	2%	2%	15%	11%	
Mandalay	83%	85%	20%	18%	61%	60%	26%	28%	26%	26%	34%	36%	
Mon	57%	56%	11%	13%	54%	49%	19%	20%	11%	14%	19%	19%	
Rakhine	51%	55%	6%	6%	39%	39%	4%	5%	5%	5%	18%	18%	
Yangon	61%	61%	13%	9%	48%	46%	7%	8%	3%	3%	22%	19%	
Shan	16%	14%	0%	1%	27%	22%	0%	1%	0%	0%	2%	4%	
Ayeyarwaddy	62%	64%	8%	8%	65%	65%	17%	17%	22%	22%	32%	35%	

Nay Taw	Pyi	58%	55 %	8%	7%	32%	32%	6%	6%	7%	11 %	15%	17 %
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Table 4.16 Assistance rates by extremes of vulnerability

	Food Security	Crop Failure	Health	Disability/ Elderly care	Pregnancy	Education
Extreme vulnerable	62.8%	10.8%	53.4%	14.9%	12.4%	25.6%
Non- vulnerable	43.6%	7.1%	36.2%	9.4%	9.0%	17.6%

Table 14.17 Social Assistance sources by extreme vulnerability

	Any Vulnerable		Relatives or neighbours		Community Vulnerable		Government		Insurance		Donor	
		Not	Vulnerable	Not		Not	Vulnerable	Not	Vulnerable	Not	Vulnerable	Not
Union	83%	60%	60%	44%	14%	11%	26%	15%	4%	3%	3%	3%
Kachin	95%	40%	86%	36%	14%	6%	39%	15%	4%	3%	21%	6%
Kayah	73%	39%	60%	33%	11%	6%	31%	15%	8%	5%	0%	0%
Kayin	97%	57%	71%	43%	22%	12%	32%	13%	2%	1%	1%	3%
Chin	96%	31%	75%	24%	35%	12%	45%	14%	9%	4%	6%	3%
Sagaing	89%	47%	69%	37%	10%	4%	19%	10%	0%	2%	0%	0%
Tanintharyi	97%	54%	77%	42%	26%	13%	26%	16%	4%	2%	5%	2%
Bago	79%	35%	44%	19%	17%	5%	49%	23%	11%	4%	1%	1%
Magwe	86%	49%	43%	27%	4%	4%	14%	4%	2%	2%	2%	1%
Mandalay	91%	56%	87%	54%	19%	17%	28%	20%	7%	6%	12%	11%
Mon	84%	42%	68%	32%	19%	8%	13%	8%	1%	0%	2%	0%
Rakhine	80%	29%	56%	20%	12%	5%	10%	4%	4%	2%	1%	0%
Yangon	88%	45%	54%	25%	7%	3%	21%	9%	1%	1%	3%	2%
Shan	48%	41%	24%	24%	17%	9%	0%	1%	0%	1%	0%	0%



Ayearwaddy	75%	38%	66%	33%	12%	8%	20%	12%	2%	2%	0%	0%
Nay Pyi Taw	74%	34%	58%	27%	5%	3%	22%	9%	1%	1%	0%	0%

## 5. Poverty, social protection and natural resource management in fishing communities

### Chapter Summary

Households in fishing (and fish farming) communities experience significantly higher rates of vulnerability when compared with non-fishing communities. Key factors for increased vulnerability include a higher proportion of income spent on essentials such as food and debt servicing, higher rates of food insecurity and poorer asset profiles, especially for livelihood assets. Fishing communities are more likely to conceptualize poverty in terms of livelihoods, and they typically have lower levels of livelihood diversity when compared to non-fishing communities. Access to assistance, both formal government assistance and informal, is reportedly lower in fishing communities than non-fishing communities. When they do access assistance, households in these communities are more likely to receive loans than they are grants or technical assistance and are less likely to access government or formal assistance. Fishing communities are more likely to implement activities for sustainable resource management than are non-fishing communities, possibly reflecting the activities undertaken in recent years to reduce disaster risk in coastal and fishing areas.

### 5.1 Fishing as a rural livelihood

Fishing or fisheries related work as a livelihood was reported by 7.3% of all households, and it constituted the main livelihood for 4.2% of households. Excluding households where casual labour is the main income source (since some casual labour work may overlap with those working in fisheries), fisheries is reported as the main livelihood in 6% of households. Nearly one in ten households (9.3%) reported fishing in the past year, but less than one percent (0.8%) reported fish farming in the previous year. The vast majority of those who fished reported fishing in creeks/small rivers (61.42%) or in the sea (19.34%) (Table 5.1.1).

Table 5.1.1 Where fished, by all who reported fishing in the last year

Where fished	Sea	River	Creek	Lake/Pond	Canal	Fish Pond
Percentage	19.34%	9.84%	61.42%	2.95%	6.01%	0.44%

Of all who reported fishing in the last year, fishing areas were primarily reported as being owned by the government or by the village (Table 5.1.2).

Table 5.1.2 Who owns fishing area, by all who reported fishing in the last year

Owner	Village	Government	Private Company	Personal	Other
Percentage	32.46%	37.22%	16.17%	2.01%	12.16%

However, those reporting fishing in fishing communities were considerably more likely to describe the fishing areas as being owned by the government and much less likely to describe ownership by private companies (Table 5.1.3).

Table 5.1.3 Who owns fishing area, as reported by all who living in fishing communities who reported fishing in the last year

Owner	Village	Government	Private Company	Personal	Other
Percentage	26.98%	65.87%	0.00%	2.38%	4.76%

The vast majority of those who reported that they fished in the previous year indicated that they did not pay anything for fishing rights (Table 5.1.4). Of those who did, the majority paid with part of their catch of fish.

Table 5.1.4 Payment for fishing rights by all who reported fishing in previous year

Payment type	Don't pay	Pay with cash	Pay with fish	All Other
Percentage	73.20%	1.47%	25.33%	0.00%

However, those in fishing communities were more likely to have paid for fishing rights (Table 5.1.5). This payment is primarily as part of their catch.

Table 5.1.5 Payment for fishing rights by all in fishing communities who reported fishing in previous year

Payment type	Don't pay	Pay with cash	Pay with fish	All Other
Percentage	50.94%	5.66%	43.40%	0.00%

## 5.2 Identifying fishing communities

The fishing community sample was taken from the entire household sample, not the weighted sample. Fishing communities were identified by first identifying households whose majority income is from fisheries or fishing related activities. The proportion of households dependent on fisheries as their main livelihood was 4.6%, similar to the reported percentage from the IHLCA (3.4%)<sup>39</sup>. Next, communities were identified where such households constituted the main type of household livelihood (typically around 40% of the households in that community). This approach identified communities which were dependent on fisheries, whilst excluding communities where fishing is undertaken either by a smaller minority of households or where it is a supplementary livelihood. Twenty-one fishing communities were identified, and they accounted for nearly 40% of all households who reporting fishing as their major livelihood. The fishing communities are seen in Table 5.2.1.

Table 5.2.1 Fishing communities included in analysis

Ayearwaddy	KatanKy/Bai Douck Chaw Kye Chaung/Kye Chaung Mankyi Chanung/ Bai Dock Chaung Out Sate Kwin,Bawa Thit/A Mar Pate Tar Kyi/ Kyi Chaung Tha Pyu Kone/Pyin Htaung Twin Yaesaing/ Gant Kaw Kone
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<sup>39</sup> Integrated Household Living Conditions Analysis (UNDP-MoNPED 2011)  
[http://www.mm.undp.org/content/myanmar/en/home/library/poverty/publication\\_1.html](http://www.mm.undp.org/content/myanmar/en/home/library/poverty/publication_1.html)

	Yay Sine/Kyauk Pyar Lay
Kayin	Nat Kyun Kan Nar/ Nat Kyun Nat Kyun Kyae Yar/Nat Kyun
Rakhine	Thapyu Chaung/Kywe Chyit Ah Ngu/Ah Ngu Ywar Thit Ah Ngu/Kyauk Maw Gyi
Shan Tanintharyi	Nann Toke Ma Zaw Pyin Nge Sanda Wut
Yangon	Chaung Wa Htein Pin Aye/ Kyun Chan Kone Mee Pya Sin Sakhan

### 5.2.2 Demographics of fishing communities, compared to non-fishing communities

	Fishing	Non-Fishing
5.2.1 Average number of household members	4.57	4.76
5.2.2 Average age of household members	23	25.41
5.2.3 % over 60	6.07%	7.74%
5.2.4 % over 70	2.37%	2.84%
5.2.5 % over 80	0.90%	0.84%
5.2.6 % over 90	0.08%	0.10%
5.2.7 under 1 children %	0.82%	0.87%
5.2.8 under 5 children %	10.46%	9.88%
5.2.9 % school aged children	24.1%	23.35%
5.2.10 Average children/household in HH with children	2.08	2.13
5.2.11 % female headed household	11%	16.5%
5.2.12 % PwD	2.8%	3%

Households in fishing communities were significantly smaller in terms of households members, slightly younger, less likely to be female headed, and had a smaller percentage of household members over age 60 when compared with non-fishing community households (Table 5.2.2). Although there were some differences in disability profiles between the communities, these were not significant.

### 5.2.2 Livelihood profiles

It is important to note again that although a community may have a majority of households dependent on one type of livelihood, there is heterogeneity in terms of livelihoods amongst that community's members. Fishing represents a significant livelihood in non-fishing communities and likewise, agriculture is a significant livelihood in fishing communities (Table 5.2.3). There was a small but significant difference in waged employment rates. Livelihood diversity was significantly lower in fishing than in non-fishing communities and reliance on casual labour significantly higher. Reported rates of regular income, however, were significantly higher in fishing communities, reflecting the more seasonal nature of agricultural based rural livelihoods.

Table 5.2.3 Livelihood profile of households in fishing communities

	Fishing	Non-fishing
5.5.2. Agriculture as main livelihood	22.8%	46.73%
5.2.2 Fisheries as main livelihood	17.8%	4.31%
5.2.3 Casual labour as main livelihood	50.2%	38.85%
5.2.4 Animal husbandry as main livelihood	2.6%	4.3%
5.2.5 Selling as main livelihood	6.3%	5.2%
5.2.6 Employment as main livelihood	0.0%	0.1%
5.2.7 Remittances as main income	2.0%	2.0%
5.2.8 No livelihood	0.1%	0.0%

Table 5.2.4 Livelihood participation of children, women, PwD and older persons in fishing and non-fishing communities

	Fishing	Non-fishing
<b>School aged children who are significant contributors to household income</b>	17.04%	18.29%
<b>Type of livelihood involvement of women</b>		
None	20.5%	13.8%
family business	29.4%	23.4%
Casual	27.1%	23.1%
waged employment	5.6%	2.9%
Student	3.1%	3.6%
part-time/own business	11.3%	21.6%
Other	2.9%	11.6%
<b>Type of livelihood involvement of Person with Disabilities</b>		
None	44.8%	46.8%
family business	20.7%	13.7%
Casual	19.0%	16.5%
waged employment	0.0%	0.7%
Student	3.4%	0.9%
part-time/own business	6.9%	16.0%
Other	5.2%	5.4%
<b>Livelihood involvement type Older Person</b>		
None	74.5%	63.0%
family business	6.9%	7.5%
Casual	3.9%	6.5%
waged employment	1.0%	0.3%
Student	1.0%	0.3%
part-time/own business	9.8%	13.7%
Other	2.9%	8.8%

The analysis in Table 5.2.4 shows a slight but non-significant trend for higher numbers of economic dependents in fishing communities, with slightly higher proportions of women having no involvement in income-generating activities, compared to non-fishing communities. Of women who were working, casual labour rates were higher for women in non-fishing than in fishing communities, as were rates of working part-time or in their own business. Persons with disabilities also had greater involvement in their own businesses in non-fishing communities.

### 5.3 Poverty in fishing communities

Initial qualitative analysis on the dimensions and definitions of poverty was conducted in both fishing and non-fishing communities; just under a quarter of respondents sampled lived in fishing communities. The sample numbers were too small to determine any statistically significant differences in these initial responses. However, it was notable that concerns over the ownership of waterways was raised in fishing communities in the Ayearwaddy Region, where private ownership requires users to pay in either cash or catch for fishing rights.

Analysis of data from the wider quantitative survey demonstrated significant differences between fishing and non-fishing communities in terms of the definitions and dimensions of poverty. Table 5.3.1 shows the mean category selection percentages for poverty criteria at the household and community level. These were divided into the four paradigms (plus “other”) outlined in chapter 2).

Table 5.3.1 category selections for poverty paradigms

Category	Livelihood	Income	Access	Asset	Other
Fishing	34.33%	25.02%	15.69%	20.91%	4.05%
Non-fishing	30.88%	23.07%	18.15%	20.89%	7.01%

Respondents from all households in both fishing and non-fishing communities were most likely to describe poverty in terms of inadequate livelihoods, followed by insufficient income or high levels of indebtedness, lack of assets and then lack of access. However, rates of reported poverty in livelihood, income, and asset categories were higher for fishing than non-fishing households. Households in non-fishing communities were more likely to describe access issues (such as lack of access to land, public services, education, and information) than fishing households.

Table 5.3.2 Criteria for classifying households as poor, fishing and non-fishing communities

Criteria	Fishing Household	Non-fishing Household
Lack of income	88.4%	82.67%
Lack of assets	58.6%	55.2%
Economic dependents	37.9%	32.2%
Landlessness	26.52%	32.9%
Lack of livelihood	29.28%	31.4%
Lack of education	17.68%	27.6%
Debt	32.6%	24.2%

When indicating which criteria they would use to categorize households in their community as poor or non-poor (Table 5.3.2), fishing communities were significantly more likely to choose lack of income, lack of assets, number of economic dependents, and high levels of debt as categories, whereas non-fishing communities more commonly chose lack of education and landlessness as key criteria. When defining whether or not a community is poor, fishing communities were more likely than non-fishing communities to use livelihood related criteria (55% vs. 42.5%).





#### 5.4 Vulnerability In fishing communities

The Umbrella Method used to assess vulnerability is described in detail in Chapters 3 and 19. Vulnerability in fishing communities was calculated by comparison with a population weighted household sample from the non-fishing communities. Overall, vulnerability rates for households in fishing communities were significantly higher than for non-fishing communities (Table 5.4.1). The rates of vulnerability due to economic dependency, income/expenditure, assets, and food security were higher in fishing communities. Non-fishing households had higher rates of vulnerability related to assets. These findings will be examined in turn, comparing with key data for each category.

Table 5.4.1 Vulnerable households in fishing communities

	Fishing	Non-fishing
1 Overall vulnerability	38.12%	24.35%
2 % vulnerable in dependency category	18.65%	14.73%
3 % vulnerable in debt category	16.71%	16.75%
4 % vulnerable in income/expenditure category	30.31%	24.92%
5 % vulnerable in livelihoods category	11.05%	11.7%
6 % vulnerable in food security category	40.06%	11.34%
7 % vulnerable in WATSAN category	26.38%	28.55%
8 % vulnerable in health category	18.65%	18.06%
9 % vulnerable in assets category	31.63%	19.07%
10 % vulnerable in social capital category	14.09%	16%
11 % vulnerable in decision making category	4.56%	7.73%

Multiple regression analysis demonstrates that the higher rates of vulnerability amongst fishing communities are largely due to differences in rates of income/expenditure, food insecurity and assets. Further analysis demonstrates the extent to which these communities are more vulnerable compared to non-fishing communities in the same state/region, with fishing communities in Ayearwaddy, Rakhine, Tanintharyi and Kayin State all significantly more likely to be vulnerable compared to non-fishing communities in the same state and region. Interestingly, the findings were reversed in Yangon Region, with vulnerability rates lower than those of non-fishing communities, where most indicators, including dependency, debt, income/expenditure, water and sanitation

Table 5.4.2 Vulnerable households in fishing communities compared to non-fishing communities in the same state and region

	Fishing	Non-fishing
Ayearwaddy	42.81%	28.79%
Kayin	36.25%	17.90%
Rakhine	49.17%	43.20%
Shan	5.00%	8.80%
Tanintharyi	69.42%	30.09%
Yangon	16.46%	30.98%

### 5.5 Food consumption fishing communities

Consumption patterns were different between fishing and non-fishing communities (Table 5.5.1) Fishing communities reported more frequent consumption of fish but less frequent consumption of rice, eggs, poultry, fresh vegetables and fruit.

Table 5.5.1 Consumption patterns in fishing and non-fishing communities

Fishing	Rice	Beans/pulses	Fresh vegetables	Fish	Meat (pork/beef/mutton)	Fruit	Wheat/flour/noodles	Eggs	Poultry	Oil/fat	Sugar/honey	Nuts/seeds/grain	Tobacco/alcohol
>daily	89.3%	1.3%	14.6%	0.9%	0.4%	3.0%	0.3%	0.4%	0.4%	21.6%	1.2%	0.5%	6.8%
daily	7.8%	11.9%	62.3%	8.1%	3.1%	31.3%	2.9%	8.1%	2.7%	47.4%	9.6%	2.4%	26.4%
2-3 times/week	2.1%	36.6%	17.7%	37.2%	24.3%	25.8%	17.9%	38.9%	21.1%	8.3%	14.5%	10.8%	6.7%
once per week	0.0%	34.5%	4.3%	44.4%	53.7%	25.7%	50.9%	29.5%	38.4%	6.0%	36.2%	31.4%	8.1%
never	0.0%	10.4%	0.2%	6.8%	13.2%	7.4%	18.7%	11.2%	21.7%	9.2%	25.9%	36.8%	39.9%
don't eat	0.0%	0.1%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.7%
Other/no response	0.7%	5.3%	1.0%	2.6%	5.2%	6.7%	9.4%	11.9%	15.6%	7.6%	12.5%	18.1%	11.4%
Non-Fishing	Rice	Beans/pulses	Fresh vegetables	Fish	Meat (pork/beef/mutton)	Fruit	Wheat/flour/noodles	Eggs	Poultry	Oil/fat	Sugar/honey	Nuts/seeds/grain	Tobacco/alcohol
>daily	92.9%	1.2%	16.1%	0.9%	0.3%	2.5%	0.2%	1.0%	0.8%	25.1%	1.3%	0.4%	7.5%
daily	5.5%	10.9%	59.8%	8.1%	3.5%	29.6%	3.1%	9.0%	3.3%	46.5%	9.2%	2.8%	25.7%
2-3 times/week	1.6%	37.5%	18.9%	35.1%	23.8%	28.6%	16.8%	39.5%	20.9%	8.7%	14.1%	11.0%	7.1%
once per week	0.0%	35.9%	4.4%	46.0%	55.0%	26.4%	52.1%	30.0%	41.9%	5.8%	37.5%	35.0%	8.5%

never	0.0			9.9		12.		20.	33.0	13.			
	%	14.4%	0.8%	%	17.0%	9%	27.8%	5%	%	9%	37.8%	50.7%	50.8%
don't eat	0.0			0.0		0.0		0.0	0.1	0.0			
	%	0.1%	0.0%	%	0.2%	%	0.0%	%	%	%	0.1%	0.1%	0.4%
Other/no	0.0			0.0		0.0		0.0	0.0	0.0			
response	%	0.0%	0.0%	%	0.0%	%	0.0%	%	%	%	0.0%	0.0%	0.0%

Table 5.5.2 Food security profile for fishing and non-fishing communities

Consumption profile	Fishing	Non-fishing
Rice less than once daily	2.17%	0.6%
Vegetables and fruit less than once daily	35.2%	31.1%
Fish/eggs/poultry less than daily	66.8%	78.7%
Proportion of expenditure on food	44.3%	42.4%

### 5.6 Debt

Significant differences were recorded between fishing and non-fishing communities with regard to debt. Although debt as a % of all expenditure is only slightly higher in fishing communities, there are significantly more households for whom debt is their largest single expenditure (comprises over 30% of their expenditure) in fishing communities. Creditor patterns differ, with households in non-fishing communities reporting a higher proportion of debt owed to relatives and banks, whereas households in fishing communities were more likely to borrow from money lenders, employers and NGOs. Community money lenders, employers, and banks are considered high risk creditors due to higher interest rates and risk of asset seizure due to non-or late payment. Households in fishing communities are therefore generally borrowing at higher risk, and a higher proportion of households in non-fishing communities have a higher repayment burden.

Table 5.6.1 Debt Profile of Fishing Communities

	Fishing	Non-fishing
Debt as % of expenditure	12.9%	12%
Debt as largest expenditure	10.7%	8%
% of debt owned by village lender	32.7%	28.6%
% with village lender as largest creditor	61.2%	51.0%
Proportion of households whose expenditure on debt repayment is >30%	13.2%	9.7%
Main creditor(s)		
Relatives	30.58%	35.29%
Money lender	44.19%	35.13%
Bank	9.63%	15.28%
Employer	4.49%	4.37%
INGO	9.81%	6.55%
Others	1.30%	3.38%
Proportion of households whose primary creditors are 'high risk'	41.8%	41.5%
% in 'high risk' category (repayments >30% and high risk creditor)	9.2%	5.8%

### 5.7 Dependents

As described earlier, households in fishing communities reported higher rates of economic dependents in all categories, other than females with disabilities. Fishing community households reported a higher percentage of working age women who were not working, and over one-quarter of all households in these communities reported having at least one working age woman who was not economically active. Although

disability rates were lower for households in fishing than in non-fishing communities, the proportion of persons with disabilities who were classified as dependent was higher in fishing communities.

Table 5.7.1 Dependents

	Fishing	Non-fishing
Average # dependents (all)	1.9	1.86
Average # dependents of working age (WA)	0.5	0.38
% WA women who are dependent	23.6%	17%
Households with one more dependent women of working age	26.6%	12.3%
Dependent PwD %	51.7%	45.7%
Dependent male PwD	60.6%	41.8%
Dependent female PwD	40%	50%

### 5.8 Water and sanitation

The main differences between fishing and non-fishing communities in terms of water and sanitation are the extent to which, in non-fishing communities, the average time taken to get water is significantly longer, but where a higher percentage of households in fishing communities report buying water. Rates of toilets are significantly lower non fishing communities, and interestingly, the presence of a toilet in the household is associated with significant reductions in overall days lost to livelihood through ill health in fishing communities-but the same correlation is not found in non-fishing communities.

Table 5.8.1: Water and Sanitation

	Fishing	Non-fishing
Average time for water (overall, minutes)	24.6	25.2
Average time for water (rainy/cool season, minutes)	15.3	19.8
Average time for water (dry season)	33.9	30
Percentage of households who buy water	22.5%	12.7%
Percentage of households with toilet	67.7%	86%

### 5.9 Health

Information collected concerning health was two-fold: Firstly, information on the number of productive working days lost to income generating household's members through their own ill-health, or through caring for an ill household member, and secondly, the proportion of income spent on healthcare expenditure.

In both these categories, there were differences between fishing and non-fishing communities, with -fishing households on average spending slightly more on healthcare, but with non-fishing households having a higher proportion of members who lost over 20 days per year either through their own ill health, or through caring. This may be reflective of the slightly higher percentage of older persons in the non-fishing communities, and also the higher level of non-working dependents in fishing communities.

However, most striking is that the gender gap between male headed and female headed households is most significant in fishing communities, with health as the largest expenditure occurring twice as often in female

headed households as in male headed households, and a higher rate of average days lost to ill health of income-generating (IG) households members in female headed households than in male headed households.

Table 5.9.1 Health in male and female headed households in fishing and non-fishing communities

	All (Fishing)	MHH	FHH	All (non-fishing)	MHH	FHH
Health as % of expenditure	14.9%	14.2%	16.8%	12.9%	12.1%	14.8%
Health as largest expenditure	11.6%	10.6%	18.1%	8.4%	8.1%	10.0%
average days lost per IG to own ill health/caring	6.95	6.54	7.36	6.94	6.73	7.85
HH with IG member losing over 20 days per year to own ill health	29.4%	27.7%	36.1%	29%	28.9%	29.2%
HH with IG member losing over 20 days per year to caring	9.9%	9.7%	11.1%	17.1%	17.3%	16%
HH with IG member losing over 1 month to own ill health and caring	22.2%	21.1%	25%	29.5%	29.8%	27.8%
Average days lost per household to ill health of IG	27.0	25.3	31.1	24.6	24.5	24.5
Average days lost per household to caring for others by IG	8.0	7.6	5.5	14.2	14.6	12.0

### 5.10 Assets

Calculating the overall value of assets is a complex process, and is frequently subject to multiple biases. In this survey, assets were recorded in five different categories: home assets (such as generators, telephones, radios, TV), livelihood assets, including animals and equipment, transport assets, valuables such as gold and jewelry, and housing. Although total value cannot be accurately estimated, modified totals are used in a formula to estimate vulnerability, reflecting on one hand that if most of the overall asset ownership is tied into one asset type, the impact of loss of that asset is very significant, and also that possession of certain cash-convertible assets can represent a source of cash in times of crisis.

Table 5.10.1 Home asset ownership, fishing and non-fishing communities

		Generator	TV	Telephone	Radio
% who own	Fishing	6.3%	38%	42.4%	22.1%
	Non-fishing	6.7%	39.3%	41.8%	22.7%
Mean # owned	Fishing	1.0	1.0	1.3	1.0
	Non-fishing	1.0	1.0	1.5	1.0

There is a significant difference in home asset ownership profile, with non-fishing communities more likely to own assets such as generators, TV, radio and telephones.

Table 5.10.2 Animal livelihood asset ownership, fishing and non-fishing communities

		Draught animal	Buffalo/Cow	Pig	Chicken	Sheep	Goat	Duck
% who own	Fishing	11.2%	5%	39.1%	46.6%	0.14%	1.80%	9%
	Non-fishing	24.4%	19.3%	36%	45.6%	0.62%	1.28%	4.8%
Mean # owned	Fishing	2.9	2.9	2.1	8.5	3.0	6.2	7.5
	Non-fishing	2.5	3.3	1.9	8.9	24.4	13.5	10.9

In terms of ownership of animals for livelihood, not surprisingly, non-fishing communities were more likely to own draught animals, buffalos and cows, with ownership rates of pigs and ducks significantly higher in fishing communities. However, overall, households in non-fishing communities were significantly more likely to own animals than households in fishing communities, where 69% of households in non-fishing communities owned at least one animal, compared to 65% of households in fishing communities

Table 5.10.3 Equipment livelihood asset ownership, fishing and non-fishing communities

		Hand tools	Machine	Small home assets	Sewing machine/ Loom	Fishing equipment	Others
% who own	Fishing	3.73%	3.3%	0.14%	2.5%	11.9%	2.4%
	Non-fishing	21.1%	7.1%	2.16%	5.1%	4.9%	1.8%

Ownership of tools, machine and other equipment was significantly more likely in non-fishing communities, and interestingly, although not surprisingly rates of fishing equipment were overall lower in non-fishing communities, rates of ownership of fishing equipment amongst fishermen were similar in fishing and non-fishing communities, whereby 48% of fishermen in fishing villages owned fishing equipment.

Table 5.10.4 Transport livelihood asset ownership, fishing and non-fishing communities

% who own	Bicycle	Motorcycle	Car	Trawlwgyi	Tricycle	Animal drawn cart	Boat	Other
Fishing	22.2%	22%	0.83%	1.7%	0.14%	2.6%	18.4%	0.97%
Non-fishing	26%	40.3%	0.96%	2.5%	0.5%	15.7%	6%	0.78%

Once again, ownership profiles varied somewhat according to geography, with boats more likely in fishing villages and animal drawn carts more likely in non-fishing villages. However, overall ownership of transport assets such as bicycles, motorcycles and cars/trawlwgyis<sup>40</sup> was significantly higher in non-fishing villages. Finally, households in non-fishing communities were almost twice as likely to report owning gold or valuables (6.7% vs. 4.5%) than households in fishing communities.

### 5.11 Expenditure

Similar to assets, attempting to calculate actual monetary value of income and expenditure is a challenging process, and prone to significant error. However, numerous studies have demonstrated the links between poverty, vulnerability and the proportion of income spent on essentials such as food, health and debt servicing.

<sup>40</sup> two-wheeled tractor.



Table 5.11.1 Percentage of income spent by category

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Percentage of income by category of expenditure									
Fishing communities	44.25 %	12.9 %	14.94 %	9.65 %	5.72 %	8.20 %	3.70 %	0.24 %	0.47 %
Non-fishing communities	42.43 %	12.03 %	12.92 %	8.66 %	7.50 %	11.29 %	3.22 %	0.89 %	1.10 %

Table 5.11.2 Percentage of households reporting category as largest category

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Percentage of income by category of expenditure									
Fishing communities	86.50 %	10.33 %	10.74 %	4.27 %	6.47 %	2.89 %	1.38 %	0.41 %	0.83 %
Non-fishing communities	90 %	8 %	8 %	4.45 %	7.70 %	4.60 %	0.90 %	0.50 %	0.50 %

Analysis of expenditure patterns demonstrates considerable similarity between fishing and non-fishing communities, but with small and significant differences in cumulative categories, whereby fishing communities spend significantly more of their income on food, debt and health. Households in non-fishing communities were also significantly more likely to save money than households in fishing communities. The difference is also evident in considering which expenditure represents the largest expense category: In fishing communities, debt repayments and health are significantly more likely to constitute the largest single expenditure than the same categories in non-fishing communities. Note here that in some cases, more than one category is the largest type, with some households spending equally on more than one category. Hence, the percentage totals are more than 100% This subtle difference is likely to translate into significant practical differences in terms of overall vulnerability, whereby fishing communities are more likely to be

spending 70% or more of their income on food and debt repayments than non-fishing community households.

### 5.12 Social Protection

The detailed description of the measurements for social protection used in this study are found in chapter 4 (Social Protection) and aspects of indicators and methodology are described in detail in the methodology chapter. Due to a lack of exposure to the more sophisticated instruments and concepts of social protection as practiced and understood in countries with more developed welfare provision programmes, the understanding of social protection in Myanmar is relatively traditional. Thus, asking people about social protection programmes and instruments has to be adapted to the context, framing the questions in terms of what and where people get assistance for different types of crisis or need. This enables respondents to indicate their actual practice rather than trying to fit their responses into relatively unknown categories of formal social protection instruments. The survey instruments allowed respondents to describe the type(s) of assistance they received for different types of crisis, and from what source. Multiple responses were allowed, such that households could describe receiving different types of assistance from the same or different sources, and for a range of crises. The figures describe ‘ever’ received rates, to indicate the experience of accessing assistance by that households, rather than a time-fixed frame.

In assessing ‘access’ to assistance, we first need to establish whether the needs are the same (and hence, does receiving certain assistance indicate higher rates of need, or higher rates of accessibility). When we look at the types of crisis described (food insecurity, crop failure, health emergency, disability, care for elderly, pregnancy, education, abuse, failure of fisheries and other) we can deduce from earlier demographic and vulnerability data that rates of need for failure of fisheries and food insecurity are likely to be higher in fishing communities, whereas rates of need for crop failure (and possibly elderly care) are likely to be higher in non-fishing communities. However, rates of need for other crisis are likely to be fairly similar.

Thus, when we look at reported utilization of different types of assistance, we can analyze differences based on four dimensions:

- Types of crisis/need for which assistance was received.
- Sources of assistance.
- Sources of assistance for different types of crisis.
- Differential rates of access by different groups.

Table 5.12.1 Access rates for assistance for different types of crisis

Type of Crisis/need	Food security	Crop failure	Health emergency	Disability	Care for elderly	Pregnancy	Education	Abuse and violence	Other	Failure of fisheries
Fishing	46.13 %	9.94 %	38.67%	2.49%	4.14 %	7.46%	19.61%	0.00%	5.25 %	5.52%
Non-fishing	67.89 %	35.90 %	52.05%	8.80%	12.98 %	15.50%	28.61%	5.27%	3.58 %	1.60%

Unsurprisingly, access rates are higher in non-fishing communities for crop failure, and higher in fishing communities for “failure’ of fisheries.<sup>41</sup> However, despite higher reported rates of food insecurity in fishing communities, rates of access of assistance for food insecurity were significantly lower in fishing communities, as were rates of assistance for health emergency, disability, care for elderly, pregnancy, education and abuse/violence.

In terms of WHERE assistance was sought, rates of assistance from all sources were significantly lower in fishing communities than in non-fishing communities.

Table 5.12.2 Source of assistance

Source of assistance	Relative/ Neighbour	Community	Government	Insurance	Private donor	Other
Fishing	49.31%	12.02%	10.22%	0.83%	0.69%	0.00%
Non-fishing	61.87%	15.84%	26.68%	5.29%	3.82%	16.13%

Table 5.12.3 Percentage who have received assistance from sources other than relatives or neighbours

	Fishing	Non-fishing
Family/neighbours	49.3%	61.9%
All other	25.4%	45.8%

When we exclude more informal sources, we find that only 25% of households in fishing communities have ever had access to sources of assistance other than family, compared to nearly half of households in non-fishing communities. When this is broken down by type of crisis, the differences in proportion of households reporting access to assistance NOT from relatives and neighbours persists, with households in non-fishing communities typically twice as likely to report assistance from community organizations, government, insurance, donors or other schemes as compared to fishing communities. Of note, once assistance from relatives and neighbours are excluded, rates of assistance for failure of fisheries are not significantly different between communities.

Table 5.12.4 Households who have received assistance from sources other than relatives or neighbours by type of crisis/need

Type of Crisis	Food security	Crop failure	Health emergency	Disability	Care for elderly	Pregnancy	Education	Abuse and violence	Other	Failure of fisheries
Fishing	11.33%	5.94%	8.29%	1.66%	2.21%	1.93%	9.67%	0.00%	3.45%	1.10%
Non-fishing	17.43%	22.80%	17.08%	6.51%	9.20%	6.04%	16.56%	4.90%	2.85%	0.84%

<sup>41</sup> Here, failure of fisheries represents episodes where fishing is either not possible, or severely curtailed, or where access to fishing areas is limited, or where catches are inadequate to sustain household needs

In terms of type of assistance, there were again significant differences between fishing and non-fishing communities in terms of rates of access to loans and non-loan assistance, which included grants, in-kind assistance and technical assistance. Looking at households who had received assistance, the proportion who had received assistance as loans was higher in fishing than non-fishing communities, whereas households in non-fishing communities were significantly more likely to receive non-loan assistance.

Table 5.12.5 Type of assistance amongst households who received assistance

	Assistance as loan	Assistance as other
Fishing	97.40%	35.90%
Non-fishing	86.65%	44.23%

When we look at all the different types of assistance received, the proportion of events for which loans were the main form of assistance was 84.3% in fishing communities and 61.4% in non-fishing communities, indicating that fishing communities have lower rates of access to any assistance, have lower rates of access to assistance from more formal sources such as community programmes, government programmes or insurance schemes, and when they do get assistance, are more likely to receive assistance in the form of loans, rather than grants or technical assistance.

The rates of households in fishing communities reporting receiving assistance for different types of crisis, by type and source of assistance, are shown below.

Table 5.12.6 Rates of access to types of assistance, by source, for food insecurity, in fishing communities

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	27%	5%	1%	4%	5%	1%
Community	3%	1%	0%	0%	0%	0%
Government	2%	1%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	4%	0%	0%	0%	0%	0%
TOTAL	37%	7%	1%	5%	5%	1%

**TABLE 5.12.7 RATES OF ACCESS TO TYPES OF ASSISTANCE, BY SOURCE, FOR CROP FAILURE, IN FISHING COMMUNITIES**

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	4%	0%	0%	0%	0%	0%
Community	0%	2%	0%	0%	0%	0%
Government	2%	1%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	1%	0%	0%	0%	0%	0%
TOTAL	7%	3%	0%	0%	0%	0%

**Table 5.12.8 Rates of access to types of assistance, by source, for health emergency, in fishing communities**

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	26%	3%	0%	0%	4%	0%
Community	1%	3%	0%	0%	0%	0%
Government	0%	0%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	2%	0%	0%	0%	0%	0%
TOTAL	30%	7%	0%	1%	4%	0%

**Table 5.12.9 Rates of access to types of assistance, by source, for disability, in fishing communities**

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	1%	0%	0%	0%	0%	0%
Community	0%	1%	0%	0%	0%	0%
Government	0%	0%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
TOTAL	1%	1%	0%	0%	0%	0%

Table 5.12.10 Rates of access to types of assistance, by source, for care for elderly, in fishing communities

all	Loan	Cash support	Training	In kind	Service
Neighbour	2%	0%	0%	0%	1%
Community	0%	1%	0%	0%	0%
Government	0%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%
TOTAL	2%	2%	0%	0%	1%

Table 5.12.11 Rates of access to types of assistance, by source, for pregnancy, in fishing communities

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	4%	0%	0%	0%	3%	0%
Community	0%	1%	0%	0%	0%	0%
Government	0%	0%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
TOTAL	4%	2%	0%	0%	3%	0%

Table 5.12.12 Rates of access to types of assistance, by source, for education, in fishing communities

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	88%	1%	0%	0%	0%	0%
Community	1%	5%	0%	0%	0%	0%
Government	0%	1%	0%	4%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%
TOTAL	89%	7%	0%	4%	0%	0%

Table 5.12.13 Rates of access to types of assistance, by source, for failure of fishery work, in fishing communities

all	Loan	Cash support	Training	In kind	Service	Other
Neighbour	4%	0%	0%	0%	0%	0%
Community	0%	0%	0%	0%	0%	0%
Government	1%	0%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	0%	0%
Private donor	0%	0%	0%	0%	0%	0%
Other	1%	0%	0%	0%	0%	0%
TOTAL	5%	0%	0%	0%	0%	0%

In summary, there is clear evidence that access to assistance of any form is lower in fishing than in non-fishing communities, and that rates of access to assistance from more formal sources such as community or government programmes are much lower in fishing communities. Finally, where assistance is received in fishing communities, it is almost always in the form of loans, rather than grants or technical assistance.

In terms of inequality of access, although rates of food insecurity were three times more likely in households classified as asset poor, rates of access to assistance for food insecurity were significantly lower for such households (Table 5.12.14) as well as for all other types of assistance except for fisheries failure. Here, despite similar rates of poverty amongst fishermen, the poorer were slightly more likely to be able to access assistance for fishery failure, probably due to selection criteria.

Table 5.12.14 Rates of access to assistance by poor and non-poor households in fishing communities

	food security	crop failure	health emergency	disability	ageing	pregnancy	education	abuse/violence	other	fishery failure
poor	29.7%	2.0%	22.3%	0.7%	2.0%	2.7%	8.8%	0.0%	0.7%	4.7%
non-poor	51.3%	19.3%	42.7%	3.3%	6.0%	11.3%	20.7%	0.0%	5.3%	2.7%

Overall, non-poor households were significantly more likely than poor households to get any kind of assistance, and especially assistance from neighbours, relatives and government programmes. There were no significant differences in rates of access to assistance based on social capital, although households which had lower levels of overall social participation in village meetings were more likely to get assistance from neighbours and relatives.

The same findings were represented in non-fishing communities, but in non-fishing communities, there were also significant differences between social and demographic groups. Households with high levels of social capital (see methodology chapter for description of indicators and methods) were significantly more

likely to get assistance than households with low social capital. Households which participated more actively in village meetings were almost twice as likely as less active households to get any kind of assistance. Finally, male headed households were more likely than female headed households to get assistance, especially assistance from government.



### 5.13 Poverty reduction: public opinion

Respondents were asked what they wished the government and other agencies would prioritize with regard to poverty reduction, and the description of the methodology for this questioning is given in Chapter 19. Here, we highlight differences in the priorities for poverty reduction expressed by those living in fishing communities and non-fishing communities.

Table 5.13.1 Priorities for poverty reduction by fishing and non-fishing communities (% selecting as priority)

	Low/no interest loans	Education opportunity	Natural resource management	Livelihood for youth	Minimum basic household income	Micro-enterprise	Market development	Direct humanitarian assistance	Community based organizations	Basic health services	Protection for vulnerable groups	Mindset change	Policy for agriculture and fisheries	Improve technical capacity	Improve basic infrastructure and roads	DRR	Loans for agriculture	Support for livestock and fisheries	State-owned processing factories	Training for small business	Other
Fishing	79.0	36.7	9.7	45.9	6.1	51.1	4.6	13.7	3.5	5.5	2.1	0.4	1.0	3.2	14.1	1.2	9.0	9.4	3.6	0.4	0.8
Non-fishing	74.1	31.6	8.4	45.6	5.5	36.3	4.9	21.4	4.4	9.1	4.3	1.7	1.0	1.5	15.8	0.9	10.8	8.8	3.3	0.7	0.7

Overall the profile of key priorities (low/no interest loans, livelihoods for youth, micro-enterprise and educational opportunities) were similar for both fishing and non-fishing communities. However, fishing communities were significantly more likely to prioritize credit-related interventions such as low or no-interest loans and micro-credit as well as education. Support for prioritizing livelihoods was similar for both fishing and non-fishing communities, but non-fishing communities were significantly more likely to prioritize basic health services, protection for vulnerable groups, basic infrastructure and the need for direct humanitarian assistance. This correlates both with the conceptualization of poverty and also the vulnerability profile of fishing communities.

### 5.14 Natural Resource Management

Linked to questions on poverty reduction are also questions concerning the management of natural resources. Respondents were asked what they think should be done, and what is actually being done, in their communities. Complete methodology for the questioning is included in Chapter 19. Here, we highlight differences in priorities for natural resource management expressed by those living in fishing communities and non-fishing communities.

Table 5.14.1 Priorities and current activities for natural resource management in fishing and non-fishing communities

	cut one, plant two tree policy	Training on natural resource law and policy	Village level committee	Systematic disposal of waste	Signboard in village	Replacement programme	Water retaining trees	Networking	Natural resource substitute livelihood	Central planning, household	Other	Sustainable resource management
<b>Fishing communities</b>												
selected	39.4 %	36.2 %	41.4 %	37.9 %	32.0 %	12.3 %	21.7 %	4.4 %	6.6 %	1.5 %	1.1 %	3.3 %
reported doing in their community	20.0 %	6.8 %	6.1 %	7.2 %	1.1 %	0.4 %	6.2 %	0.6 %	0.6 %	0.0 %	0.0 %	0.1 %
<b>Non- fishing communities</b>												
Selected	38.2 %	29.4 %	39.2 %	45.7 %	32.7 %	12.8 %	12.0 %	8.1 %	9.6 %	6.0 %	1.0 %	0.3 %
Reported doing in their community	2.6 %	2.0 %	1.9 %	2.7 %	2.6 %	0.5 %	0.7 %	0.1 %	0.1 %	1.5 %	0.0 %	0.3 %

The reported priorities for natural resource management in fishing and non-fishing communities did not differ significantly, but the reported activity rates varied dramatically. Much higher rates of natural resource management were reported in fishing communities than in non-fishing communities. Overall, less than 10% of respondents from non-fishing communities reported any activities taking place in their community, compared with 27% of respondents from fishing communities.

## 6. Dimensions of poverty: livelihoods

### Chapter summary

The majority of rural households are engaged in agriculture or related livelihoods. However, in over one-third of households, the main income source is casual labour, and more than half of all rural households have only one income source. Less than one in five households has any regular income. Livelihood diversity is strongly linked to higher economic status, lower poverty rates, higher levels of social capital and higher rates of school attendance by children. Active participation in livelihoods by women, persons with disabilities and older persons can increase livelihood diversity, reduce economic dependency and reduce vulnerability. 13% of all rural households have one or no income generators, and a further 14% have four or more economic dependents, with the highest ratios of working age dependents found in Mon, Chin and Yangon. Lack of livelihood opportunities drives many rural Myanmar residents to other parts of Myanmar or abroad in search of work. Although 3.4% of all rural households receive remittance, remittances represent the primary income source for only 1.35% of households surveyed. However, the proportion of remittance-reliant households was much higher in Kayin State and Mon State. Nearly one in five school aged children was reported to be out of school and primarily contributing to households income generation, with higher rates in Shan State, Chin State and Mandalay Region.

### Livelihood diversity

One of the critical elements in poverty reduction and increasing household resilience is increasing livelihood diversity. The majority of respondents in rural households describe poverty largely in terms of livelihoods, and the lack of a livelihood is the single most influential factor associated with increased rates of vulnerability and poverty. Hence, understanding livelihood diversity, economic dependency and access to livelihood resources is crucial to our understanding of the rural economy.

Firstly, more than half of all rural households are dependent on a single source of income. A further one-third have two sources, and only 14% have more than two income sources. Table 6.1 shows the proportions of households in each state and region with more than one income source. This varies significantly between household types, with male headed households being significantly more likely to have multiple income sources than female headed households. Also important, less than one in five households reports having any regular income: This means that the remaining 81% are reliant entirely on seasonal or daily wage incomes. Over one-third of rural households derive the majority of their income from casual labour, and remittance income is significant for many households (remittances as income are considered in detail later in this chapter). Female headed households are more likely to be dependent on casual labour and remittances than male headed households and use a smaller proportion of their income for livelihood investment. Secondly, the proportion of household income used for livelihood investment is low.

Typically, livelihood investment would be for buying equipment, seeds, fertilizer or other items needed to expand, improve or sustain a livelihood. However, only households in Shan State demonstrate a significant proportion of re-invested income. In most households, the proportion of income spent on investment in livelihoods was significantly lower than the amount expended on servicing and repaying existing debt. Compared with households in the bottom quintile for livelihood diversity, households in the top quintile for livelihood diversity had 50% more asset value, double the rates of social capital and community participation, half the rates of out-of-school children, and higher rates of land ownership. This illustrates the positive correlation between livelihood diversity and economic status, although further analysis is needed to determine causality.

Table 6.1 Overview of livelihood diversity in weighted national sample and state and regional data

	Livelihood diversity (% with more than one source)	Proportion of HH dependent on fisheries	Proportion of HH dependent on agriculture	Proportion of HH dependent on remittances	Proportion of HH dependent on casual labour	% households reporting any regular income stream	% household expenditure used for livelihood investment
Union	48.6%	4.3%	46.7%	2.0%	38.8%	18.7%	3.7%
Kachin	57.1%	0.4%	36.8%	1.8%	47.4%	9.0%	4.4%
Kayah	58.7%	0.3%	79.9%	0.1%	17.1%	2.2%	3.4%
Kayin	51.1%	2.4%	38.9%	12.1%	37.5%	17.2%	3.4%
Chin	70.1%	1.4%	55.9%	5.7%	24.2%	9.7%	3.2%
Sagaing	49.6%	1.1%	56.6%	0.6%	32.6%	6.4%	4.4%
Tanintharyi	32.6%	11.6%	31.5%	4.1%	36.7%	19.1%	3.8%
Bago	43.9%	0.5%	36.1%	4.1%	49.0%	29.4%	3.3%
Magwe	42.6%	0.6%	61.6%	3.8%	28.9%	38.4%	3.3%
Mandalay	51.1%	1.0%	52.3%	0.3%	37.1%	7.1%	3.3%
Mon	28.7%	3.0%	35.1%	7.0%	48.0%	49.6%	3.6%
Rakhine	50.0%	11.1%	34.2%	0.7%	51.2%	3.9%	3.4%
Yangon	29.8%	4.7%	25.0%	0.8%	52.8%	14.4%	3.8%
Shan	44.0%	2.7%	78.9%	0.0%	28.5%	16.8%	4.5%
Ayearwaddy	68.0%	14.7%	26.6%	0.4%	39.8%	22.0%	3.3%
Nay Pyi Taw	54.8%	0.3%	47.6%	2.1%	47.3%	10.8%	4.5%

Rates of livelihood diversity varied considerably among region: The typical household in Chin State had more than 2 sources of income, while low rates of diversity are seen in Mon State and Tanintharyi (Table 7.1). The high rate of diversity in Chin State may be explained in part by high rates of households receiving remittances (nearly 12%) and is also partly offset by lower rates of regular livelihood and investment in livelihood. Livelihood diversity is strongly correlated with economic dependency, but there is no statistically significant correlation with either land ownership or electrification. Overall, this and the tables below demonstrate the extent to which livelihood vulnerability patterns differ between different states and regions.

Table 6.2 Overview of livelihood type in weighted national sample and state and regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
Agriculture	39.1%	28.7%	67.0%	31.4%	40.2%	47.4%	26.3%	30.5%	50.0%	41.3%	24.8%	28.6%	23.1%	65.7%	21.5%	36.6%
Fisheries	3.7%	0.8%	0.6%	1.9%	0.9%	0.7%	10.4%	0.5%	0.5%	1.2%	3.1%	9.0%	3.7%	2.1%	12.9%	0.1%
Livestock	6.2%	6.5%	4.7%	6.0%	17.4%	5.8%	1.4%	5.8%	5.9%	8.3%	2.1%	6.1%	3.3%	3.5%	8.6%	8.3%
Casual	34.4%	43.9%	20.5%	33.5%	21.5%	32.1%	32.7%	44.1%	28.3%	34.0%	47.2%	46.2%	47.1%	22.7%	36.9%	42.3%
all other	16.6%	20.1%	7.3%	27.2%	20.0%	14.1%	29.3%	19.0%	15.4%	15.3%	23.0%	10.2%	22.8%	6.0%	20.2%	12.7%

Table 6.2 shows the proportions of household income derived from different sources, again demonstrating a heavy reliance on casual labour in rural communities. Casual labour is the majority income generation category for rural households in Kachin State, Kayin State, Tanintharyi Region, Bago Region, Mon State, Rakhine State, Yangon Region, Ayeyarwaddy Region and Nay Pyi Taw Council. This contributes significantly to the economic vulnerability of rural households.

Landed households and households where animal husbandry, selling, or waged employment were the major income sources had higher average number of income sources. Education status of the household head and number of household members were not significantly associated with higher rates of livelihood diversity.

Table 6.3 Average income sources per household, by household type and main livelihood type

Household type	Income sources per household
Landed	1.85
Landless	1.47
Fishing major	1.83
Agriculture major	1.78
Remittance major	1.76
Daily wage major	1.49
Animal husbandry major	2.12
Selling major	1.86
Employment major	2.56

Households with a larger number of income sources typically spend less on essentials such as food and debt repayment, have more positive asset profiles, and are more active in community decision making processes.

### Livelihoods: Labour force participation and dependency

Critical to increasing resilience is increasing the involvement of household members in livelihood activities, reducing economic dependency where possible and appropriate. Thus, active participation in livelihoods by women, persons with disabilities and older persons can increase livelihood diversity, reduce economic dependency and reduce vulnerability. 13% of all rural households have one or no income generators, and a further 14% have four or more economic dependents. The average number of economic dependents varies considerably from state and region, with the highest ratios of working age dependents found in Mon, Chin and Yangon. This typically correlates with high levels of dependent women of working age. The data on dependency is laid out in Table 6.4.

Table 6.4 Economic dependency

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
Average # dependents (all)	1.90	2.62	2.25	2.13	2.81	2.28	2.28	1.73	1.54	1.56	2.28	1.77	1.77	1.37	2.1	1.85
Average # dependents of working age (WA)	0.40	0.51	0.33	0.37	0.59	0.44	0.55	0.34	0.33	0.30	0.65	0.32	0.55	0.15	0.5	0.42
% WA women who are dependent	17.7	21.94	14.90	17.21	22.28	15.34	27.47	17.49	12.89	11.35	35.90	14.33	26.94	5.91	26.43	17.29
Dependent PwD %	51.9	68.15	61.26	63.64	61.59	23.94	46.88	56.25	63.74	53.57	24.59	72.68	37.04	75.81	46.90	34.09

In terms of types of livelihood involvement, the majority of women who are engaged in livelihoods are engaged in casual labour or family business. However, female casual labour rates vary greatly from state and region, being highest in Rakhine and Mon. Table 6.5 shows the involvement in livelihoods of women of all ages.

Table 6.5 Overview of Livelihood involvement by women in weighted national sample and State and Regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
None	14.2	15.6		13.5	13.8	11.8	22.7	14.2			33.9	11.3	24.4		24.5	12.6
	%	%	9.5%	%	%	%	%	%	7.9%	8.3%	%	%	%	3.0%	%	%
family business	23.7	17.8	38.7	28.2	28.7	37.8	27.5	19.4	22.6	25.0		32.6	25.1		21.9	28.2
	%	%	%	%	%	%	%	%	%	%	6.9%	%	%	9.1%	%	%
casual	23.3	26.2		24.0	13.7	21.8	15.9	32.7	16.0	28.6	30.9	36.4	23.9	14.4	24.6	29.9
	%	%	8.1%	%	%	%	%	%	%	%	%	%	%	%	%	%
waged employment	3.2%	2.2%	2.6%	4.2%	1.8%	3.3%	3.9%	2.7%	3.5%	2.6%	3.3%	1.5%	7.7%	1.2%	3.4%	2.4%
student	3.5%	6.4%	5.4%	3.7%	8.5%	3.6%	4.9%	3.3%	5.0%	3.1%	2.0%	3.0%	2.6%	2.9%	1.9%	4.7%
part-time/own business	21.0	26.0	34.7	21.9	26.7	17.8	21.2	21.4	16.6	25.7	20.9	11.7	13.0	37.4	13.4	19.8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
other	11.1								28.4					32.1	10.3	
	%	5.8%	1.0%	4.5%	6.8%	3.9%	3.9%	6.4%	%	6.6%	2.0%	3.4%	3.5%	%	%	2.4%



Previous research has demonstrated the significant positive impact on household resilience of involvement of persons with disabilities in household livelihood activities. The extent to which PwDs are involved in livelihoods varies greatly from state and region, with over half of PwDs in Nay Pyi Taw, Tanintharyi, Sagaing, Mon and Yangon taking no part in economic activities. When PwDs do engage in economic activities, it is most likely to be casual labour or family business. Households where PwDs engaged in economic activities were significantly less likely to be vulnerable than those where PwDs did not. Table 6.6 shows involvement by type of livelihood for PwDs of working age.

Table 6.6 Overview of Livelihood involvement by persons with disabilities in weighted national sample and State and Regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
None	47.3	29.8	37.2	35.4	35.6	76.1	52.3	43.8	36.3	46.4	75.4	26.8	61.7	19.4	52.4	65.9
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
family business	13.8		25.7	18.2	16.3		13.3	14.4	15.4	17.9		13.2		16.1	14.5	11.4
	%	6.8%	%	%	%	8.5%	%	%	%	%	0.0%	%	8.6%	%	%	%
casual	16.6	20.1		28.3	14.5		15.6	19.4	18.7	14.3	16.4	38.0	13.6	17.7	15.9	
	%	%	3.6%	%	%	5.6%	%	%	%	%	%	%	%	%	%	6.8%
waged employment	0.7%	0.3%	0.8%	3.0%	1.7%	0.0%	0.8%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	3.2%	0.7%	2.3%
student	0.8%	2.1%	2.0%	1.0%	2.8%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.5%	1.2%	4.8%	0.7%	0.0%
part-time/own business	15.4	35.8	29.6	11.1	23.5		12.5	19.4		19.0		19.5	11.1	29.0		11.4
	%	%	%	%	%	5.6%	%	%	8.8%	%	8.2%	%	%	%	7.6%	%
Other									17.6							
	5.4%	5.2%	1.2%	3.0%	5.5%	4.2%	4.7%	3.1%	%	2.4%	0.0%	2.0%	3.7%	9.7%	8.3%	2.3%

As with disability, previous research has demonstrated the significant positive impact on household resilience of involvement of older persons in household livelihood activities. Casual labour is still a significant source (>30%) of labour force engagement for older persons in places such as Bago, Rakhine and Mon State, while over 30% of older persons are involved in family business in Kayah and Sagaing. Almost 40% of older persons in Shan work in their own businesses. Table 6.7 shows involvement in type of livelihood for persons aged 65 and over.

Table 6.7 Overview of Livelihood involvement by older persons in weighted national sample and State and Regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
None	14.2	15.6		13.5	13.8	11.8	22.7	14.2			33.9	11.3	24.4		24.5	12.6
	%	%	9.5%	%	%	%	%	%	7.9%	8.3%	%	%	%	3.0%	%	%
family business	23.7	17.8	38.7	28.2	28.7	37.8	27.5	19.4	22.6	25.0		32.6	25.1		21.9	28.2
	%	%	%	%	%	%	%	%	%	%	6.9%	%	%	9.1%	%	%
casual waged employment	23.3	26.2		24.0	13.7	21.8	15.9	32.7	16.0	28.6	30.9	36.4	23.9	14.4	24.6	29.9
	%	%	8.1%	%	%	%	%	%	%	%	%	%	%	%	%	%
student part-time/own business	3.2%	2.2%	2.6%	4.2%	1.8%	3.3%	3.9%	2.7%	3.5%	2.6%	3.3%	1.5%	7.7%	1.2%	3.4%	2.4%
	3.5%	6.4%	5.4%	3.7%	8.5%	3.6%	4.9%	3.3%	5.0%	3.1%	2.0%	3.0%	2.6%	2.9%	1.9%	4.7%
other	21.0	26.0	34.7	21.9	26.7	17.8	21.2	21.4	16.6	25.7	20.9	11.7	13.0	37.4	13.4	19.8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	11.1								28.4					32.1	10.3	
	%	5.8%	1.0%	4.5%	6.8%	3.9%	3.9%	6.4%	%	6.6%	2.0%	3.4%	3.5%	%	%	2.4%

A significant number of economic dependents are children, and long-term resilience is strongly linked to educational status (refer to later chapter on education). Hence, the significant involvement of school aged children in household livelihood activities may have a negative impact on long-term resilience. In the questionnaire, respondents were asked to indicate the involvement of all household members in livelihood activities, with the default choice for school aged children being 'student'. Despite this, respondents indicated that nearly one in five school aged children were out of school and significantly contributing to household livelihoods (Table 6.8). Nearly one in five households also reported having at least one school aged child who was significantly engaged in livelihoods instead of education.

Table 6.8 Overview of Livelihood involvement by children in weighted national sample and State and Regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwady	Nay Pyi Taw
Households with children as significant contributors to household livelihoods	18.3%	10.7%	14.3%	18.3%	20.9%	15%	13.5%	18.9%	11%	21.1%	16.9%	14.7%	18%	34.6%	14.3%	16.5%
Out of school children (as % of school aged children)	27.1%	18.8%	24.9%	22.8%	17.7%	25.4%	18.5%	21%	21%	28.6%	30%	18.3%	33.8%	37.8%	31.2%	29.7%

### Remittances as rural income

Lack of livelihood opportunities drives many rural Myanmar residents abroad in search of work, and remittances from these migrants are a small yet significant source of income in their communities. Remittances account for 2% of the total income among households surveyed. They are the primary income source for only 1% of households surveyed, but 4% of households report receiving remittances as some portion of their income stream. Among all households who receive remittances, 47% of their household income is coming from abroad.

Table 6.9 Remittances as rural income

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
% receiving remittances	3.75	4.00	0.51	19.49	11.97	1.50	8.01	9.75	6.43	0.38	7.56	2.21	0.78	0.26	1.06	3.04
Remittance as % of income	1.66	1.83	0.15	11.08	4.99	0.62	3.45	4.37	2.65	0.29	6.15	0.87	0.70	0.07	0.43	1.54
Remittance as % of income in HH with remittance	49.1	45.8	28.8	56.9	41.7	41.7	48.4	44.9	57.0	78.3	81.1	39.4	87.3	26.7	40.6	50.8
% households with remittances as main income source	2.03	1.75	0.13	12.09	5.68	0.58	4.12	4.13	3.75	0.31	7.01	0.69	0.78	0.00	0.44	2.11

Remittance income varies considerably by region. While Yangon, Mandalay, Ayeawaddy, Shan State and Kayah State record almost negligible (< 1%) percentages of households receiving remittances, Kayin State reports that 9.6% of its households receive remittances. Mon State has the next highest rate of household remittance receipt, yet it is only slightly more than half that of Kayin State. As would be expected, Kayin State is considerably more remittance dependent across all variables than are other regions, with an incredibly large 11.08% of total income in the region coming from remittances. The next highest remittance income percentage is in Mon State (6.15%), followed by Chin State (4.99%). In Kayin State, 15% of households in the region also report that remittances are their biggest income source. This is followed by Chin State, which reported 7.03% of houses with remittances as their primary income. Shan State, in contrast, the lowest in the country, records only 0.08% of households with remittance as their primary income.

Significant variations are seen between households considered to be “remittance dependent” and those which are not. Remittance dependent households had higher levels of landlessness, lower levels of education, and higher levels of asset poverty than their non-remittance dependent neighbors. Remittance dependent households were considered “asset poor” in 33.1% of cases, versus 9.2% of those households who did not report being remittance dependent. Across regions, significantly higher than average asset poverty rates were found in Mandalay, Magwe, Kachin State and Ayeawady Regions in remittance dependent households. Much lower than average rates of asset poverty were found in Shan and Rakhine States, Union and Sagaing.

Only 16.9% of households dependent on remittances had someone with higher than a middle school education, compared to 21.0% of the non-remittance dependent households. This value was exceeded only in Union and Mandalay. Extremely low rates of higher education were noted in remittance dependent households in Yangon, Shan State, and Ayeawady Region: the meaning of this is unclear, but may be attributable to the small sample size in these locations of remittance dependent households. Landless rates among the two groups seem similar at first glance: 49.2% of remittance households and 48.3% of non-remittance dependent households. However, when the top quintiles of wealth were excluded to get a more accurate and broad view of the populations, a clear variation in landless rates is seen. Land ownership has not been achieved by 51% of non-remittance dependent households, nor by 56% of remittance dependent households. The masking of this variation by inclusion of the top quintile of wealth may be explained by the higher level of wealth control by these individuals among remittance dependent households. The top quintile in this group controls 17.1% of overall wealth, compared to the corresponding top quintile of non-remittance households controlling only 10% of total wealth. The variation when the top wealth quintile is excluded holds across regions, and it increases with as the percent of wealth held by the top quintile increases. Absolute rates of landlessness vary considerably, with the greatest percent of landlessness in Yangon, Mandalay, Nay Pi Taw, Kachin, Mon, and Rakhine States, and Bago. Yangon and Mandalay report 100% of remittance dependent households being landless. Kayah and Shan States report the lowest landless rates among remittance dependent households.

## 7. Dimensions of Poverty: Expenditure

### Chapter summary

Food represents the largest health expenditure for most households, and nearly half of all expenditure. Debt, health and official and social payments are the next largest categories, and a typical rural household spends nearly 70% of their income on food, debt servicing and health. Spending on health was associated with higher rates of vulnerability, whereas spending on livelihoods was associated with lower rates of vulnerability. Rates of spending on livelihoods varied greatly, with nearly 18% of household income in Shan State spent on livelihoods, versus under 2% in Chin State. Health expenditure also varied considerably, with the proportion spent on health double in Chin State compared to Shan State. Expenditure patterns did not vary significantly between male and female headed households.

### Key findings

A typical rural household spends nearly 70% of their income on food, debt servicing and health, with the next largest category being official/social, which is mostly formed by voluntary donations, but also includes involuntary donations, contributions, payments and taxes. Just over 1% of household income is used for savings, and less than 10% for either education or livelihood investment.

Table 7.1 Expenditure profiles

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Union	42.6%	11.9%	13.0%	8.7%	7.5%	11.2%	3.2%	0.8%	1.1%
Kachin	40.6%	10.3%	18.0%	13.6%	4.4%	9.3%	3.2%	0.4%	0.2%
Kayah	49.4%	13.7%	11.9%	11.0%	5.5%	4.9%	1.8%	0.1%	1.7%
Kayin	46.0%	7.9%	16.1%	11.6%	5.1%	7.3%	3.8%	0.5%	1.8%
Chin	48.1%	8.1%	22.1%	13.1%	1.7%	3.2%	2.5%	0.4%	0.9%
Sagaing	42.3%	8.8%	14.6%	8.8%	5.6%	14.4%	2.0%	1.2%	2.5%
Tanintharyi	42.6%	11.6%	15.0%	9.9%	5.7%	8.8%	4.0%	1.3%	1.0%
Bago	35.6%	15.9%	14.8%	8.9%	5.9%	11.4%	5.6%	1.6%	0.5%
Magwe	49.1%	11.4%	10.8%	7.8%	7.2%	11.9%	1.2%	0.2%	0.4%
Mandalay	43.7%	9.4%	12.0%	8.6%	7.4%	15.5%	2.0%	0.3%	1.2%
Mon	34.5%	12.2%	15.5%	9.1%	8.5%	11.6%	5.6%	0.7%	2.4%
Rakhine	43.8%	13.9%	15.3%	10.7%	5.7%	7.7%	2.0%	0.2%	0.8%
Yangon	40.6%	17.5%	13.6%	7.4%	5.2%	10.8%	4.2%	0.2%	0.6%
Shan	44.6%	8.7%	7.4%	7.0%	17.7%	10.2%	2.2%	0.9%	1.4%
Ayearwaddy	42.6%	14.8%	13.6%	8.3%	5.1%	8.9%	4.6%	1.5%	0.5%
Nay Pyi Taw	46.0%	12.4%	9.4%	8.6%	7.4%	12.5%	2.9%	0.3%	0.5%

Households with higher proportions of spending on health were more likely to be vulnerable than households with a lower proportion of spending on health, and households with any reported spending on livelihoods were less likely to be vulnerable than those who reported no spending on livelihoods; households spending more on official and social spending were less likely to be vulnerable than those whose spending was lower, and households reporting savings were slightly less likely to be vulnerable than those who did not. Overall, the spending categories most closely correlated with vulnerability are health, livelihoods and social spending.

Table 7.2 Households reporting any expenditure in categories

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Union	99.8%	64.2%	75.9%	54.9%	38.4%	79.1%	28.1%	6.5%	7.7%
Kachin	99.3%	60.9%	89.5%	70.6%	27.4%	73.7%	28.7%	3.3%	2.0%
Kayah	100%	61.0%	71.1%	62.6%	35.7%	52.4%	17.5%	0.9%	11.6%
Kayin	97.6%	48.2%	76.7%	60.9%	30.7%	64.8%	31.6%	3.9%	12.7%
Chin	98.5%	43.4%	82.7%	60.8%	11.9%	27.8%	18.7%	2.9%	9.2%
Sagaing	99.9%	50.3%	79.1%	53.1%	30.1%	80.8%	17.4%	9.2%	15.7%
Tanintharyi	100%	67.0%	87.7%	65.1%	37.0%	74.1%	34.8%	8.4%	7.8%
Bago	100%	82.1%	87.9%	59.7%	30.4%	82.8%	47.8%	10.6%	3.8%
Magwe	99.8%	60.8%	61.4%	46.3%	37.7%	80.3%	9.9%	1.2%	2.1%
Mandalay	100%	61.5%	77.9%	54.3%	39.1%	89.2%	17.1%	2.6%	8.6%
Mon	100%	64.5%	89.8%	60.9%	50.2%	90.9%	50.0%	5.6%	17.8%
Rakhine	99.9%	70.0%	77.6%	59.7%	26.3%	60.3%	17.2%	1.6%	6.0%
Yangon	99.8%	84.5%	83.1%	50.0%	29.5%	79.6%	37.8%	1.9%	2.8%
Shan	100%	47.4%	56.8%	52.5%	76.3%	86.9%	18.9%	8.1%	11.1%
Ayearwaddy	99.9%	75.4%	78.2%	53.1%	30.5%	72.0%	43.1%	12.2%	4.3%
Nay Pyi Taw	100%	66.4%	56.4%	51.1%	33.6%	83.0%	22.6%	2.7%	3.0%

Nearly two-thirds of rural households reported some expenditure on debt; three quarters on health, and over half on education. However, rates of livelihood-related spending were low, particularly in Chin State, Rakhine State and Kachin State, but much higher in Shan State and Mon State. Reported education spending was fairly consistent, but significantly higher in Kachin State. Overall, savings rates were low (less than one in ten households) and very low in Magwe, Nay Pyi Taw and Yangon. Not surprisingly, food expenditure was the largest single expenditure category for most households. However, debt and health represented the largest (or joint-largest) expenditure category in 7.9% and 8.2% of households respectively. Households where health was the largest expenditure were significantly more likely to be vulnerable than those where it was not, and households where livelihoods was the largest expenditure were significantly less likely to be vulnerable than households where it was not the largest expenditure.

Table 7.3 Single largest expenditure category

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Union	89.4%	7.9%	8.2%	5.0%	7.9%	4.3%	0.9%	0.4%	0.6%
Kachin	82.9%	3.6%	13.4%	9.3%	2.7%	2.3%	0.8%	0.3%	0.0%
Kayah	91.9%	11.6%	4.5%	3.7%	2.0%	0.2%	1.8%	0.0%	2.3%
Kayin	90.6%	2.3%	13.5%	7.3%	2.4%	1.0%	0.7%	0.1%	0.5%
Chin	81.7%	4.3%	21.0%	8.9%	0.8%	1.0%	0.8%	0.1%	0.0%
Sagaing	87.6%	3.3%	10.1%	6.7%	5.9%	8.9%	0.7%	1.1%	1.6%
Tanintharyi	93.2%	7.7%	9.2%	5.3%	3.9%	1.9%	0.5%	0.2%	0.3%
Bago	87.6%	17.4%	11.4%	4.3%	10.3%	6.6%	3.4%	1.3%	0.2%
Magwe	95.7%	3.1%	6.2%	4.7%	4.1%	2.1%	0.3%	0.1%	0.5%
Mandalay	96.3%	1.0%	3.8%	3.9%	6.7%	8.1%	0.3%	0.1%	0.3%
Mon	85.6%	12.6%	13.9%	6.8%	9.6%	5.6%	2.0%	0.1%	2.3%
Rakhine	89.0%	7.1%	8.3%	5.6%	7.7%	1.5%	0.1%	0.1%	0.3%
Yangon	83.9%	14.7%	9.1%	4.8%	5.9%	4.0%	0.9%	0.0%	0.3%
Shan	87.5%	6.1%	2.1%	2.1%	22.1%	1.4%	0.9%	0.3%	0.5%
Ayearwaddy	88.5%	12.5%	9.4%	4.8%	3.1%	2.6%	0.2%	0.6%	0.2%
Nay Pyi Taw	89.7%	9.6%	6.3%	6.8%	13.4%	5.3%	1.5%	0.0%	0.3%

Expenditure profiles do not vary significantly between male and female headed households, as evidenced by comparing tables 7.4 and 7.5.



Table 7.4 Expenditure by male-headed households

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Union	42.6%	11.9%	13.0%	8.8%	7.5%	11.1%	3.2%	0.9%	1.1%
Kachin	40.1%	10.2%	18.1%	14.0%	4.3%	9.4%	3.2%	0.4%	0.3%
Kayah	49.4%	13.6%	11.8%	11.1%	5.5%	4.9%	1.8%	0.2%	1.6%
Kayin	46.1%	7.5%	16.3%	11.7%	5.2%	7.4%	3.7%	0.4%	1.7%
Chin	47.9%	8.0%	22.0%	13.3%	1.6%	3.3%	2.6%	0.4%	0.9%
Sagaing	42.1%	8.7%	14.5%	9.0%	5.6%	14.4%	1.9%	1.4%	2.5%
Tanintharyi	42.7%	11.6%	15.3%	10.0%	5.7%	8.7%	4.0%	1.3%	0.9%
Bago	35.8%	15.9%	14.8%	8.9%	5.7%	11.4%	5.5%	1.5%	0.4%
Magwe	48.5%	11.5%	10.9%	7.9%	7.3%	12.0%	1.2%	0.2%	0.4%
Mandalay	43.5%	9.3%	12.1%	8.9%	7.4%	15.5%	1.9%	0.3%	1.1%
Mon	34.8%	12.3%	15.3%	9.1%	8.4%	11.5%	5.6%	0.6%	2.4%
Rakhine	43.6%	14.0%	15.2%	10.5%	6.0%	7.7%	2.0%	0.2%	0.8%
Yangon	40.4%	17.7%	13.5%	7.4%	5.1%	10.9%	4.3%	0.2%	0.6%
Shan	44.8%	8.5%	7.4%	6.9%	17.8%	10.1%	2.2%	0.9%	1.3%
Ayearwaddy	42.5%	14.9%	13.6%	8.5%	5.1%	8.8%	4.6%	1.5%	0.5%
Nay Pyi Taw	46.3%	12.6%	9.2%	8.6%	7.2%	12.3%	2.9%	0.3%	0.5%

Table 7.5 Expenditure profile, female headed households

	Food	Debt	Health	Education	Livelihood	Official/ Social	Travel	Others	Savings
Union	42.6%	11.8%	13.3%	8.5%	7.2%	11.3%	3.1%	0.8%	1.2%
Kachin	42.4%	10.8%	17.8%	12.1%	4.8%	8.7%	3.1%	0.3%	0.1%
Kayah	49.6%	13.4%	12.5%	10.8%	5.3%	4.8%	1.5%	0.0%	2.0%
Kayin	45.6%	9.1%	15.5%	11.3%	4.7%	7.1%	3.8%	1.0%	1.9%
Chin	48.3%	8.6%	23.0%	12.4%	2.0%	2.5%	2.0%	0.3%	1.0%
Sagaing	42.3%	9.2%	14.9%	8.0%	6.0%	13.9%	2.3%	1.2%	2.3%
Tanintharyi	42.4%	12.2%	13.8%	9.6%	5.6%	9.2%	4.4%	1.6%	1.2%
Bago	34.4%	15.8%	14.9%	8.9%	6.6%	11.2%	5.8%	1.7%	0.7%
Magwe	51.7%	10.6%	10.1%	7.4%	7.0%	11.7%	1.2%	0.1%	0.3%
Mandalay	44.4%	9.7%	11.9%	7.5%	6.9%	15.5%	2.5%	0.3%	1.4%
Mon	33.0%	12.2%	16.2%	9.0%	8.9%	11.7%	5.5%	0.9%	2.6%
Rakhine	44.4%	13.3%	15.6%	12.0%	3.9%	7.7%	2.3%	0.2%	0.5%
Yangon	41.0%	16.9%	14.3%	7.4%	5.6%	10.5%	3.3%	0.2%	0.6%
Shan	42.7%	10.2%	7.8%	7.6%	16.3%	11.0%	2.0%	0.8%	1.7%
Ayearwaddy	43.5%	14.2%	13.9%	7.7%	5.1%	9.3%	4.0%	1.6%	0.7%
Nay Pyi Taw	43.7%	11.5%	10.7%	8.4%	8.5%	13.5%	3.0%	0.2%	0.5%

## 8. Dimensions of poverty: Health

### Chapter summary

Health expenditure represents the single largest expenditure for nearly 1 in 10 households, and consumes 13% of all income. Poor health accounts for a loss of over a month of productive working days per household per year, and female headed households tend to suffer disproportionately from ill health and higher rates of expenditure on healthcare. Expenditure on healthcare varies across the country, with households in Chin State reporting spending the greatest percentage of their incomes (22%) on health care, and the highest percentage of households listing health as their primary expenditure (21%). There was significant correlation between the days lost to ill health and the percentage of income spent on healthcare. Likewise, in Chin State, Rakhine State and Shan State there was strong correlation between the extent of ill health and the accessing of loans for emergency health. Furthermore, there is a significant association between rates of accessing credit for health emergencies and high proportions of expenditure on debt repayments, suggesting that debt incurred due to health emergencies is a significant contributor to problem debt.

### Key findings

Health is reported to be the single biggest expenditure for 8.2% of rural Myanmar households, and it accounts for 13% of total income expenditure for all households combined. More female headed households (10.3%) report health to be their biggest expenditure than do male headed households (8.1%).

In addition to direct expenditures, health concerns also account for an alarmingly high level of lost income due to lost working time. In one year, income generating individuals (IG) report losing an average of 6.58 work days due to health concerns: This includes either personal illness or caring for other household members. Female headed households report a higher number of lost working days per IG individual on average (7.78) than do male headed households (6.63). When taken as a household unit, an average of 23 days of work per year for are being lost on due to personal illness of an IG individual, with 28.7% of families reporting losing over 20 days of work per year to an IG illness. A smaller but equally concerning (16.8%) percentage of households have lost over 20 days of income to an IG individual is caring for others, while an economically active individual caring for others resulted in a household average overall loss of 13.9 days per year. Male headed households lost a significantly greater number of working days in caring for others (14.23) than did female headed households (11.88); this could be related to the presence of more IG individuals in many male headed households than female headed households, where the female is more likely to be the sole source of support.

Health concerns vary greatly across regions of the country. Chin State residents spend the greatest percentage of their incomes (22%) on health care, and they also report the highest percentage of households listing health as their primary expenditure (21%). Chin State residents are followed closely by Kachin State residents in health expense: They spend an average 18% if their income on health concerns. Kachin, Kayin, and Mon State all also list notably higher than average percentages of households reporting health as a primary expense. Shan State reported the lowest health care expenditure by far (7.4%), followed by Nay Pi Taw (9.4%). Surprisingly, residents in the larger cities of Yangon and Mandalay spend a comparable amount of their income on health concerns to that spent by rural residents.

Lost work time due to illness also varies by region. Kachin and Chin States report missing over twice the number of days per IG individual due to illness when compared to the national average of 6.84; Mandalay, Shan State and Ayeawaddy report missing less than half the national average of days. When taken by household, Chin, Kachin, and Tanintharyi report incredibly high numbers (over 40) days of work missed per year due to IG ill health; Kayin, Sagaing, and Rakhine States all reported averages of > 30 days per household missed due to IG illness. These regions also reported higher than average numbers of days missed due to an IG caring for someone else in the household. Close to half of households in Chin, Kachin, Sagaing and Tanintharyi reported missing greater than 20 days of work per year due to IG illness; with the exception of Tanintharyi, each of these regions also recorded significantly higher than average percentages of households missing > 20 days of work per year caring for other household members. Mandalay, Magwe, Shan and Ayeawaddy all reported lower percentages for > 20 lost working days than national averages.

The frequency and duration of illness measured in number of days lost per households has a strong statistical correlation to the percent of health expenditure per household. This is an indication that improved access to quality health care services and education has the potential to bring a considerable reduction in household expenditures. With almost one third of rural households (28.9%) having lost over 30 days of work for IG per year to either personal ill health or caring for others (and over 50% of households in Chin State, Kachin State, and Sagaing Regions), the vital need to improve the scope of, quality of and access to essential health services in communities is clear.

There was significant correlation between the days lost to ill health and the percentage of income spent on healthcare. Likewise, in Chin State, Rakhine State and Shan State there was strong correlation between the extent of ill health and the accessing of loans for emergency health.

Finally, significant association was noted between rates of accessing loans for emergency health and the proportion of expenditure spent on debt repayments. Households that report accessing loans for health emergencies spend more on debt payments than households who did not access loans for health emergencies.

Table 8.1 Health indicators from National weighted sample and state and regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwadd	Nay Pyi Taw
Health expenditure	13%	18.0%	12.0%	16.1%	22.1%	14.6%	15.0%	14.8%	10.8%	12.0%	15.5%	15.3%	13.6%	7.5%	13.6%	9.4%
Health as largest expense	8.2%	13.4%	4.5%	13.5%	21.0%	10.1%	9.2%	11.4%	6.2%	3.8%	13.9%	8.3%	9.1%	2.1%	9.4%	6.3%
HH with IG member losing over 1 month to own ill health & caring	28.7%	62.3%	35.0%	34.0%	59.5%	55.2%	38.1%	28.5%	18.1%	14.7%	24.7%	35.6%	25.4%	15.5%	14.2%	26.1%
Average days lost per household to ill health of IG	23.1	42.2	22.9	30.4	48.3	37.6	43.0	28.0	16.8	17.5	25.2	31.1	20.8	12.4	10.6	20.6
Average days lost per household to caring for others by IG	13.3	26.1	17.5	20.0	38.7	25.1	17.0	10.0	11.2	7.2	12.9	16.7	10.8	8.9	6.2	17.9

Gender differential <sup>42</sup>	1.24	1.11	0.59	1.16	1.04	0.96	1.13	1.39	0.98	1.96	1.17	1.05	1.23	1.28	1.30	1.42
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<sup>42</sup> Female:male headed households comparing percentage of expenditure on health and lost days. A ratio over 1 shows higher levels of health related expenditure and days lost to ill health amongst female-headed households, compared to male-headed households

## 9. Dimensions of poverty: Debt

### Chapter summary

Debt and access to credit represent a major issue for rural households. More than one in every ten households spends at least 10% of their income on debt repayments. Debt repayments consume nearly 12% of all household income, and over half of households are borrowing primarily from high risk lenders. Nearly 6% of households across the nation can be labeled as “high risk”: Those households who lend primarily to high risk creditors and whose debt burden accounts for over 30% of their income. The highest percentages of households with high risk debt are located in Kayah, Rakhine, Ayearwaddy, Yangon and Bago (where ten percent or more of residents fall into this category).

Findings from the national sample also indicated significant consequences of unsustainable debt, with reduced spending on food, health and education, removal of children from school, migration, engagement in more difficult, dangerous or illegal work and a range of other social consequences.

As noted in the section on public opinion for priority interventions for poverty reduction, the most frequently selected priority was for low or no-interest loans, and the selection of this response was strongly correlated with high levels of debt, and high-risk debt.

### Key findings

A significant percent of rural households are suffering under a large debt burden, and interviews revealed their perception that debt is one reason for worsening poverty. Debt repayments can easily consume so much income that households are unable to invest in education, livelihood or social development: Attempts to mitigate this debt burden may also involve unfavourable practices such as withdrawing children from school, reducing food intake (thus increasing under-nutrition), and/or engaging in risky labour practices and migration. Furthermore, the inability to pay increasing debt burdens may result in refusal of further credit, loss of assets, legal action, seized collateral, or social exclusion, and it has been linked to depression and household and village conflict.

Across all strata, 63% of rural households report spending at least 10% of their income on debt, and overall, spending on debt repayments accounted for nearly 12% of all expenditure, and debt repayment is labeled as the biggest income expenditure for 8.6% households. An alarming percentage of households (5.24%) are spending greater than 30% of their income on debt repayment, which is above the level considered to constitute ‘problem debt’.<sup>43</sup> This level of expenditure is unsustainable, particularly when it debt continues to accrue with emergency healthcare and other social needs. There is little variability in the overall level of indebtedness between male and female headed households.

Households in Yangon has the highest percent of income spent on debt repayment (17%), with households in Bago, Ayearwaddy, and Kayah also spend very large percentages of income on their debt; other regions vary but are closer to the national average. Residents in Kayah and Chin State spend the least on debt repayment. These two regions, along with Mandalay, Sagaing, Magwe and Kachin, also record low percentages (<5%) of households ranking debt as their largest expenditure. This is in stark contrast to Bago,

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<sup>43</sup> <http://www.theguardian.com/money/2015/sep/08/problem-debt-number-of-households-affected-rises-by-a-quarter>

where 17% of residents report debt to be their largest expense: High percentages of residents in Yangon, Ayeawaddy, and Kayah also do so. Seven regions - Kayah, Rakhine, and Mon States, Yangon, Bago and Nay Pi Taw - record more than 10 % of their households spend over 30% of their income on debt repayment, and 22.3% Kayah State.

The presence of such high levels of debt is concerning in its own right, but perhaps a greater concern lies with whom the debt is owed. On the whole, 41.2% of households are lending to creditors primarily considered “high risk.” When compared to higher risk lenders, including village money lenders, banks, and employers, lower risk lenders such as family and INGOS are more likely to offer flexible payment schedules to those in debt. They are also less likely to seize assets or invoke legal action for delay in repayment, and lower interest rates result in less debt accrual over time. The high percentage of debt owed to high risk creditors is fairly consistent across male-headed households (MHH) and female-headed households (FHH), although slightly but not significantly higher among MHH. Yangon, Tanintharyi and Bago each report that approximately 50% of their households’ lending goes high risk creditors, with 68% households in Bago Region have their debt primarily owned by high risk creditors.

Within this high risk category, an average of 4% of debt is owed to employers and 12.67% to banks. Variations in these numbers by region include a significantly higher percentage of debt owed to employers in Ayeawaddy (8.4%) and Yangon (6.6%) and higher percentages (>20%) of money being lent to banks in Mandalay and Bago. A significantly higher percentage of MHH are borrowing from banks, and a slightly higher percentage are borrowing from employers than are FHH. A slightly, although not statistically significant, higher percentage of FHH are obtaining loans from village money lenders than are male headed households, but use of these lending services is widespread. Over half (51.4%) of households across the country owe the majority of their debt to high interest village money lenders, and these lenders own 35% of the total debt for the households. Village money lenders are the primary credit source for over 60% of households in Tanintharyi, Nay Pi Taw and Bago and own over 40% of the debt in these locations.

Lower interest and lower risk lending alternatives for struggling households include families and INGOs. An average 27% of overall debt for rural households is owed to family members, with FHH borrowing a slightly higher percentage from relatives than MHH. Residents in Kayah, Kachin, and Chin State borrow significantly higher than this average percentages from family members (41%, 42%, and 50%, respectively). INGO indebtedness only accounts for an average 5.19% of overall debt, and this is significantly less for FHH (3.99% vs. 5.42% for male-headed households). Residents of Sagaing, Ayeawaddy and Chin State owe significantly higher percentages to INGOS, while Bago, Kayah, Tanintharyi and Nay Pi Taw residents owe negligible amounts to these organizations. It has been noted that even when individuals start with lower risk loans, however, they may default over time to borrowing from money-lenders to pay off their original debts. The use of such high interest lenders significantly increases the accrual of household debt over time, drawing families from low levels of indebtedness into those which are considered unsustainable.

Although it varies in its severity, indebtedness is clearly a problem for rural Myanmar residents. More than one in every ten households holds some degree of debt, and almost half of them are borrowing from high risk lenders. Furthermore, 5.8% of households across the nation can be labeled as “high risk”: Those households who lend primarily to high risk creditors and whose debt burden accounts for over 30% of their income. The situation is worse in Kayah, Rakhine, Ayeawaddy, Yangon and Bago, where ten percent or more of residents fall into this category. As those interviewed noted, there is clearly a need for more



appropriate credit alternatives, particularly for non-livelihood expenditure such as emergencies and health costs, in order to prevent households from entering into a downward spiral of indebtedness and its inherent dangers.

Table 9.1 Debt statistics for rural households from national weighted sample and state and regional data

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
Debt as % of expenditure	11.5%	10.3%	13.7%	7.9%	8.1%	8.8%	11.7%	15.9%	11.4%	9.4%	12.2%	13.9%	17.5%	8.7%	14.8%	12.4%
Debt as largest expenditure	7.9%	3.6%	11.6%	2.3%	4.3%	3.3%	7.7%	17.4%	3.1%	1.0%	12.6%	7.1%	14.7%	6.1%	12.5%	9.6%
% of debt owned by village lender	35.4%	36.4%	32.4%	22.6%	11.2%	29.6%	60.0%	50.4%	34.1%	34.4%	38.5%	42.4%	39.8%	29.2%	29.9%	43.3%
% with village lender as largest creditor	51.4%	51.8%	58.8%	35.3%	19.5%	46.8%	71.0%	63.3%	50.1%	50.7%	59.6%	57.1%	51.3%	53.2%	40.9%	64.8%
expenditure on debt repayment > 30%	9.7%	7.4%	22.3%	5.3%	6.7%	6.8%	9.6%	12.5%	7.1%	2.8%	12.6%	16.2%	18.9%	5.2%	13.6%	11.0%
<b>Main creditor(s)</b>																
Relatives	35.2%	48.2%	40.4%	48.0%	54.2%	37.7%	27.9%	18.8%	46.6%	32.4%	46.1%	28.3%	28.3%	37.7%	31.2%	33.2%
Money lender	35.4%	36.4%	32.4%	22.6%	11.2%	29.6%	60.0%	50.4%	34.1%	34.4%	38.5%	42.4%	39.8%	29.2%	29.9%	43.3%
Bank	15.0%	5.8%	13.9%	12.9%	7.4%	15.6%	3.4%	25.8%	11.5%	28.0%	6.6%	15.2%	18.8%	9.2%	12.5%	17.2%
Employer	4.3%	1.4%	0.5%	5.8%	3.2%	2.5%	4.7%	4.8%	2.4%	1.4%	1.3%	3.4%	7.4%	6.8%	10.2%	5.0%
INGO	6.8%	3.5%	7.1%	0.8%	13.4%	10.0%	0.8%	0.0%	3.0%	2.3%	5.0%	6.9%	4.7%	9.7%	13.4%	0.7%

Others	3.2%	4.7%	5.9%	9.9%	10.6%	4.7%	3.1%	0.2%	2.5%	1.5%	2.5%	3.8%	1.1%	7.3%	2.9%	0.5%
Households whose primary creditors are 'high risk'	41.2%	30.6%	29.2%	33.0%	13.4%	35.4%	53.5%	68.0%	35.7%	49.6%	29.1%	48.8%	55.5%	29.7%	39.5%	46.0%
% in 'high risk' category	5.8%	1.7%	12.0%	3.2%	1.0%	3.7%	7.0%	9.8%	3.2%	1.7%	7.0%	10.1%	12.9%	2.3%	9.6%	7.0%

### Consequences of unsustainable debt

Following the widespread reporting of problem debt and unsustainable debt burden as a key contributor to worsening poverty, we asked respondents to consider firstly the proportion of people in their community who had unsustainable debt, and to consider the social and economic consequences of unsustainable debt. When asked about the proportion of people in their community with unsustainable debt, the question asked them to consider households where the debt burden had essentially become unmanageable and unsustainable, regardless of the relative size of the debt. Respondents could fairly easily visualize households in their community which fit that description, and the modal range quoted was 20-30% of households. Most respondents could cite examples of consequences of unsustainable debt, which fell into four categories: Mitigating behaviour, deterioration of physical, mental and social well-being and social, economic and legal sanctions. Behaviour to mitigate the consequence so unsustainable debt, or as a survival response to reduced circumstances, involved action such as migration to find work and send remittances to pay off debt; taking on difficult, dangerous or sometimes illegal work; reducing expenditure on healthcare and education (including withdrawing children from school) and reduced food intake. Unsustainable debt burden was linked with depression and was cited as a common cause of household (and sometimes village) conflict. Unsustainable debt led to significant economic sanctions, such as being refused further credit and loss of assets; legal action to force repayment or seize collateral could also lead to debtors fleeing their village; sometimes, those with unsustainable debt also experience social exclusion within their community. Findings from the national sample also indicated significant consequences of unsustainable debt, with reduced spending on food, health and education, removal of children from school, migration, engagement in more difficult, dangerous or illegal work, and a range of other social consequences.

Table 9.2 Consequences of unsustainable debt

	Legal problem	Flee from home	Migration	Reduce food	Reduce on health and education	Dangerous or illegal work	Remove children from school	Lose household assets	Conflict	Social exclusion	Lose other opportunities	Depression	Become more dependent
Selected	8.4%	3.6%	14.7%	15.3%	17%	5.5%	16.4%	16.7%	9.4%	3.9%	6.2%	6.1%	8.1%

## 10. Dimensions of poverty: Water and sanitation

### Chapter summary

Obtaining water for daily needs consumes significant time, energy and financial resources by rural households, with a typical household spending an average of 30 minutes per day on obtaining water. Also, 13% of households report buying water for daily needs. Significant correlation exists between sanitation and health: Households without access to sanitation lose more days to ill health (22 vs. 18) and spend more on health (19% vs. 14%); they are also more likely to be classified as vulnerable (30.4% vs. 24.2%) than households which had toilets.

### Key findings

Research participants did not directly report a high level of need for improvement in water and sanitation services. However, it is well known that obtaining safe water for households can affect many other areas of a family's life. At certain times, vulnerability during the journey to obtain water is a concern for the individual bearing the responsibility. Even in safe circumstances, securing water may require a significant input of time. It may result in loss of income if completed by an economically active individual, or it may result in loss of educational time if children are sent to bring water for the family. In rural communities, households are spending an average of 24.23 minutes per day obtaining water. This number varies from the national average according to region. The greatest deviations are seen in Rakhine State, where households are spending almost an hour daily (59 minutes) collecting water; this is followed by Bago, Nay Pi Taw, Magwe and Mandalay. Kayah, Kayin, Sagaing, Tanintharyi, Shan and Mon States expend less time collecting water than the national average.

As expected, water collection time also varies with seasonal weather. Securing water requires an average of 29.82 minutes per day country-wide in the dry season, but only 19.16 minutes per day in the rainy and cool seasons. Over one in ten (11.1%) of households find it necessary to purchase water, thereby diverting money from its potential use for other family necessities. A slightly lower percentage of FHH are doing so (10.7%) when compared to MHH (11.3%). Interestingly, regions in which individuals take the most time to collect water do not consistently report that more households buy water. Chin and Kachin States have the lowest household water purchase percentages (0.7% and 0.6%, respectively), although both regions spend much longer than the national average obtaining water daily. Also, some of the highest household water purchase rates in the country are in Mon State and Ayearwady Region, although they report spending less time than the national average on water collection. One possible explanation for this finding is that household water purchase may be affected by variables beyond water availability, such as personal preference, or that purchasing may reduce time required for water acquisition, but increase amount of required financial resources.

Sanitation coverage is not complete in rural communities: Only 82.2% of households report having a toilet. FHH have slightly higher rates of access to sanitation (84.3%) than do MHH (81.9%). Kachin, Kayah, Bago and Magwe, Sagaing and Shan States have each obtained over 90% sanitation coverage. With the exception of Rakhine State, which only has 25% sanitation coverage, all other regions report sanitation coverage similar to the national average. Finally, although it is weak and varies by region, a correlation is seen between health and sanitation: those households without sanitation miss greater numbers of working days per year due to health concerns. Considering the high number of missed income days lost per year for illness, further study on this to determine causation would be warranted.

Table 10.1 Water and sanitation data, national weighted sample and state and regional data

	Rainy Season (minutes)	Dry Season (minutes)	Average (minutes)	Buy water (%)	% with toilet (this sample)	% with toilet (census)
Union	19.8	30.6	25.2	13.2%	82.0%	81.0%
Kachin	26.1	35.1	30.6	0.6%	92.0%	97.2%
Kayah	11.2	18.1	14.6	1.8%	96.8%	91.3%
Kayin	15.4	19.6	17.5	5.1%	78.4%	69.6%
Chin	21.9	33.5	27.7	0.7%	79.5%	80.7%
Sagaing	8.6	11.7	10.1	10.2%	89.7%	81.2%
Tanintharyi	8.4	11.8	10.1	19.1%	76.5%	80.3%
Bago	33.2	56.8	45.0	15.3%	98.7%	87.2%
Magwe	26.7	33.5	30.1	19.3%	92.0%	80.3%
Mandalay	34.9	43.2	39.0	5.2%	79.0%	78.7%
Mon	10.0	12.1	11.1	18.6%	84.7%	79.3%
Rakhine	45.8	71.7	58.8	9.0%	24.7%	28.8%
Yangon	12.7	34.6	23.6	13.9%	87.0%	92.1%
Shan	8.7	11.6	10.1	7.1%	89.7%	85.6%
Ayeyarwaddy	10.2	25.1	17.7	26.4%	67.7%	85.7%
Nay Pyi Taw	35.5	47.4	41.5	6.6%	87.7%	89.8%

## 11. Dimensions of poverty: Food consumption

### Chapter summary

Food expenditure is the single largest expenditure item for almost 9 in 10 households and typically consumes 42.6% of all expenditure: This varies only slightly between different households and different states and regions. Overall, over 90% of the rural population reports consuming rice more than once per day, 78% reports at least daily consumption of fruit and/or vegetables, and 21% reports at least daily consumption of a protein source (fish, poultry, eggs, or meat). Statistical analysis did not demonstrate a significant correlation between either consumption patterns and health indicators or between consumption patterns and the proportion of income spent on food. State and regional analysis did not demonstrate any significant differences in the proportion of income spent on food. However, the survey tool did not measure absolute amount spent, nor absolute amount purchased, and thus variations in actual amounts spent (as kyat) or amount of food purchased (as total calorific content) were not recorded. Proportions reported spent on other items will also affect the reported proportion spent on food.

### Key findings

Capturing comprehensive information on food security was beyond the scope of this study, as food security instruments are time-consuming to administer. Additionally, although the food security instrument initially used had been adapted from a well-known instrument used to gauge food insecurity episodes over a prior 6 month period, it resulted in significant problems in pilot testing of the questionnaire. In rural communities, due to the ‘shame’ attached to admission of food shortages, respondents were unwilling to answer some questions about food insecurity. In some cases, they then refused to proceed with any further questions. Hence, in the revised version of the questionnaire, food security was covered by questions about consumption patterns in typical week. Questioning looked at consumption habits and does not capture concerns around episodic food shortages. However, the data does demonstrate significant variations in consumption patterns between states and regions.

Spending on food represents over 40% of all household expenditure, with small but significant variations between states and regions and household types (Tables 11.1 and 11.2). All states and regions but two reported spending over 40% of income on expenditure: Bago Region reported 35.6% of income expended on food and Mon State reported an average 34.5% spent on food. Rural expenditure is influenced by the availability of food grown at a household level. Households who reported planting food spent 42.6% of their income on food, compared with 46.6% being spent by households which didn’t plant. Households who reported fishing in the previous year also spent 4% less of their money on food than did non-fishing households.

The proportion of income for food expenditure was inversely correlated with household debt, so that households who spent more money on debt repayment spent a lower proportion of income on food. However, overall food consumption rates were not significantly correlated with proportions of expenditure on food or debt.

Table 11.1 Food expenditure profiles

	Spent on food	Food as main expenditure
Union	42.6%	89.4%
Kachin	40.6%	82.9%
Kayah	49.4%	91.9%
Kayin	46.0%	90.6%
Chin	48.1%	81.7%
Sagaing	42.3%	87.6%
Tanintharyi	42.6%	93.2%
Bago	35.6%	87.6%
Magwe	49.1%	95.7%
Mandalay	43.7%	96.3%
Mon	34.5%	85.6%
Rakhine	43.8%	89.0%
Yangon	40.6%	83.9%
Shan	44.6%	87.5%
Ayearwaddy	42.6%	88.5%
Nay Pyi Taw	46.0%	89.7%

Table 11.2 Household Type and proportion spent on Food

Household Type	% spent on food	Food as main expenditure
Landed	44.2%	89.2%
Landless	42.5%	88.5%
Fishing major	42.7%	88.9%
Agriculture major	44.2%	89%
Remittance major	42.8%	87.9%
Daily wage major	42.5%	88.7%
Animal husbandry major	45.1%	88%
Selling major	43.2%	90.1%
Employment major	42.8%	92%

In terms of consumption patterns, overall, over 90% of the rural population reported consuming rice more than once per day, 78% reported at least daily consumption of fruit and/or vegetables, and 21% reported at least daily consumption of a protein source (fish, poultry, eggs, or meat) (Table 11.3). Statistical analysis did not demonstrate a significant correlation between either consumption patterns and health indicators or consumption patterns and the proportion of income spent on food. State and regional analysis did not demonstrate any significant differences in the proportion of income spent on food (Table 11.4). However, the survey tool did not measure absolute amount spent, nor absolute amount purchased, and thus variations in actual amounts spent (as kyat) or amount of food purchased (as total calorific content) were not recorded. Proportions reported spent on other items will also affect the reported proportion spent on food.



Small but subtle differences exist between different types of households and the proportion of income spent on food, but the proportion of households reporting food as their main expenditure was consistent across all household types (Table 11.2). This is consistent with other research findings which show that the proportion of income spent on food does not vary significantly according to economic status in rural communities, except amongst the very wealthy<sup>44</sup>.

Table 11.3 Summary Consumption profile, national weighted sample

	Rice	Beans / pulses	Fresh vegetables	Fish	Meat (pork/ beef/ mutton)	Fruit	Wheat/ flour/ noodles	Eggs	Poultry	Oil/fat	Sugar / honey	Nuts/ seeds/ grain	Tobacco / alcohol
>daily	92.3%	1.1%	16.9%	1.1%	0.4%	2.7%	0.2%	1.1%	0.5%	26.4%	1.4%	0.5%	7.1%
daily	7.0%	10.8%	57.7%	9.5%	3.4%	28.7%	2.9%	8.7%	3.3%	46.9%	10.0%	2.6%	26.8%
2-3 times per week	0.7%	37.4%	19.9%	38.0%	25.2%	28.3%	17.1%	41.2%	20.0%	7.4%	15.0%	11.4%	6.5%
once per week	0.0%	35.7%	4.6%	43.1%	54.9%	27.0%	52.6%	28.1%	41.9%	5.0%	36.7%	34.3%	8.4%
Never/don't/other	0.0%	14.9%	0.9%	8.3%	16.0%	13.3%	27.0%	20.7%	34.0%	14.1%	36.5%	50.6%	50.9%

<sup>44</sup> Griffiths (2013) Characteristics of poor households. Occasional bulletin of the Social Policy & Poverty Research Group

Table 11.4 Proportion reporting consumption less than daily by state and region

	Rice	Beans/ pulses	Fresh vegetables	Fish	Meat (pork/ beef/ mutton)	Fruit	Wheat/ flour/ noodles	Eggs	Poultry	Oil/fat	Sugar/ honey	Nuts/ seeds/ grain	Tobacco/ alcohol
Union	0.7%	88.1%	25.4%	89.4%	96.1%	68.6%	96.7%	90.1%	95.8%	26.5%	88.2%	96.2%	65.8%
Kachin	0.6%	94.8%	6.7%	93.8%	95.0%	61.7%	92.8%	88.4%	96.4%	52.3%	94.4%	96.9%	77.8%
Kayah	0.1%	96.3%	33.3%	99.2%	99.4%	80.2%	99.3%	86.3%	85.5%	21.2%	93.7%	89.7%	83.5%
Kayin	0.4%	92.7%	29.3%	93.1%	93.9%	56.1%	90.7%	81.2%	84.2%	30.9%	65.5%	77.0%	60.3%
Chin	6.7%	95.9%	24.8%	98.2%	98.2%	67.4%	97.4%	98.5%	98.6%	70.4%	92.2%	99.2%	76.2%
Sagaing	0.4%	73.4%	4.4%	95.8%	97.3%	70.8%	96.7%	84.9%	95.2%	15.5%	82.4%	84.5%	52.0%
Tanintharyi	0.5%	94.7%	26.9%	37.8%	87.4%	55.2%	89.8%	79.3%	92.6%	11.8%	27.7%	97.2%	41.5%
Bago	0.0%	84.4%	24.8%	88.2%	94.6%	61.7%	97.8%	90.0%	97.1%	32.6%	88.5%	98.6%	74.5%
Magwe	0.1%	95.0%	4.8%	97.3%	98.2%	78.4%	97.5%	83.0%	97.3%	18.6%	94.6%	98.9%	68.8%
Mandalay	0.2%	71.5%	27.0%	96.5%	95.8%	41.4%	98.6%	90.4%	93.7%	16.4%	96.1%	99.1%	66.2%
Mon	2.4%	94.4%	19.2%	86.0%	94.2%	56.3%	95.7%	86.6%	96.6%	7.3%	66.5%	99.7%	67.5%
Rakhine	0.0%	98.5%	5.7%	69.6%	98.9%	59.6%	98.9%	94.8%	99.2%	56.9%	88.9%	99.7%	50.9%
Yangon	1.4%	93.9%	60.3%	89.4%	98.1%	78.2%	97.2%	91.5%	95.1%	5.5%	89.0%	97.3%	67.1%
Shan	0.1%	94.6%	24.2%	93.8%	98.6%	88.9%	97.4%	97.4%	98.1%	33.1%	95.9%	99.3%	68.6%
Ayearwaddy	1.9%	92.6%	54.3%	85.2%	95.0%	79.1%	95.8%	96.3%	97.1%	37.7%	97.0%	99.0%	72.6%
Nay Pyi Taw	0.3%	93.4%	8.9%	95.5%	90.8%	60.0%	96.6%	85.2%	92.8%	17.6%	88.2%	98.8%	66.3%

## 12. Dimensions of poverty: Participation and social capital

### Chapter summary

Rural communities demonstrate high levels of social capital, as evidenced by participation in community events and meetings and the existence of traditional social organizations in 63% of all communities. There is a demonstrable correlation between low social capital and poverty both at a community level and a household level, whereby communities and households with higher levels of social capital and decision making are less likely to be classified as asset poor. However, households with one or more persons with disabilities and female headed households had lower levels of social capital, and participation of women in community decision making remains low. Social capital is linked to the ability to access assistance, whereby households with lower degrees of social capital and participation were less likely than those with higher levels of participation to be able to access social protection or social assistance of any form. They were less likely to access grants than they were loans, and they were significantly less likely to be able to access assistance from government. The overall level of participation at community level was strongly associated with a higher proportion of households reporting access to social assistance from community organizations, suggesting a link between community participation and social capital.

### Key findings

Summarizing findings from contemporary studies on the links between social capital and poverty reduction, Norman Uphoff<sup>45</sup> concludes the following:

- Social capital is something that can be increased through deliberate efforts.
- When trying to build up and utilize social capital (in poorer communities), it is advisable to emphasize or at least begin with informal institutions and relationships.
- Following the above, it is probably best to build on existing traditions and ideas within the community, as these are often latent cognitive social capital.
- Social capital should not be regarded as purely instrumental or as a means to implement certain project tasks.
- Social capital can produce valuable economic benefits, and its payoffs are multifaceted.

However, the empirical evidence for the extent and nature of linkages between social capital, poverty and poverty reduction remains weak. Definitions of social capital vary, as do measurement approaches. In this study, we have measured social capital using three key dimensions: The extent of engagement in social activities commonly associated with building social capital, the extent of engagement in decision making processes of the community, and the extent of gender-specific engagement in decision making processes in the community.

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<sup>45</sup> Uphoff N (2004) in Atria R and Siles M "Social capital and Poverty Reduction in Latin America and the Caribbean" ECLAC: United Nations

Rural communities in Myanmar have high levels of social capital, expressed through high degrees of participation in community events and community meetings (Table 12.1) and the presence of community social organizations.

Table 12.1 Participation in community events and meetings by state and region

	Attend village meetings	Attend village events	Attend neighbourhood events	Influence decision village meetings	Actively participate in discussions in village meetings	Attend village meetings (women)	Influence decision village meetings (women)	Actively participate in discussions in village meetings (women)
Union	66.5%	84.1%	52.3%	10.8%	21.0%	33.4%	3.9%	8.1%
Kachin	60.8%	79.1%	34.0%	5.3%	31.9%	38.5%	1.5%	21.8%
Kayah	51.5%	83.3%	59.8%	7.2%	11.0%	12.9%	1.2%	3.7%
Kayin	65.7%	87.7%	48.9%	7.9%	10.2%	45.9%	4.8%	5.3%
Chin	71.4%	70.5%	46.1%	23.0%	51.1%	25.3%	10.4%	18.3%
Sagaing	70.1%	82.6%	77.4%	14.1%	24.1%	42.3%	7.6%	11.0%
Tanintharyi	72.1%	87.9%	73.4%	11.4%	14.3%	46.6%	7.0%	6.4%
Bago	64.7%	81.3%	47.0%	8.3%	22.8%	26.6%	2.4%	7.1%
Magwe	63.1%	88.1%	64.3%	9.0%	25.1%	20.1%	1.0%	6.3%
Mandalay	67.7%	86.8%	33.6%	7.3%	11.4%	30.5%	2.1%	3.1%
Mon	54.4%	79.9%	37.1%	8.5%	13.5%	36.0%	4.4%	8.8%
Rakhine	56.7%	78.1%	49.4%	10.7%	27.0%	19.6%	1.9%	6.4%
Yangon	62.4%	89.6%	64.2%	10.5%	35.8%	42.0%	4.7%	23.3%
Shan	80.1%	75.3%	21.2%	10.7%	15.3%	32.0%	2.7%	3.7%
Ayeyarwaddy	65.0%	90.5%	66.8%	16.3%	19.6%	40.0%	6.0%	7.1%
Nay Pyi Taw	56.8%	91.7%	62.6%	6.0%	25.1%	20.3%	1.0%	7.4%

Overall, respondents in 63% of the communities sampled described engaging in activities of community social organizations, which corresponds with prior research demonstrating the widespread presence of Parahitha organizations in rural communities in Myanmar.<sup>46</sup>

Firstly, there was noted to be a strong correlation between social capital and poverty (defined by asset poverty) at a community level (Table 12.2). Communities with higher levels of social capital and decision making (defined by reported scores in the highest quintile) report a lower proportion of households whose assets are valued in the lowest quintile. Furthermore, communities with more equitable distribution of social capital (classified by a smaller standard deviation at the community level) also had lower proportions of households which were classified as asset poor. This suggests that there is a link not only with overall social capital and cohesion, but also with the relative distribution of social capital.

Table 12.2 Percent of those defined as asset poor according to social capital and decision making, by state and region

	Low Social Capital	High Social Capital	Low Decision Making	High Decision making
Union	28.1%	15.3%	29.5%	16.2%
Kachin	24.7%	17.7%	34.3%	9.8%
Kayah	11.2%	3.4%	9.2%	6.8%
Kayin	26.9%	8.9%	20.9%	10.9%
Chin	19.8%	17.4%	27.9%	12.7%
Sagaing	11.2%	5.8%	13.7%	3.5%
Tanintharyi	34.7%	17.4%	40.5%	10.7%
Bago	35.0%	16.9%	34.4%	17.6%
Magwe	30.9%	11.4%	34.2%	8.9%
Mandalay	25.9%	15.5%	26.2%	7.5%
Mon	25.2%	9.3%	22.0%	16.3%
Rakhine	34.7%	18.7%	40.6%	15.6%
Yangon	37.1%	18.1%	37.9%	9.4%
Shan	21.5%	4.0%	31.6%	20.7%
Ayearwaddy	54.0%	33.0%	39.8%	36.8%
Nay Pyi Taw	28.3%	12.1%	22.1%	10.2%

Secondly, there is strong and persistent correlation between social capital and poverty at the household level (Table 12.2), whereby households with higher reported social capital and strong participation in decision making are less likely to be classified as asset poor. These differences persist across states and regions.

<sup>46</sup>

<http://www.sprg.org/sites/default/files/Community%20Based%20Social%20Protection%20Mechanisms%20in%20Myanmar.pdf>

The differences in the degree of influence and extent of decision making by the male household head and by the women of the household were measured. This was defined by the frequency of attendance at community meetings, active participation in discussions, and influence on decision-making and combined to an aggregate difference in score. Overall, this difference was 1.80: this translates to male household heads being 2.7 times more likely than women to report 'always' or 'frequently' influencing meetings, 2.5 times more likely to report always or frequently speaking up in meetings, and twice as likely to report always or frequently attending meetings. Significant variations between States and regions were noted, with extremely high rates of gender differences reported in Rakhine, Nay Pyi Taw, Magwe and Kayah (Table 12.3).

Table 12.3 gender difference in decision making by State and Region

	Gender difference (decision making)
Union	1.80
Kachin	1.31
Kayah	2.14
Kayin	1.47
Chin	1.87
Sagaing	1.50
Tanintharyi	1.47
Bago	2.06
Magwe	2.19
Mandalay	1.98
Mon	1.40
Rakhine	2.52
Yangon	1.43
Shan	2.12
Ayearwaddy	1.75
Nay Pyi Taw	2.30

Overall, there was significant correlation at the household level between disability and low rates of social capital and decision making, and between female headed household status and lower rates of social capital and decision making. The correlation was slightly weaker for households with a person with disabilities than it was for female headed households. Gendered differences in social capital and decision making were particularly marked in Chin State and Rakhine State (table 12.4).

Table 12.4 Impact of disability and gender on social capital and decision making

	PwD Differential		Gender Differential	
	Social Capital	Decision Making	Social Capital	Decision Making
Union	1.21	1.07	1.23	1.66
Kachin	1.12	0.82	1.28	2.49
Kayah	1.23	1.53	1.17	1.82
Kayin	1.45	0.86	1.68	1.64
Chin	1.36	0.98	2.22	1.77
Sagaing	1.28	1.49	1.07	1.27
Tanintharyi	0.90	1.24	1.17	2.12
Bago	1.40	1.25	1.16	1.98
Magwe	1.24	0.94	1.46	1.69
Mandalay	1.30	1.56	1.62	1.99
Mon	1.14	1.25	1.23	1.82
Rakhine	0.89	1.33	1.83	5.15
Yangon	1.06	1.02	1.29	1.59
Shan	1.51	1.18	1.11	1.86
Ayearwaddy	1.21	0.59	1.12	1.31
Nay Pyi Taw	0.95	1.23	1.37	1.75

Households who were landless were also significantly more likely than land-owning households to be in the lowest quintile for social capital and decision making.

Finally, as described in the earlier chapter on social protection, households with lower levels of social capital and lower levels of participation in decision making are more likely to access assistance for emergencies such as food shortages and health emergencies. However, they are less likely to access assistance for development and livelihood related needs such as crop failure, education, disability and ageing related needs. The degree of participation at community level was strongly associated with a higher proportion of households reporting access to social assistance from community organizations, suggesting a link between community participation and social capital. Households with lower degrees of social capital and participation were significantly less likely to be able to access assistance from government or assistance in the form of grants rather than loans than were those with higher participation and social capital. In fact, these households were less likely to be able to access social protection or social assistance of any form.

### 13. Dimensions of poverty: Natural resource management

#### Chapter summary

Despite clear linkages between poverty reduction and natural resource management, knowledge and practice of natural resource management remains low in rural communities. Active management was reported in less than one in five rural communities, although awareness levels, particularly for forestry related management, were higher. The most frequently reported activities were waste disposal and training on resource management. Communities reporting active natural resource management had lower proportions of households who were classified as asset poor and higher rates of social capital and decision making than communities which did not report activities.

#### Key findings

Linkages between poverty, vulnerability and natural disasters are well documented, as are the beneficial effects of active management of natural resources. In this study, natural resources were described as land, rivers, waterways, lakes, oceans and forests. In the qualitative phase of the study, one recurring theme was the management and mismanagement of natural resources and their effects on poverty. In some cases this was linked with local natural disasters (such as increased flooding due to lack of water-retaining trees and soil degradation).

The response patterns to these events were conditioned by two things: exposure to natural disasters and exposure to activities to respond to, prepare for and mitigate natural disasters. In Chin State and Sagaing Region, the exposure to disasters and disaster risk reduction was more limited, whereas all the communities in Ayearwaddy Region, where fishing was the main livelihood, had experienced significant impacts of natural disasters, and subsequent disaster response and DRR activities within the previous 5 years.

When asked who was responsible for the protection of natural resources, respondents typically identified a hierarchy of duty bearers, starting with one's own responsibility and working upwards through village social organizations, line ministries and government. Schools teachers were considered responsible to educate the next generation on environmental protection, and development organizations and disaster risk reduction organizations were also mentioned as key responsible agents. In terms of what should be done, the responses varied according to an area's relative exposure to disasters and disaster responses. In areas such as Chin State, where the local effects of deforestation are very visible, respondents recommended systematic policies for protecting forests and soil//water retaining trees, such as the 'cut down one tree, plant two trees' policy. Other interventions mentioned included increased training on environmental protection, the formation of village level environmental protection committees, sign boards in villages to describe environmental protection practice, and safe and systematic waste disposal.

Some respondents also noted the link between livelihoods and natural resource protection, whereby a lack of access to skills and technology for more sustainable agricultural and livelihoods results in a continuation of environmentally unsustainable livelihood practice. The recommendation was to invest in developing sustainable livelihoods so that people don't have to resort to practices which are unsustainable. Recommended investments included developing an agricultural and economic policy which creates favourable conditions and markets for products which are environmentally sustainable, as well as providing training and investment for more sustainable livelihoods. The need to have stronger networking between



NGOs, government, and the private sector was mentioned, with some respondents noting that lack of regulation of private sector agriculture, fishing and forestry is resulting in significant environmental degradation. Finally, several respondents articulated a core approach to the management of natural resources: central planning but household implementation. This means that there is a need for clear and effective central policies, but that the responsibility needs to be given to households to implement these policies effectively at the community level.

The wider national survey sought to measure the extent to which rural households understand natural resource management and the extent to which active management of natural resources is taking place in rural communities. Overall, the survey showed reasonable levels of awareness of the different types of beneficial activity for the active management of natural resources, particularly in the areas of forestry and waste disposal. However, reported implementation rates were much lower than awareness levels: only 4.6% of respondents reported any active natural resource management in their community. At the community level, 19% of communities had at least one household respondent who reported engaging in any activity relating to active natural resource management, and the most frequently reported activities were waste disposal and training on resource management. Communities which reported active natural resource management had lower proportions of households who were classified as asset poor and higher rates of social capital and decision making than communities which did not report activities.

Table 13.1 Natural resource management, public opinion on what should be done (% reporting)

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	A yearwaddy	Nay Pyi Taw
<b>Cut one, plant two tree policy</b>	40.9	51.2	41.4	29.0	48.4	35.4	34.6	10.4	53.5	37.2	39.7	48.7	34.9	21.7	72.9	31.2
<b>Training on law and policy</b>	28.3	58.0	47.2	18.8	50.2	23.4	20.8	19.9	35.6	11.0	37.8	35.7	21.2	9.2	53.0	24.8
<b>Village level committee</b>	39.7	65.4	39.7	19.5	42.4	38.7	29.4	36.3	55.3	43.5	43.5	44.3	32.5	10.3	60.7	32.2
<b>Systematic disposal of waste</b>	43.8	69.0	36.7	34.5	47.1	55.0	55.2	32.6	40.4	49.5	56.5	31.9	61.7	11.0	64.9	39.0
<b>Signboard in village</b>	31.8	53.9	41.8	20.2	32.8	29.5	36.3	34.2	53.5	27.3	22.9	27.8	22.2	22.8	27.9	35.0
<b>Replacement programme</b>	12.7	22.5	12.3	10.9	20.5	14.0	8.3	11.8	16.6	20.0	13.0	13.0	6.6	3.7	6.7	12.7
<b>Water retaining trees</b>	15.3	24.4	5.4	10.8	33.8	12.7	20.0	7.9	12.9	8.8	9.2	24.0	5.5	6.8	30.4	3.4
<b>Networking</b>	7.5	4.9	3.5	7.2	8.1	3.4	10.8	11.2	14.7	10.8	4.5	17.1	5.1	0.9	3.6	8.7
<b>Natural resource Substitute livelihood</b>	8.9	8.9	11.8	6.3	12.5	16.1	8.4	13.0	13.7	8.9	8.0	10.0	2.9	2.2	2.1	11.5
<b>Central planning, household implement</b>	5.4	4.7	3.0	5.6	5.0	6.5	3.7	24.8	1.6	1.6	4.8	3.0	2.5	0.6	0.4	8.9
<b>Other</b>	1.1	1.2	0.1	10.7	0.9	0.1	0.5	4.2	1.0	0.4	0.1	0.0	0.1	0.8	0.9	0.8
<b>Sustainable resource management</b>	4.6	8.2	7.1	4.2	9.8	7.7	5.8	5.3	4.9	1.2	8.7	4.4	1.1	9.9	0.7	1.9

Table 13.2 Natural resource management, what is actually being done (% reporting being done in their village)

	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
<b>Cut one, plant two tree policy</b>	2.2	4.9	4.6	4.4	6.9	0.0	1.8	0.1	1.3	0.1	1.6	4.6	2.6	0.2	8.0	3.5
<b>Training on law and policy</b>	2.3	1.7	30.3	1.5	8.7	1.0	0.8	0.6	1.8	0.1	0.6	3.2	0.2	0.3	2.5	1.5
<b>Village level committee</b>	2.1	6.7	5.1	0.3	9.8	3.7	0.6	0.8	0.3	0.0	0.1	4.0	0.4	0.2	2.4	1.4
<b>Systematic disposal of waste</b>	3.8	13.6	5.1	1.5	13.5	5.2	7.7	0.7	2.9	0.1	11.1	0.4	0.4	0.3	2.5	1.5
<b>Signboard in village</b>	2.2	9.7	9.2	1.4	7.5	1.8	2.3	0.6	1.0	0.0	0.9	3.9	0.6	1.0	0.1	3.0
<b>Replacement programme</b>	0.4	0.2	0.1	1.2	1.9	0.2	0.2	0.0	0.2	0.0	0.1	1.8	0.1	0.3	0.1	0.0
<b>Water retaining trees</b>	0.8	0.7	0.2	1.0	3.2	0.7	0.6	0.3	1.7	0.0	0.1	0.8	1.1	0.1	1.7	0.0
<b>Networking</b>	0.1	0.0	0.0	0.0	0.2	0.2	1.5	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0
<b>Natural resource Substitute livelihood</b>	0.1	0.1	0.0	0.1	0.7	0.2	0.0	0.1	0.0	0.0	0.1	0.6	0.0	0.1	0.1	0.0
<b>Central planning, household implement</b>	1.6	0.2	0.0	0.3	0.6	0.8	0.2	8.7	0.0	0.0	1.4	0.2	0.0	0.1	0.0	0.1
<b>Other</b>	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
<b>Sustainable resource management</b>	0.4	0.0	1.8	0.0	2.8	0.1	0.0	1.4	0.1	0.0	0.0	0.5	0.0	0.3	0.0	0.0

## 14. Dimensions of poverty: Disability and ageing

### Chapter summary

The population prevalence of disability identified in this study was 2.9%, with 11.8% of households reporting at least one person with disabilities. Consistent with previous studies, the survey showed that households with one or more persons with disabilities are more likely to be classified as vulnerable than those households without PwDs or older persons. The extent of disadvantage to these households differed between states and regions, with the highest degrees of disadvantage in Mon and Kayin State. The presence of one or more older persons in a household does not significantly increase overall vulnerability, but these households had higher rates of economic dependency and slightly higher rates of vulnerability in the livelihoods category. They also had lower degrees of vulnerability in assets, food security, and debt, indicating a different profile of vulnerability compared to households without older persons.

### Key findings: Disability

Previous studies have highlighted the significant correlation between disability and poverty/vulnerability, such that households with a PwD are typically twice as likely as those without a person with disabilities to be classified as poor.<sup>47</sup> The first national survey of disability in Myanmar was conducted in 2009-2010 by the Department of Social Welfare and the Leprosy Mission International. It used a modified ICF approach<sup>48</sup> to classify disability, yielding a prevalence of 2.32% nationally, with a rural prevalence of 2.4%. This figure has been verified by subsequent surveys using similar measurement approaches. The recent national census used modified Washington criteria, which would typically be expected to yield a prevalence of between 8% and 10%. However, it showed a recorded prevalence of 4.6%, with a significant proportion of those identified being older persons with age-related deterioration in sensory function. The current study used self-reporting, whereby respondents or their household members reported them as disabled based on a short description given by the enumerators. This method of reporting yielded an overall prevalence of 2.9%, which is higher than the *self-reported* prevalence of the census (which is different from the prevalence measured by the Washington criteria). As the reported prevalence is highly dependent on the methodology used, however, it is difficult to compare the reported prevalence from the census with this study. Overall, households with PwDs were found to be nearly twice as likely to be classified as vulnerable as households without persons with disabilities (33.2% versus 19.6%) (Table 14.1); this confirmed findings from previous studies. As noted in Table 14.1, households with PwDs experienced higher degrees of vulnerability across all sectors: this refutes the suggestion that the excess vulnerability is simply a product of higher rates of economic dependency. The inequality is influenced by gender, with households with female PwDs reporting vulnerability rates of 36.7%, compared to households with male PwDs (32.5%). The degree of disadvantage conferred by disability also varies between States and regions (Table 14.2). Some regions, such as Chin State, reported no significant differences in vulnerability between PwD and non-PwD households, whereas others, such as Mon State and Yangon Region, showed a high differential between PwD and non-PwD households.

<sup>47</sup> Griffiths M (2012) Poverty and Disability in Myanmar. Bulletin of the Social Policy and Poverty Research Group 1: 1

<sup>48</sup> The National Disability Survey (2009-2010) used modified International Classification of Function (ICF) criteria, which is largely based on function, but modified according to underlying disability profile.

Table 14.1 Vulnerability profiles of households with and without persons with disabilities

	PwD	Non	Ratio
Union	33.2%	23.1%	1.44
Kachin	37.3%	31.6%	1.18
Kayah	26.0%	18.7%	1.39
Kayin	26.3%	17.0%	1.55
Chin	43.8%	43.6%	1.00
Sagaing	23.8%	16.9%	1.41
Tanintharyi	32.8%	28.4%	1.15
Bago	46.9%	33.6%	1.40
Magwe	29.0%	19.3%	1.50
Mandalay	26.0%	18.2%	1.43
Mon	42.2%	26.5%	1.59
Rakhine	51.2%	41.7%	1.23
Yangon	41.5%	29.9%	1.39
Shan	9.4%	8.8%	1.07
Ayearwaddy	32.7%	27.6%	1.19
Nay Pyi Taw	31.5%	24.8%	1.27

Table 14.2 Vulnerability rates of household with and without persons with disabilities by State and Region

	Overall	% vulnerable in dependency category	% vulnerable in debt category	% vulnerable in income/ expenditure category	% vulnerable in livelihoods category	% vulnerable in food security category	% vulnerable in WATSAN category	% vulnerable in health category	% vulnerable in assets category	% vulnerable in social capital category	% vulnerable in decision making category
PwD Household	33.2 %	22.1 %	17.8 %	30.1 %	11.1 %	13.4 %	32.0 %	28.1 %	22.6 %	18.2 %	9.9 %
Non-PwD household	19.6 %	11.8 %	14.2 %	20.6 %	10.1 %	9.3%	23.9 %	14.2 %	15.7 %	13.3 %	6.3 %



Overall, households with older persons did not have significantly different rates of classification as vulnerable compared to households without older persons (Table 14.3). However, there were significant differences seen across vulnerability categories, Households with older persons had higher rates of economic dependency and slightly higher rates of vulnerability in the livelihoods category but lower degrees of vulnerability in assets, food security, and debt than did households without older members. This demonstrates the variety of contributory and protective factors relating to vulnerability in households with older persons and the strengths and weaknesses therein.

Table 14.3 Vulnerability profiles of households with older persons

	Overall	% vulnerable in dependency category	% vulnerable in debt category	% vulnerable in income/expenditure category	% vulnerable in livelihoods category	% vulnerable in food security category	% vulnerable in WATSAN category	% vulnerable in health category	% vulnerable in assets category	% vulnerable in social capital category	% vulnerable in decision making category
Household with older person	24.9%	18.6%	12.5%	26.3%	13.0%	8.3%	26.7%	17.6%	14.7%	16.6%	9.0%
Household without older person	24.2%	14.2%	17.4%	24.7%	11.6%	11.7%	28.8%	18.1%	19.6%	15.8%	7.6%

## 15. Dimensions of poverty: Education

### Chapter summary

As elaborated in the development literature, inadequate human capital (including due lack of education) is another key dimension of poverty. Consistent with initial findings of the qualitative study, quantitative survey analysis confirms strong education-poverty linkages in rural Myanmar, where education levels remain low. Roughly one in four survey respondents viewed inadequate education as being a key dimension of poverty, with the share larger (25.9%) in households where the household head has no formal education. The survey results also confirm that education is linked to poverty through various channels, including on both the expenditure side (i.e., the cost burden of education-related expenditures on families) and income side (i.e., adult education levels in the household are an important determinant of household income diversification into regular wage employment and other non-traditional income sources). Education also appears linked to poverty of social capital or “disempowerment”: education levels of female and male household heads are strongly correlated with households’ “voice” in community meetings, even after controlling for measures of socioeconomic status. Finally, the results confirm that education plays a key role in intergenerational poverty traps: controlling for other factors, regression analysis confirms that children with better educated parents are significantly more likely to have higher education attainment and significantly less likely to be engaged in child labour.<sup>49</sup>

### 15.1 Education in rural households’ conceptualization of poverty

Overall education levels in amongst households surveyed are relatively low. As illustrated in Table 15.1.1 below, only just above 1 in 5 (21.7%) household heads have reached middle school, consistent with estimates for the most relevant age group from the 2014 Census.<sup>50</sup> There also appear to be considerable gaps by gender of the household head.<sup>51</sup> Roughly one-third (32.1%) of male household heads are reported to have no formal primary education, with the largest share (43.9%) having completed at least 1 year of primary schooling but not entered subsequent levels of education. Roughly one in four (24.0%) have at least 1 year of middle school education or higher levels. Female household heads tend to have significantly lower education levels, with nearly half (48.1%) having never completed any primary grades, and less than one in ten (9.8%) having at least 1 year of middle school education or higher levels. This suggests that poverty of human capital may be particularly serious among female-headed households.

Table 15.1.1. Share of household heads by formal education completed

	All	Male HH. Heads	Female HH. Heads
No formal primary education	34.7%	32.1%	48.1%
Only partial or complete primary school	43.6%	43.9%	42.2%
Only partial or complete middle school	15.3%	16.8%	7.1%

<sup>49</sup> The authors also greatly appreciate review and inputs to this chapter provided by Dr. Chris Spohr of the Asian Development Bank (ADB) Myanmar Resident Mission.

<sup>50</sup> This share includes those who may have entered but failed to complete middle school. Released tables from the 2014 Census suggests that 22.1% rural adults aged 45-49 (spanning the average age of household heads in the survey of 49.0) have at least incomplete middle school education or higher.

<sup>51</sup> Gender gaps may also partly be explained by age: the average age of male household heads is 47.4 versus 57.6 for female household heads.



Only partial or complete high school	5.4%	6.0%	2.3%
At least some post-secondary education	1%	1.2%	0.4%

A key question is to what extent rural households perceive education as linked to poverty, and whether such perceptions may be related to the household head's own education level. The analysis found that just below one-quarter (23.6%) of survey respondents (often but not always the household head) cited education as a key dimension of poverty, confirming that rural households recognize education-poverty linkages.<sup>52</sup> Interestingly, the share is marginally higher for male respondents compared to female respondents, and for respondents who themselves lack any primary education. The latter suggests that these respondents perceive lack of education to be a key form of their own deprivation.

Table 15.1.2. Share of Respondents Considering Lack of Education to be 1 out of Top 3 Criteria for Assessing Household Poverty

<b>Grouping</b>	<b>Share</b>
<b>All respondents</b>	23.6%
Respondents with no formal primary education	25.9%
Respondents with at least some primary (or beyond)	22.4%
<b>All male respondents</b>	24.5%
Male respondents with no formal primary education	27.4%
Male respondents with at least some primary (or beyond)	23.0%
<b>All female respondents</b>	19.7%
Female respondents with no formal primary education	21.0%
Female respondents with at least some primary (or beyond)	18.5%

## 15.2 Education's Contribution to Rural Households' Expenditure Burden

A second key question is the extent to which education-related expenditures place a heavy burden on rural households, including those living in poverty. As indicated in Table 15.2.1 below, among the nine household expenditure categories included in the survey, education lies at the median, as the fifth largest expenditure category. Using the survey's 10-stone method, households reported spending on average roughly 8.6% on education, compared to 42.4% for food and between 11% and 13% on health, debt repayment, and official and social expenditures. However, 4.9% of households reported education to be the largest component of household expenditure (exceeding food). More generally, education appears to be the second largest expenditure component among households with at least 3 children (exceeding health, debt repayment, and official and social expenses).

<sup>52</sup> The analysis used data for the survey question asking respondents to identify up to three key criteria for assessing a household as poor.

Table 15.2.1. Approximate expenditure shares by household characteristics

	Food	Health	Debt repayment	Official & social	Education	Livelihood expenses	Travel	Savings	Others
All Households	42.4%	13.0%	12.4%	11.2%	8.6%	7.2%	3.3%	1.0%	0.8%
Male-headed Households	42.3%	12.7%	12.4%	11.1%	8.9%	7.4%	3.3%	1.0%	0.8%
Female-headed Households	42.7%	14.7%	12.4%	11.6%	6.9%	6.5%	3.3%	1.1%	0.8%
<b>Households by # of Children Age 5-17</b>									
None	43.9%	16.1%	12.3%	12.3%	2.0%	7.1%	3.5%	1.7%	1.0%
One	42.0%	13.7%	13.0%	11.8%	8.5%	6.5%	3.1%	0.6%	0.7%
Two	40.7%	13.5%	12.8%	11.0%	11.9%	6.0%	3.1%	0.6%	0.5%
Three	41.7%	13.0%	10.2%	9.5%	15.5%	5.4%	4.0%	0.3%	0.4%
Four or More	42.6%	13.3%	10.8%	8.2%	16.7%	5.0%	2.7%	0.4%	0.4%
<b>Households with At Least 1 Child Enrolled by Level</b>									
Primary school	40.4%	13.7%	12.0%	10.4%	12.7%	6.0%	3.6%	0.5%	0.6%
Middle school	40.2%	12.8%	11.6%	10.5%	15.6%	5.6%	2.8%	0.4%	0.5%
High school	40.8%	11.2%	10.1%	9.1%	19.0%	7.0%	2.1%	0.4%	0.3%
Higher education	40.8%	13.5%	9.3%	16.8%	12.8%	3.6%	2.1%	1.1%	0.0%

The analysis also investigated relative expenditure burdens across levels of education. The bottom rows of the table above suggest that the household expenditure burden of having a child in high school (upper secondary education) is higher than the cost of having a child in other levels of education, including higher education. This may appear surprising, but is consistent with findings from the Comprehensive Education Sector Review (CESR), which additionally found that private tutoring (particularly in preparation for the matriculation exam at the end of high school) is the largest single component of household expenditures on education, even among rural households.<sup>53</sup>

### 15.3 Education's influence on poverty of income and vulnerability

The fact that many rural households associate weak education with poverty (see Section 15.1) may also more directly reflect education's role in contributing to family income through its link to increased earnings by adult members. Table 15.3.1 below shows the share of households by the household head's education grouped into five categories, and the share of households in each of those categories with any income from non-traditional sources (defined using survey responses for part-time or full-time wage work, selling goods, technical work, pension, interest from investments or rental of equipment, remittances, "other" income sources). Less than one-quarter (22.8%) of households where the household head has no formal primary schooling have any non-traditional income sources (i.e., more than three-quarters rely solely on agriculture, fishing, and/or other traditional sources). The share increases to 27.2% where the household head has at least some primary schooling, suggesting that primary schooling has a modest contribution to prospects for household income diversification. However, the gap is much larger for middle and particularly high school and post-secondary education (e.g., the share nearly doubles for household heads with at least some high school education, and nearly triples for those with at least some higher education or other post-secondary education). In-depth analysis, initial regression analysis confirmed that these differences are statistically significant, confirming the strength of the noted correlation.

<sup>53</sup> CESR, ADB, and Australian Aid. 2014. *CESR Phase 2 Supplementary Annex: Updated Analysis of Education Access, Retention, and Attainment in Myanmar, with a Focus on Post-Primary Education*. Yangon.

Table 15.3.1. Share of households with any non-traditional income by education of household head

	Proportion of all household heads	Share of these households with any non-traditional income	Increase from "no primary"
<b>Household head has:</b>			
No formal primary education	34.7%	22.8%	
Only partial or complete primary school	43.6%	27.2%	4.5%
Only partial or complete middle school	15.2%	33.7%	10.9%
Only partial or complete high school	5.4%	40.1%	17.3%
At least some post-secondary education	1.1%	61.0%	38.2%

#### 15.4 Education's influence on poverty of social capital or "disempowerment"

The development literature (e.g. Sen, 2000) also recognizes disempowerment, including "lack of voice", as a key form of poverty and deprivation. To assess the impact of education on poverty of disempowerment, the analysis used 2 measures of households' voice in the community, namely the frequency and extent to which household heads actively participated in community discussions and had influence in those discussions, with both measures ranging from 0 (for none) to 3 (for always). These indices were regressed (using both logit and OLS) against an index for level of formal education reached (0 for none, 1 for primary, 2 for middle school, 3 for high school, 4 for some post-secondary, 5 for higher education degree), and other control variables.<sup>54</sup> Simplified results are tabulated below, and confirm that education has a statistically significant impact on households' "voice" in the community, even after controlling for measures of socioeconomic status. For example, for male household heads, reaching 1 higher level of education is associated with an increase in the influence index by roughly 0.085 points (a sizeable rise given the average value of 0.463), while for female household heads the increase is smaller in absolute terms, but also highly statistically significant level and larger when measured as a share of the (lower) average index value.

Table 15.4.1. Effect of household head's education on participation and influence in community-level discussions

	All Household Heads		Female Household Heads		Male Household Heads	
	Value	Stat. sig.	Value	Stat. sig.	Value	Stat. sig.
<b>(1) Household head participation measure</b>						
Implied effect of 1 more level of schooling	0.105	**	0.068	*	0.097	**
Overall mean value	0.802		0.528		0.850	
<b>(2) Household head influence measure</b>						
Implied effect of 1 more level of schooling	0.088	**	0.053	**	0.085	**
Overall mean value	0.432		0.255		0.463	
<b>Observations</b>	20,853		17,745		3,208	

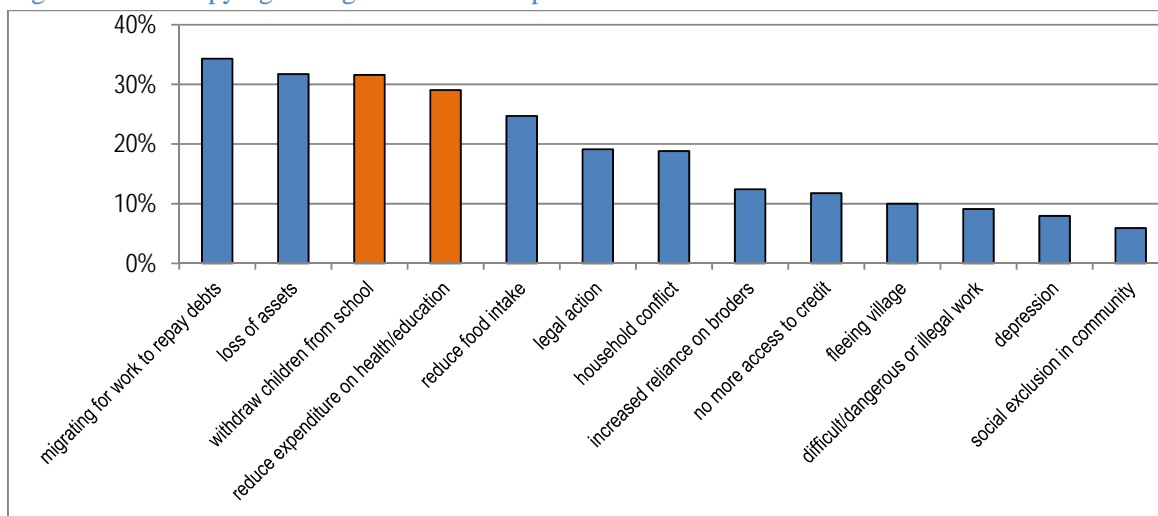
**Notes:** Additional control variables include linear to cubed terms of the household head's age, materials in the house walls and roof, electrification, and measures of key assets (e.g., motorcycle), household membership, and dummy variables for state and region.

<sup>54</sup> The latter included linear to cubed terms of the household head's age, materials in the house walls and roof, electrification, and measures of key assets.

### 15.5 Education's influence on multi-dimensional inter-generational poverty traps

Finally, the analysis confirmed that education plays a key role in intergenerational poverty traps.<sup>55</sup> One transmission mechanism driving this linkage is that, on average, less educated parents tend to invest less in children's education, and may also be more likely to either further cut education spending or remove children from school as a coping mechanism in response to financial shocks. Figure 15.5.1 below that children's accumulation of human capital (through education) is indeed highly vulnerable to shocks: withdrawing children from school and reducing expenditure on health and education comprise 2 out of the top 4 household coping strategies in response to financial problems or an unsustainable debt burden. In turn, this means that short-term shocks can translate into a longer-term poverty trap by undermining children's future economic potential and likelihood of poverty in their adulthood.

Figure 15.5.1. Copying strategies to financial problems and unsustainable debt



So at what level are children dropping out and what are other factors (in addition to financial shocks) affecting whether children get more or less education? Despite evidence (not reported herein) of improvement in recent years, Table 15.5.1. below shows shares of children who have reached (but not necessarily completed) successive levels of formal schooling, using specific age cohorts chosen to avoid underestimation due to overage children still in the prior level of schooling.<sup>56</sup> The gross majority of children (e.g., roughly 97% of 11-13 year-olds) have completed at least some primary school, although many are over-aged and a sizeable share are likely not to have completed all 5 grades of primary education.<sup>57</sup> However, a significantly smaller share (only 72.6%) of rural children appear to have reached middle school, while less than one-third (e.g., roughly 32% of 15-17 year-olds) have completed any high school. Transition to post-secondary education is low, with just above one-tenth (roughly 10.6%) of 19-20 year-olds have at least some post-secondary education (e.g., university or diploma programs).

<sup>55</sup> This echoes findings to date for Myanmar—see (CESR, ADB, Australia, 2013)—and many other countries.

<sup>56</sup> Per the forthcoming education thematic report, more detailed analysis of the survey data shows improving educational attainment across successively younger cohorts, which reflects improvements in education access nationwide in recent years.

<sup>57</sup> The survey questionnaire does not allow assessment of completion by grade level. However, the findings are as similar to tabulated figures from the 2014 Census and also roughly comparable to detailed analysis reported in CESR, ADB, and Australia (2013).

Table 15.5.1. Share of respondents in selected cohorts reaching various education levels

	All (M/F)	Females	Males
<i>Share of respondents reaching various education levels</i>			
At least some primary (among age 11-13)	96.8%	96.8%	96.7%
At least some middle school (among age 13-15)	72.6%	74.7%	70.3%
At least some high school (among age 15-17)	32.1%	35.2%	28.9%
At least some post-secondary (among age 19-21)	11.2%	13.2%	9.0%

Further regression analysis of the survey dataset also confirms that the likelihood that children reach successive levels of schooling is strongly correlated with household composition and socio-economic characteristics. As tabulated in Tables 15.5.2 and 15.5.3 (see the Appendix), having a larger number of siblings tends to reduce a child's likelihood of attaining secondary and above education, as having more children limits the resources directed to each child.<sup>58</sup> Education of parents and other adults in the household is positively correlated with children's ability to reach a given level of schooling, with the effects at least slightly larger for female adults in most cases. Additionally, adults' completion of a specific level "X" seems to be particularly important for a child to reach that level "X" or higher. For example, controlling for other variables (including proxies for socioeconomic status), having a male adult in the household with only some primary schooling (measured against having no formal schooling) has a small and statistically insignificant effect on the likelihood that a boy will reach middle school, while having a male adult with middle schooling is associated with a statistically significant rise of 11.7 percentage points. Having a female adult with only primary schooling has a slightly larger and marginally significant impact (5.8 percentage points) on whether a girl will reach middle schooling, while a female adult with middle schooling raises the likelihood by 13.0 percentage points (strongly significant).

Pending more detailed analysis, part of this linkage could be explained by significant engagement in household livelihoods by school aged children. Table 15.5.4 (in the Appendix) confirms that sizeable shares of children contribute to household income, rising from roughly 9.5% of girls and boys age 11-13, to 25.7% of girls and 27.0% of boys age 13-15, and 48.5% of girls and 52.9% of boys age 15-17.<sup>59</sup> In addition to the emergence of gender gap among older age cohorts (with older boys particularly likely to work), the tables also suggest differences in types of significant engagement in household livelihoods by school aged children: e.g., among 15-17 year-olds girls most frequently work in family businesses, while boys most frequently work as casual labourers.

While many of these working children remain in school, the figures suggest that significant engagement in household livelihoods by school aged children is correlated with dropout.<sup>60</sup> Moreover, engagement in significant engagement in household livelihoods by school aged children is likely to depress children's learning outcomes and raise their likelihood of eventual dropout. So a key question is whether parents' own education may affect their decision to allow children to progress through the education system or leave

<sup>58</sup> Since the outcome variables are 0-1 variables, logit is typically deemed a more appropriate econometric method than ordinary least squares (OLS), particularly in terms of measuring statistical significance. However, OLS results are much easier to conceptualize and are hence reported in the text (the Tables include both).

<sup>59</sup> This also suggests that a gender gap emerges among older age cohorts, with older boys particularly likely to work.

<sup>60</sup> The questionnaire does not allow estimating the share of children who are contributing to household income while also remaining enrolled in school.

school to engage in significant engagement in household livelihoods by school aged children.<sup>61</sup> Regression analysis confirms that the likelihood of engagement in significant engagement in household livelihoods by school aged children falls with increasing education among parents and other adults in the household, with the effect slightly stronger for education among mothers and other female adults (hereafter “mother” for brevity). For example, among 15-17 year old females, having a mother with at least some high school education is associated with a roughly 15.5 percentage point drop in the likelihood of being engaged in work compared to having a mother with no formal education, with a corresponding drop of roughly 9.8 percentage points in the case of fathers’ education.

Controlling for other factors, regression analysis confirms that children with better educated parents are significantly more likely to have higher education attainment and significantly less likely to be engaged in household livelihood. Pending more in-depth analysis, these findings are consistent with the explanation that more educated parents value schooling more, and are more likely to invest in children’s human capital (enrolling and keeping them focused on school, rather than engagement in work). In turn, the results have important implications for the role of education in the inter-generational transmission of poverty.

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<sup>61</sup> Child labour herein refers to children aged between 11 and 17 who are contributing to household income (i.e., excluding those answered category 0 and 4 in the questionnaire).

## 16. Dimensions of poverty: Access to land

### Chapter summary

Landlessness is associated with high degrees of household vulnerability, with landless households having over twice the vulnerability rates of landed households and higher rates of vulnerability in all areas except livelihood diversity. Nearly half of all rural households report owning no land. Just over half of all households had actually planted crops in the previous year, and planting rates were lowest in states and regions with the highest rates of landlessness.

Although overall vulnerability rates for landless households are more than twice that for landed households, there are considerable variations regionally. Landlessness confers more significant disadvantage, in terms of vulnerability, in Kayin State, Tanintharyi, Magwe and Yangon Regions, and Mon State. Landlessness is also associated with higher rates of expenditure on debt and higher rates of disability. However, the association between landlessness and negative outcomes also varies significantly between States and regions. Landlessness in Kayah State and Sagaing Region was linked with higher rates of health related impact; in Kayah State and Magwe landlessness was linked with higher rates of disability; and in Sagaing Region landlessness was linked with significantly higher levels of debt.

### Key findings

In the rural communities surveyed, nearly half of the households (49%) reported not owning land, and just over half reported planting any kind of crop the previous year. Of those who reported owning land, the mean acreage was just under 1 acre and the median acreage was 3 acres; just under 6% of those who reported owning land owned more than 15 acres. Landless rates varied between States and regions, with the highest rates recorded in Ayeawaddy, Yangon, Bago Region, Mon State, Kayin State, and Rakhine State (Table 16.1). Active planting rates were lowest in areas with the highest rates of landlessness. Rates of rental with cash were highest in Chin, Mon, and Kayin States, and rental by crop rates were highest in Kayin, Magwe, and Rakhine. (Table 16.1)

Table 16.1 Landless rates, mean acres owned by and owners, and land access method as percentage of all those who reported planting

	Landless	Land owned	Planted last year	Own land <sup>62</sup>	Rent in cash <sup>63</sup>	Rent with crop <sup>64</sup>	Free use of land <sup>65</sup>
Union	49%	0.9	52.5%	89.9%	4.5%	2.8%	2.3%
Kachin	47%	0.8	54.5%	81.8%	4.4%	5.8%	5.0%
Kayah	30%	1.0	86.0%	80.5%	2.5%	0.1%	3.4%
Kayin	62%	0.9	44.6%	77.8%	14.1%	7.2%	1.6%
Chin	40%	0.7	64.6%	69.8%	15.4%	2.8%	13.3%
Sagaing	38%	1.0	61.7%	96.5%	3.0%	2.7%	0.5%
Tanintharyi	53%	1.0	49.4%	96.5%	1.6%	0.7%	2.6%
Bago	62%	0.9	39.1%	91.0%	4.0%	1.3%	1.0%
Magwe	34%	0.9	71.2%	85.6%	3.4%	6.3%	3.1%
Mandalay	41%	0.9	60.0%	88.1%	2.2%	1.8%	2.2%
Mon	64%	0.6	24.5%	96.4%	12.9%	1.2%	3.6%
Rakhine	58%	0.9	42.7%	85.2%	5.9%	6.1%	5.5%
Yangon	76%	0.9	28.8%	78.8%	4.0%	3.2%	3.0%
Shan	22%	1.0	80.5%	93.8%	3.8%	1.3%	1.4%
Ayearwaddy	64%	0.9	34.5%	92.9%	7.1%	1.8%	3.1%
Nay Pyi Taw	50%	0.9	53.3%	85.4%	8.4%	2.5%	2.1%

Landlessness is associated with a high degree of excess vulnerability, as well as being associated with higher rates of expenditure on debt and higher rates of disability. However, the association between landlessness and negative outcomes varies significantly between States and regions (Table 16.2). Landlessness in Kayah State and Sagaing Region was linked with higher rates health related impact; in Kayah State and Magwe landlessness was linked with higher rates of disability; and in Sagaing Region landlessness was linked with significantly higher levels of debt.

<sup>62</sup> As percentage of all who reported planting last year.

<sup>63</sup> As percentage of all who reported planting last year.

<sup>64</sup> As percentage of all who reported planting last year.

<sup>65</sup> As percentage of all who reported planting last year.



Table 16.2 Landlessness and selected indicators by state and region

	% on food		% on debt		days lost to ill health		Asset value		PwD	
	Landless	Landed	Landless	Landed	Landless	Landed	Landless	Landed	Landless	Landed
Union	41.86%	43.35%	12.68%	11.15%	16	15	39.83	39.16	12.72%	10.88%
Kachin	41.25%	40.10%	10.35%	10.32%	31	32	42.07	41.47	36.57%	28.71%
Kayah	49.20%	49.46%	13.91%	13.57%	22	14	39.41	40.53	24.68%	18.92%
Kayin	46.43%	45.30%	7.56%	8.46%	19	15	35.16	35.37	10.93%	9.23%
Chin	47.91%	48.17%	7.86%	8.28%	36	37	44.79	44.26	18.43%	20.28%
Sagaing	42.79%	41.93%	9.11%	8.53%	36	26	38.47	36.92	10.24%	10.11%
Tanintharyi	42.40%	42.89%	11.92%	11.34%	20	22	36.41	35.85	13.56%	10.99%
Bago	35.56%	35.63%	16.13%	15.50%	15	22	38.64	39.10	14.97%	14.88%
Magwe	49.49%	48.96%	10.56%	11.76%	12	13	40.28	39.61	15.61%	9.31%
Mandalay	42.90%	44.24%	9.37%	9.44%	14	10	38.43	37.90	9.52%	8.89%
Mon	34.00%	35.36%	12.11%	12.47%	13	11	38.65	37.63	9.84%	5.66%
Rakhine	43.73%	43.85%	13.86%	13.98%	20	18	43.41	43.94	16.94%	15.71%
Yangon	40.35%	41.22%	17.35%	17.98%	15	16	40.17	39.10	9.63%	8.04%
Shan	44.86%	44.53%	9.30%	8.54%	9	10	39.16	40.16	6.61%	7.40%
Ayearwaddy	42.42%	43.07%	14.64%	15.13%	8	7	42.25	40.60	12.80%	13.79%
Nay Pyi Taw	45.80%	46.15%	12.28%	12.54%	19	13	39.30	39.08	6.69%	8.86%

Table 16.3 Landlessness and vulnerability, summary table

	Overall	% vulnerable in dependency category	% vulnerable in debt category	% vulnerable in income/expenditure category	% vulnerable in livelihoods category	% vulnerable in food security category	% vulnerable in WATSA N category	% vulnerable in health category	% vulnerable in assets category	% vulnerable in social capital category	% vulnerable in decision making category
landless	34.48%	18.81%	20.57%	32.64%	8.76%	14.00%	32.69%	20.01%	31.54%	17.75%	10.03%
landed	14.52%	10.98%	13.16%	17.52%	14.60%	8.59%	24.60%	16.15%	6.95%	14.23%	5.56%

Overall vulnerability rates for landless households are more than twice that for landed households (Table 16.3). However, there are considerable variations regionally, whereby landlessness confers more significant vulnerability disadvantage in Kayin and Mon States, Tanintharyi, Magwe and Yangon Regions (Table 16.4).

Table 16.4 Vulnerability profiles of landless and landed households by state and region

Percent vulnerable	Union	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magwe	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwaddy	Nay Pyi Taw
Landless	34.48%	41.52%	29.75%	23.92%	50.23%	27.23%	41.10%	41.11%	35.32%	25.98%	35.57%	53.96%	36.07%	15.56%	35.50%	33.78%
Landed	14.52%	26.18%	16.13%	8.03%	39.25%	11.59%	15.42%	26.45%	12.79%	13.92%	14.34%	28.40%	14.88%	6.96%	15.18%	16.70%
Ratio	2.375	1.586	1.845	2.977	1.280	2.350	2.665	1.554	2.760	1.867	2.480	1.900	2.424	2.235	2.338	2.023

The patterns of excess vulnerability by category are demonstrated for landless households (Table 16.5) and landed households (Table 16.6).

Table 16.5 Vulnerability profile of landless households by state and region (Detail)

Landless	Overall	% vulnerable in dependency category	% vulnerable in debt category	% vulnerable in income/expenditure category	% vulnerable in livelihoods category	% vulnerable in food security category	% vulnerable in WATSA N category	% vulnerable in health category	% vulnerable in assets category	% vulnerable in social capital category	% vulnerable in decision making category
Union	34.5%	18.8%	20.6%	32.6%	8.8%	14.0%	32.7%	20.0%	31.5%	17.7%	10.0%
Kachin	41.5%	27.2%	14.0%	30.7%	4.8%	36.2%	14.7%	49.5%	32.3%	20.8%	3.9%
Kayah	29.7%	19.2%	9.7%	27.8%	8.6%	5.9%	4.6%	32.3%	12.2%	18.8%	51.5%
Kayin	23.9%	28.5%	8.9%	27.6%	9.2%	18.1%	12.2%	23.0%	19.0%	16.5%	7.6%
Chin	50.2%	31.5%	2.6%	36.7%	17.1%	64.8%	24.4%	31.2%	21.5%	24.7%	11.2%
Sagaing	27.2%	20.3%	11.5%	33.3%	10.5%	6.1%	15.0%	41.8%	18.5%	21.4%	7.2%
Tanintharyi	41.1%	28.1%	30.0%	27.3%	9.9%	27.7%	25.8%	27.3%	30.1%	15.3%	8.1%
Bago	41.1%	14.6%	35.0%	29.8%	9.5%	4.7%	52.8%	17.7%	34.2%	20.7%	11.2%
Magwe	35.3%	9.9%	16.4%	44.2%	4.6%	11.2%	53.5%	14.3%	33.6%	19.1%	9.3%
Mandalay	26.0%	6.3%	11.3%	33.7%	8.2%	4.2%	31.9%	12.7%	31.9%	21.1%	15.7%
Mon	35.6%	33.1%	20.4%	23.8%	5.7%	9.4%	25.7%	17.4%	25.4%	28.9%	18.3%
Rakhine	54.0%	11.4%	26.2%	31.9%	6.6%	24.8%	58.2%	22.9%	37.0%	23.0%	24.2%
Yangon	36.1%	22.1%	31.9%	37.1%	8.0%	15.7%	28.0%	20.4%	26.4%	15.0%	10.3%
Shan	15.6%	5.4%	19.8%	21.0%	8.6%	4.7%	3.9%	7.0%	24.9%	22.6%	3.1%
Ayearwady	35.5%	25.6%	17.1%	34.9%	10.5%	22.2%	34.1%	12.8%	43.6%	7.7%	3.9%
Nay Pyi Taw	33.8%	14.0%	19.1%	40.5%	11.9%	7.5%	39.8%	20.2%	28.9%	12.2%	14.0%

Table 16.6 Vulnerability profile of landed households by state and region (Detail)

Landed	Overall	% vulnerable in dependency category	% vulnerable in debt category	% vulnerable in income/expenditure category	% vulnerable in livelihoods category	% vulnerable in food security category	% vulnerable in WATSA N category	% vulnerable in health category	% vulnerable in assets category	% vulnerable in social capital category	% vulnerable in decision making category
Union	14.5%	11.0%	13.2%	17.5%	14.6%	8.6%	24.6%	16.1%	6.9%	14.2%	5.6%
Kachin	26.2%	23.2%	6.6%	12.9%	6.6%	41.5%	23.8%	42.1%	7.4%	18.0%	1.4%
Kayah	16.1%	14.8%	22.7%	20.2%	14.8%	10.5%	11.4%	17.0%	3.0%	14.2%	12.7%
Kayin	8.0%	13.3%	7.2%	18.1%	11.6%	11.3%	14.9%	18.6%	5.0%	11.1%	2.6%
Chin	39.2%	24.5%	4.9%	31.1%	14.2%	54.0%	24.1%	38.3%	7.9%	20.0%	3.3%
Sagaing	11.6%	11.2%	8.5%	21.3%	20.1%	3.4%	11.5%	27.5%	2.0%	18.1%	4.7%
Tanintharyi	15.4%	19.5%	17.3%	11.0%	13.0%	11.3%	14.0%	23.2%	6.7%	7.6%	3.8%
Bago	26.4%	14.9%	21.7%	16.7%	5.0%	6.3%	57.2%	25.6%	6.8%	18.8%	8.1%
Magwe	12.8%	6.1%	15.3%	27.6%	10.3%	9.7%	23.7%	11.5%	7.5%	12.5%	6.2%
Mandalay	13.9%	4.6%	5.7%	18.1%	17.7%	1.9%	38.4%	8.5%	6.7%	13.9%	10.9%
Mon	14.3%	30.9%	15.5%	6.2%	13.2%	8.1%	13.6%	12.1%	7.0%	12.5%	11.9%
Rakhine	28.4%	9.5%	19.5%	21.1%	10.6%	17.8%	55.1%	17.1%	11.3%	15.4%	11.5%
Yangon	14.9%	15.8%	22.3%	29.5%	8.9%	8.6%	19.9%	17.3%	3.9%	7.4%	3.6%
Shan	7.0%	3.7%	13.8%	6.3%	19.2%	5.4%	9.1%	9.0%	7.4%	18.6%	1.6%
Ayeyarwady	15.2%	20.2%	14.7%	19.5%	14.0%	11.2%	26.2%	9.1%	12.9%	3.3%	2.4%
Nay Pyi Taw	16.7%	8.9%	18.7%	21.5%	14.8%	5.8%	43.3%	12.4%	5.6%	9.4%	9.2%

## 17. Assets for livelihood

### Chapter summary

Asset profiles were largely correspondent to findings from the census, with the exception of significantly higher reported ownership of phones. This variation may reflect the difference in sampling period (2014 and 2015), during which mobile phones and SIM cards became much cheaper to purchase. Although 73% of households owned some kind of livelihood asset, either as an animal or as tools or equipment, households reporting no livelihood assets were almost twice as likely to be classified as vulnerable when compared to households who owned any assets (40% vs. 21%). This indicates a high degree of correlation between livelihood asset ownership and vulnerability. Assets most closely correlated with lower rates of vulnerability were transport assets (such as motorcycles) and tools.

### Key findings

The survey asked respondents to report their ownership of key assets and to indicate the number of assets owned in each category. Vulnerability modeling used weightings (those derived by the Myanmar Market Research Department for their standard market research) to assign value to each asset. The findings were similar to those of the census in TV ownership (40%), but differed significantly in the proportion of households owning a radio (23.4% vs. 39% census) and telephones (43.8% versus 24% census) (Table 17.1).

Table 17.1 Home Asset ownership

	Home				
	Generator	TV	Telephone	Radio	Other
Union	6.9%	39.6%	43.8%	23.4%	12.3%
Kachin	2.4%	19.3%	25.3%	19.8%	27.9%
Kayah	8.4%	37.4%	11.7%	19.4%	1.2%
Kayin	13.6%	46.8%	44.1%	20.4%	3.7%
Chin	1.0%	15.9%	13.7%	17.1%	7.3%
Sagaing	10.5%	39.7%	39.1%	29.0%	4.4%
Tanintharyi	9.5%	52.7%	32.5%	22.8%	17.5%
Bago	5.8%	38.0%	50.6%	28.3%	13.0%
Magwe	4.9%	33.0%	55.0%	33.2%	7.2%
Mandalay	4.0%	40.3%	54.3%	25.9%	1.9%
Mon	12.4%	50.0%	47.2%	29.8%	45.8%
Rakhine	2.8%	22.6%	21.6%	22.6%	3.1%
Yangon	5.5%	47.8%	57.4%	19.1%	7.5%
Shan	11.6%	57.1%	54.6%	8.7%	18.0%
Ayearwaddy	3.7%	30.5%	27.0%	21.3%	20.3%
Nay Pyi Taw	5.9%	38.5%	58.3%	26.0%	4.7%

Overall, 73% of households owned some kind of livelihood asset (either an animal or tools or equipment). Over two-thirds of households (68%) reported animal ownership, but the type and numbers of animals differed significantly between States and regions (Table 17.2). Over a quarter of all rural households reported no livelihood assets, and these households were almost twice as likely to be classified as vulnerable when compared to households who owned any assets (40% vs. 21%); this indicates a high degree of correlation between livelihood asset ownership and vulnerability.

Table 17.2 Livelihood assets (animals)

	Draught animal	Buffalo/Cow	Pig	Chicken	Sheep	Goat	Duck	Horse	Quail
Union	24.6%	19.2%	32.8%	42.0%	0.6%	1.3%	4.6%	0.2%	0.1%
Kachin	30.5%	19.8%	47.5%	64.8%	0.3%	0.3%	2.4%	0.2%	0.0%
Kayah	11.7%	23.3%	56.6%	53.4%	0.4%	1.1%	0.8%	0.0%	0.1%
Kayin	5.1%	23.4%	36.0%	59.6%	0.4%	6.3%	5.7%	0.1%	0.1%
Chin	3.7%	12.7%	62.2%	74.9%	0.6%	6.0%	1.3%	1.2%	0.0%
Sagaing	41.0%	26.6%	43.1%	41.5%	1.8%	0.7%	1.2%	0.7%	0.0%
Tanintharyi	2.7%	6.4%	19.1%	45.1%	0.1%	0.3%	4.3%	0.0%	0.0%
Bago	22.7%	20.1%	27.5%	43.6%	0.3%	0.5%	6.8%	0.4%	0.3%
Magwe	46.3%	24.9%	27.4%	35.0%	0.4%	0.7%	0.4%	0.1%	0.0%
Mandalay	35.6%	37.3%	16.7%	20.5%	2.2%	3.3%	0.4%	0.1%	0.1%
Mon	5.0%	10.5%	12.4%	38.4%	0.1%	2.7%	7.9%	0.0%	0.1%
Rakhine	25.3%	9.7%	30.8%	53.5%	0.3%	1.2%	4.2%	0.0%	0.0%
Yangon	9.3%	10.7%	22.1%	44.2%	0.1%	3.0%	10.2%	0.1%	0.1%
Shan	24.7%	20.1%	38.2%	39.9%	0.0%	0.0%	0.3%	0.0%	0.0%
Ayearwaddy	10.3%	6.1%	44.1%	48.8%	0.0%	0.5%	13.4%	0.4%	0.1%
Nay Pyi Taw	32.0%	15.7%	45.4%	39.1%	0.0%	0.3%	1.4%	0.3%	0.0%

Patterns of ownership of livelihood assets were related to livelihood practice, and higher rates of ownership of fishing equipment were found in regions where fishing is a more popular livelihood (table 17.3).

Over one-third of households reporting owning non-animal livelihood assets, but ownership rates were significantly lower for households reliant on casual labour (33.5%) than for households engaged in other livelihoods (37.6%).

Table 17.3 Livelihood assets (other)

	Hand tools	Machin e	Small home assets	Sewing machine/Loom	Fishing equipment	Other s
Union	18.4%	6.4%	2.1%	5.4%	6.5%	2.0%
Kachin	13.7%	2.3%	0.8%	2.8%	6.6%	1.1%
Kayah	58.0%	6.9%	1.1%	6.0%	0.4%	0.0%
Kayin	4.4%	3.2%	0.6%	1.9%	3.3%	0.3%
Chin	7.1%	0.9%	3.5%	1.0%	2.2%	0.8%
Sagaing	39.0%	16.9%	2.5%	10.4%	8.0%	1.3%
Tanintharyi	5.5%	5.8%	0.4%	6.5%	4.3%	2.1%
Bago	12.0%	3.9%	0.4%	2.7%	0.6%	0.3%
Magwe	7.7%	1.4%	1.8%	15.3%	1.0%	0.1%
Mandalay	22.3%	3.4%	1.5%	5.8%	0.1%	1.3%
Mon	9.4%	4.1%	2.6%	9.1%	3.8%	0.9%
Rakhine	8.7%	1.1%	9.8%	2.2%	10.9%	0.2%
Yangon	2.3%	5.6%	0.6%	2.3%	4.5%	1.5%
Shan	43.2%	13.1%	2.0%	1.6%	15.8%	10.3%
Ayearwaddy	5.7%	3.8%	0.5%	2.2%	12.7%	0.4%
Nay Pyi Taw	28.1%	8.2%	17.8%	6.2%	0.2%	0.5%

Reported transport asset rates for motorcycles and bicycles (37.8% and 31.8% respectively) were slightly lower than the census results (Table 17.4). Rates of ownership for cars (1.2%) and boats (7.9%) were similar to census data; reported ownership of bullock carts (29%) was significantly lower than in the census.

Table 17.4 Transport Assets

	Bicycle	Motorcycle	Car	Trawalgy i	Tricycle	Animal drawn cart	Boat
Union	26.5%	40.7%	1.1%	2.4%	0.5%	16.2%	7.7%
Kachin	20.8%	49.5%	0.2%	0.3%	1.1%	16.0%	0.8%
Kayah	5.0%	55.8%	2.7%	3.2%	0.0%	10.2%	0.1%
Kayin	39.5%	43.8%	3.9%	7.1%	0.5%	1.7%	6.0%
Chin	0.4%	16.7%	0.1%	0.2%	0.0%	0.4%	3.5%
Sagaing	27.5%	56.5%	1.3%	3.2%	0.2%	27.0%	6.1%
Tanintharyi	19.9%	43.5%	1.3%	2.9%	0.4%	1.2%	12.2%
Bago	49.9%	27.7%	0.6%	0.8%	0.2%	18.9%	11.2%
Magwe	19.2%	41.3%	0.2%	0.7%	0.4%	39.3%	0.4%
Mandalay	29.6%	56.0%	1.2%	0.9%	0.1%	36.4%	0.2%
Mon	42.7%	35.4%	1.5%	2.5%	1.0%	5.0%	10.0%
Rakhine	17.1%	13.8%	0.4%	0.6%	0.1%	1.9%	13.6%
Yangon	34.8%	30.3%	1.2%	2.6%	0.1%	7.0%	7.3%
Shan	6.8%	71.7%	2.5%	7.5%	2.0%	3.5%	3.3%
Ayeyarwaddy	24.4%	11.7%	0.0%	0.8%	0.1%	4.1%	20.4%
Nay Pyi Taw	31.7%	41.3%	0.8%	0.4%	0.3%	27.5%	0.3%

Ownership of valuable assets such as gold, which can be potentially converted to cash in times of crisis, was variable across regions (table 17.5). Gold assets rates were highest in Sagaing, Bago, Magwe, and Ayeyarwaddy Regions. They were lowest in Chin, Kachin, and Shan States, Mandalay Divisions, and Nay Pyi Taw. Ownership patterns showed modest correlation with reported savings.

	% with Gold	% reporting regular savings
Union	6.8%	7.7%
Kachin	0.0%	2.0%
Kayah	2.1%	11.6%
Kayin	4.7%	12.7%
Chin	0.0%	9.2%
Sagaing	17.4%	15.7%
Tanintharyi	0.3%	7.8%
Bago	13.9%	3.8%
Magwe	8.1%	2.1%
Mandalay	0.2%	8.6%
Mon	4.5%	17.8%
Rakhine	6.6%	6.0%
Yangon	2.3%	2.8%



Shan	0.0%	11.1%
Ayearwaddy	10.1%	4.3%
Nay Pyi Taw	0.1%	3.0%

Table 17.5 Gold and valuables

There is an overall correlation between asset ownership and vulnerability, and households which do not own livelihood or transport assets experience higher degrees of vulnerability than households which own those assets (Table 17.6). Vulnerability was less strongly correlated with ownership of TV or telephones.

Table 17.6 Vulnerability rates by asset ownership

	Own livelihood asset (any)		Own motor-cycle		Own TV		Own telephone	
	Yes	No	Yes	No	Yes	No	Yes	No
Classified as vulnerable	21%	40%	20.8%	38.5%	22.2%	25.6%	22.4%	25.7%

## 18. Conclusions

**Demographics:** The research sample reported small but significant differences when compared with rural household data from the census. Statistical analysis demonstrates that this variation is unlikely to be a chance finding: It may reflect either differences in recording or, more likely, the selection of communities. The criteria for designation of communities as ‘rural’ or ‘remote’ are not universal. In order to gain a sample population reflective of the communities ordinarily considered rural by the Department of Rural Development, their operational criteria were used to classify communities as rural or non-rural. The probability is that the research sample reflects a slightly more remote rural population than does the census, and therefore the sample populations will differ in some aspects. In certain measurements such as disability, the differences are also likely due to the use of different classification systems and methods of eliciting responses.

**Poverty paradigms:** The key findings from the qualitative study demonstrate the overwhelming tendency of rural households to describe and categorize poverty based around a paradigm of livelihoods. This fits with other contemporary research, which also demonstrates a high priority being placed on livelihood creation as a key element of public expenditure.<sup>66</sup> However, the livelihood paradigm was rarely expressed exclusively: most respondents also expressed concerns over poverty being affected by income, debt, assets, and access to services and information. *The overall findings of public opinion on the criteria, causes of, and proposed priorities for poverty reduction all underline a need for a livelihoods based approach to rural development which focuses on increasing access to low and no-interest credit, access to skills and technology, and improving livelihood diversity in rural communities.* Poverty was rarely expressed in terms of inadequate food supply or consumption, and this may be explained in three ways. Firstly, since acknowledgement of food poverty is associated with shame and “loss of face” in these communities, few households openly described or acknowledged food shortages in either qualitative or quantitative terms. The ‘proxy’ descriptive for food shortages may be ‘lack of income’ or ‘not enough income’, but this in itself is not specific. Secondly, the nature of food poverty may be understood in different ways. Very few households sampled in this survey reported eating rice less than once per day, although consumption of other vegetables and protein sources varied. However, it is not clear that households would describe inadequate consumption of vegetables and protein as ‘food insecurity’, as this may be more commonly associated with inadequate consumption of rice. Finally, since it was derived from the qualitative survey, the questionnaire design itself did not provide multiple prompts for reporting food insecurity as a criteria for poverty. This has the potential to bias the results away from an open acknowledgement of food insecurity as a cause/criteria for poverty.

**Vulnerability:** Having been extensively tested in rural households in Myanmar, the umbrella model has been demonstrated to be a robust and reliable tool to measure comparative household vulnerability and resilience. The model allows for a nuanced approach to identifying households which are at risk of the deleterious effects of natural disasters and economic shock, and it tends to identify a slightly different population than do standard poverty measures since it examines a wider and more diverse range of factors. However, the vulnerability model is strongly correlated with poverty, with the factors most strongly correlated being insufficient income and lack of assets. In this study, vulnerability profiling demonstrated significant differences not only between households in different states and regions, but also between

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<sup>66</sup> Griffiths M et al (2012) Public Opinion Survey on Social Welfare Expenditure. Bulletin of the Social Policy and Poverty Research Group 1: 2

households with different socio-demographic characteristics, such as disability, female-headedness, landlessness, and main livelihood, such as fishing communities. *This demonstrates the utility of vulnerability profiling to identify households which are at increased risk of poverty or whose low level of resilience makes them more vulnerable to negative impacts of shocks and crises.* The vulnerability profiling allows detailed analysis of the underlying factors contributing to excess vulnerability experienced by different households, and thus allows identification of potentially beneficial interventions to reduce vulnerability.

Several weaknesses are inherent to the use of this model. Firstly, it is difficult to control for the extent to which certain assets may be more valuable in one place than another. For example, owning a motorcycle in Chin State may signify a relatively more affluent status than owning a motorcycle in Mandalay. The approach to overcome this concern is to measure vulnerability based on status relative to one state/region, thereby looking at variations within states and regions rather than comparing to a national ‘standard’. That approach, however, does not allow more high-level comparison. Secondly, the model also yields some surprises: Low levels of vulnerability in Shan State, and relatively high levels of vulnerability in Bago Region. These findings should not be taken in isolation, but rather compared with other findings, as well as with the more detailed analysis found in this research.

**Social Protection:** Despite high levels of expressed need, current access to social assistance remains largely through informal means. Most social assistance comes in the form of loans, particularly for poor households, female headed households, and households with low levels of social capital and participation. These households are also less likely to receive assistance from the government or through insurance schemes and less likely to actually receive assistance of any kind. This suggests the existence of an inverse access paradigm, whereby those who are in the most need are the least likely to be able to access it. The study also confirms the widespread existence and activity of traditional social organizations as significant providers of social assistance. Overall, rural households, and especially those in fishing communities, those with poor social capital, and landless households all describe lower rates of access to social assistance. In most cases, the assistance available for crisis, emergencies and social needs is in the form of loans, and the majority of these are informal, and often associated with high levels of interest and risk. Coupled with the findings revealing high degrees of debt burden amongst rural households, and correlations between levels of social assistance received as debt and levels of debt burden, we can deduce that crises leading to seeking and receiving social assistance are a significant contributory factor to unsustainable levels of household debt, and may in fact lead to more negative coping responses such as withdrawing children from school, reduced consumption, and migration. Overall, correlations between access to social protection and the reduction of vulnerability and poverty are well known, and *this study highlights the need for significant expansion of social protection services as a key component of rural development. These services should be integrated with rural development initiatives, to ensure adequate access to appropriate social assistance measures in rural communities.*

Methodologically, the questionnaire format did not allow for respondents to describe the amount, frequency, or timing of their access of social assistance. Further research to analyze social assistance practice in more depth is therefore required.

**Fishing communities:** Households in fishing communities experience significantly higher rates of vulnerability than do non-fishing communities. They have higher rates of food insecurity and poorer asset profiles (particularly for livelihood assets), and they access both informal and formal assistance less often.

The sample included some communities in areas not normally associated with predominance of fisheries related livelihoods, such as those in Kayin State and Shan State, which also included those engaged in fish farming. These communities tended to have better vulnerability profiles than the other communities, so their exclusion would not negate the findings of difference between fishing and non-fishing communities. The findings of difference also persisted after the correction for local differences, such that vulnerability in fishing communities in Ayearwaddy, Rakhine, Tanintharyi and Kayin State was higher when compared to non-fishing communities in the same State and Region. Interestingly, the findings were reversed in Yangon Region, where vulnerability rates were lower than those in non-fishing communities. Overall, however, the findings confirm the need for urgent and targeted development for fishing communities, with a focus on improving livelihood assets and diversity and access to social assistance. Households in fishing communities also reported lower rates of both formal and informal access to social assistance compared to non-fishing communities, and lower likelihoods of receiving government assistance. In fishing communities, access to waterways and lack of control over markets and prices were significant factors described in relation to poverty. *These findings confirm the need for urgent and targeted development for fishing communities, with a focus on improving livelihood assets, diversity, and access to social assistance.*

**Livelihoods:** Where the main income source is casual labour for over one-third of rural households and more than half of all rural households have only one income source, *interventions to increase livelihood diversity are essential. Interventions to increase active participation in livelihoods by women, persons with disabilities, and older persons can increase livelihood diversity, reduce economic dependency, and reduce vulnerability.*

**Debt:** Debt and access to credit represent a major issue for rural households. More than one in every ten households spends at least 10% of their income on debt repayments. Debt repayments consume nearly 12% of all household income, and over half of households are borrowing primarily from high risk lenders. Nearly 6% of households across the nation can be labeled as “high risk” in terms of debt. When asked about interventions for poverty reduction, respondents prioritized low or no-interest loans; the selection of this response was strongly correlated with high levels of debt and high-risk debt. *Since a high debt burden is linked to a reduction in investment in education and livelihoods, these findings should alert policy makers to the urgent need and demand for interventions which enable rural households to escape from ‘problem debt’.*

**Social capital:** As evidenced by participation in community events and meetings, rural communities demonstrate high levels of social capital. There is also traditional social organizational activity in 63% of all communities. There is a demonstrable correlation between social capital and poverty at both the community level and household level. Overall level of participation at community level was also strongly associated with accessing social assistance from community organizations, suggesting a link between community participation and social capital. However, inequities exist; the relatively low levels of participation by women and persons with disabilities demonstrates the need to address these issues and to purposefully build positive social capital. The research findings highlight two things. Firstly, there is a strong potential for drawing on the capacity of traditional social organizations to play a role in the delivery and development of social assistance. However, there is also a need to strengthen and preserve social capital, given the strong correlations between social capital, equity, poverty, and vulnerability. *Building positive social capital should be an integral part of rural development, with particular attention paid to avoiding negative impacts on existing social capital by development processes, and intentional interventions to strengthen community level institutions which can build and sustain social capital. This*

*could take the form of investments in traditional social protection organizations (Parahitha) which are near-ubiquitous throughout Myanmar and which represent strongly trusted local institutions.*

**Food consumption:** Although measurement of overall patterns of consumption reported more than 90% of households consuming rice daily, this study did not attempt to measure caloric intake or nutritional value. Significant difficulties (in the form of almost universal rejection of the questionnaire) were encountered in pilot stages when using a modified international standard food security instrument. Statistical analysis did not demonstrate significant correlations between consumption patterns and health indicators or between the proportion of income spent on food and reported consumption patterns. The proportion of income spent on food did not vary considerably by state or region. However, this does not correlate with the actual absolute amount spent or amount purchased in terms of calorific value, as purchasing power, and proportions reported spent on other items will also affect the reported proportion spent on food.

**Natural Resource management:** Despite clear linkages between poverty reduction and natural resource management, the knowledge and practice of natural resource management remains low in rural communities. Active management is reported in less than one in five rural communities, although awareness levels, particularly for forestry related management, were higher. Although the current levels of active participation in these activities are low, there is considerable public support for better management of natural resources and disaster risk reduction: these were identified as key priority interventions by 9% and 1% of the population, respectively. *Given the clear links between resource management and poverty reduction, efforts to increase awareness of and participation in resource management by rural communities should be an integral part of rural development activities.*

**Disability and ageing:** Different methodologies were used in this survey and in the national census, resulting in slightly variant data. Overall, this survey shows that households with one or more persons with disabilities, are more likely to be classified as vulnerable than are those households without PwDs or older persons. The degree of disadvantage conferred varies between states and regions. Whilst the difference relating to ageing is slight, disability confers almost double the risk of vulnerability. Given that disability impacts over ten percent of rural households, *interventions to address the underlying contributory causes of excess vulnerability in these households need to be priority inclusions in rural development programmes.*

**Land access:** Almost half of rural households report owning no land, and landlessness is associated with high degrees of household vulnerability, high rates of expenditure on debt, and high rates of disability. The study recorded land tenure status based on self-report (i.e. there was no mechanism to confirm land tenure status by scrutiny of documents), and confirming land tenure remains a complex issue in rural communities. The findings demonstrate that landlessness is common amongst rural communities, and it is independently associated with higher rates of vulnerability (meaning that the vulnerability model did not take land status into account when assigning vulnerability status, given the complexities of determining land tenure status). Given this association, *increasing access to land for agriculture should be a key component of rural development plans.*

### 19. Detailed methodology

Methodology for the study was developed SPPRG and DRD to try to capture dimensions of poverty, causes of poverty and coping mechanisms of poor households and communities (access to and utilization of social protection).

A simple tool was developed to answer three sets of basic questions:

- What are the dimensions of poverty in rural Myanmar? Who is considered poor, and why? What are the criteria used at community level to differentiate poor from non-poor?
- What are the causes of poverty as experienced by poor communities, from their perspective? To what extent is poverty 'caused' by lack of assets, or lack of ability to apply assets, or lack of suitable environment to effectively apply assets, or lack of supportive environment to protect against shocks?
- What are the behavioural characteristics (including social protection options) for poor communities? What do poor people do to try and survive? What do they do to try and get out of poverty? What are the available safety nets? What do non-poor do to try and prevent themselves from becoming poor?

The scope of the research is designed to fulfill the following:

- Sufficient depth to capture detail of opinions and perspectives on poverty from a range of different respondents in geographically diverse regions of Myanmar.
- Sufficient breadth to assess a representative sample of opinions and perspectives and to capture differences in perspectives by region, socio-demographic characteristics, and between different types of households in the same region.
- Sufficient scale to analyze significant trends and differences.

For this reason, the research was conducted in two stages.

Firstly, an in-depth, qualitative survey was conducted. This provided a detailed 'in-depth' analysis and also informed the content and structure of the wider, quantitative survey. A basic questionnaire for the initial semi-structured interviews was designed with the following questions, allowing free responses.

- When identifying poor households in your village, what criteria do you use?
- When considering if a community is poor or not, what criteria do you use?
- What are the reasons why people become poor?
- What kind of mindset change is needed to reduce poverty?
- What do poor people do to try to survive?
- What kind of assistance can poor people get if they have difficulty?
- What should be prioritized for poverty reduction?

- What are the extent and characteristics of unsustainable debt?
- What is the experience of micro-credit in poverty reduction?
- What are the key issues for management of natural resources?

In consultation with the DRD, three areas were selected for conducting the qualitative stages of the research: Ayeawaddy Region, representing coastal areas, Chin State, representing hilly areas, and Sagaing Region, representing central plains. In Ayeawaddy Region, 4 communities were selected in Pyapon Township; in Chin State, 4 communities were selected in Matupi Township; and in Sagaing Region, 4 communities were selected in Monywa District. Communities were selected to best represent the different types of rural economy. Fishing communities were represented by the 4 communities in Ayeawaddy Region, where fisheries are reported as the main livelihood.

Questionnaire protocols were developed and tested to elicit the information required in an open but structured manner. 15 interviewers were trained in qualitative research methods, including issues of recording, bias and consent. The qualitative interviews were conducted in December 2014. A minimum of ten people per community were interviewed, with purposive sampling applied to ensure representation of women, older persons, and persons with disabilities. All interviews were recorded both manually and on digital voice recorders, and subsequently detailed notes were made of each interview. A total of 161 interviews were conducted in the three locations. Analysis was conducted by SPPRG in January 2015. Responses were analyzed by coding each question and collating the responses into categories representing consensus responses. ‘High-frequency’ responses were then used to develop a more structured format for the wider survey.

The second stage of the study involved a quantitative survey. The objectives of the wider survey were as follows:

- To test the representativeness of the findings of the qualitative survey, and in particular to test differences in opinions amongst respondents from regional, socio-demographic and other backgrounds.
- To explore and highlight dimensions of poverty which may not be expressed using current models.
- To gain a community perspective on aspects of poverty and vulnerability in rural communities, by collecting information on their understanding of poverty, perception of the causes of poverty, and knowledge of and experience with coping mechanisms.
- To provide data which can inform options for different approaches to conceptualizing and measuring poverty.

A survey tool developed by SPPRG and DRD was based on the overall format in Table 19.1.

Table 19.1 Umbrella model indicators (household survey)

Factor	Contribution to vulnerability	Indicator	Source and validation
Indebtedness	High levels of non-productive debt put livelihood assets at risk (collateral); repayments may reduce essential expenditure; high levels of existing debt can reduce ability to access additional credit	Debt repayment as proportion of income Repayment: income ratio >30% is usually risky; debt profile	World Bank 1997, adapted
Income	Low or negative income: expenditure ratio can lead to reduction in essential spending, increase risk of debt or negative coping responses. High proportion of income spent on non-productive items can lead to under-investment in livelihood, leading to higher risk	Proportion of income expended on non-productive items (food, health, rent, fines)	World Bank 1997, adapted
Assets	Ownership of livelihood assets, convertible assets or crucially, land (in the form of usage right) can provide short term protection against shocks.	Moser's asset vulnerability Framework, adapted for survey by MMRD	Moser (1998)
Food Security	Current and prior experience of food insecurity is strongly linked with increased vulnerability to future food insecurity. Likewise, food insecurity leading to malnutrition can affect human capital, and put livelihoods at risk.	Food Security Index	UNDP, modified
Livelihood diversification capacity	Income derived from a single source is more vulnerable to shocks. Multiple sources, or the potential to diversify, can increase protection against shocks affected main/key livelihoods	Livelihood diversity index (= number of income generating activities at HH)	DHS (2006) modified
Health	Chronic or frequent illness in primary earner OR one requiring care threatens livelihood security and reduces income, as well as increasing health expenditure; unplanned health expenditure is a common cause of negative coping (e.g. conversion of livelihood assets to cash)	Income generating household member days per year lost work through illness	UNDP modified
Water and Sanitation	Water is an essential for health and many livelihoods; more time taken to draw water reduces time for other activities; unsafe water sources increase risk of ill health which reduce livelihood effectiveness; unreliable water supplies increase resource expenditure	Average time to collect water	DHS (2006)
Dependents	Household members requiring high levels of social or medical care divert human, physical and financial resources away from potentially productive livelihood activities	Household Dependency scale	TLMI adapted



Social Participation	Persons with higher levels of social participation build up social capital, which can increase the likelihood of relief and assistance in times of difficulty	Participation index	TLMI, adapted from p-scale (KIT)
Decision making	Persons with more influence in decision making can have stronger negotiating position for livelihood related factors such as fair pricing, land and asset use	Participation Index (meetings)	Adapted UNDP

The questionnaire is included as appendix 2.

The questionnaire was developed in the Burmese language first so that questions were in accordance with cultural and linguistic norms. It was pilot-tested in 5 communities, after which minor revisions were made in most sections and major revisions were made in the food security section. Previous household surveys utilized a standardized food security questionnaire which included questions relating to food scarcity and involuntary changes in consumption patterns in the previous 6 months (such as skipping meals, borrowing food, or eating cheaper food). However, previous surveys utilizing this question in areas known to have high levels of food insecurity had yielded very ‘shallow’ results (meaning that the majority of people responded, that there were no incidences of food insecurity). Over 90% of the volunteers who did field testing of this questionnaire (in 80 households in Sagaing Region) reported that households refused to answer those questions. In some cases, they also refused to answer any subsequent questions because questions about food insecurity were considered offensive and an affront to village pride. Hence, the measurement of food insecurity for the survey was modified to use the weekly consumption index, which proved more acceptable on field testing.

*Sampling:* in consultation with the DRD, the decision was made to sample equal household numbers in each of Myanmar’s states and regions. This ensured a sufficient sample size to allow for disaggregated analysis at the state and regional level (for example, analysis of female-headed households). At the same time, a sufficient sample size was derived in each state and region to allow for a population weighted adjustment: this analyzed a sample of each state and region’s data based on the population size as defined in the recent census. Hence, 1,600 households from 4 townships were sampled in each state and region, as well as 3 townships in Nay Pyi Taw Council. Townships were selected by geographical criteria (e.g. north/south/east/west) or, where there were only a few townships, random selection. This was to ensure sufficient representation of different geographical areas. For example, in Sagaing Region, the process ensured that townships were selected to represent lowland plains, upland areas, eastern areas near to Kachin State, and the northwestern (Naga) areas. Village selection was undertaken by township development committees, with guidance from DRD, using the following criteria developed by SPPRG and DRD:

*Each township will select a total of 10 villages. The aim is to get a mix of rich and poor, well-developed and underdeveloped, remote and well-connected villages in the sample.*

*Step 1 – select 3 village tracts. This should be one more remote village tract, one village tract which has good transport links, and one which is average.*

*Step 2 – randomly select 3 villages from each village tract. If one VT has only 2 villages, select both, and select additional village as nearby to that village tract.*

*Step 3 – select one village which is near to the town or city, which has average level of development. Average means the situation is between the better developed and underdeveloped villages.*

Household selection at the village level was undertaken by the data collectors, who were trained to randomly select 40 houses in each community based on the overall household number.

Thus, the proposed overall sample size was 23,600 households.

State/Region	Townships per State/Region	Community per TS	HH per community (average: minimum 30, maximum 50)	Proposed Total HH per State/Region
Chin	4	10	40	1,600
Kayah	4	10	40	1,600
Kayin	4	10	40	1,600
Kachin	4	10	40	1,600
Sagaing	4	10	40	1,600
Bago	4	10	40	1,600
Magwe	4	10	40	1,600
Mandalay	4	10	40	1,600
Nay Pyi Taw	3	10	40	1,200
Mon	4	10	40	1,600
Rakhine	4	10	40	1,600
Tanintharyi	4	10	40	1,600
Shan	4	10	40	1,600
Yangon	4	10	40	1,600
Ayearwaddy	4	10	40	1,600
TOTAL	59	150	600	23,600

Data collection was undertaken by junior staff of the Department of Rural Development who were from the selected townships. Priority was given to staff who spoke ethnic dialects prevalent in their area. In total, 60 primary enumerators were trained, with a further 20 central level staff trained in the overall research methodology and collection method in order to act as supervisors. The training was conducted in April 2015 in Nay Pyi Taw, overseen by the Union Minister for Livestock, Fisheries and Rural Development. The training included extensive theoretical training on poverty, vulnerability, research methods, and issues of consent, bias and research ethics. It also included training on the process of data collection, recording, storing, and sending completed questionnaires. All data enumerators were provided with a set of questionnaires, a research manual, equipment to conduct the “ten seeds” inquiry, and various pictures and illustrations to use to explain key topics to respondents. The training included a practical data collection exercise, with all enumerators going to two villages for supervised data collection to familiarize themselves with the questionnaire. The average time taken for one household to complete the questionnaire was 30-45 minutes, which was within the guidelines set by DRD. FAO provided travel and daily food costs for data collection, with all logistics undertaken by DRD.

Data collection was preceded by a brief explanation of the purpose and nature of the research, and respondents were requested to consent prior to their participation.

Follow up interviews with those who had collected data demonstrated that the questionnaire had been straightforward to administer, with minor difficulties encountered with minority languages.

Completed questionnaires were sent to the SPPRG office, where the data was entered by a team of data entry professionals. Data was recorded in anonymized form to protect the identity of respondents, and it was entered into pre-prepared spreadsheets in Microsoft Excel. Data analysis was conducted in Microsoft excel.

The following is a list of definitions and background information on indicators used in the analysis.

**Assets:** The questionnaire recorded total numbers of different types of assets in five categories: household goods (e.g. generator, telephone); livelihood assets (animals, tools, nets, boats); transport assets (bicycles, trawlawgi, boats etc.); household valuables such as gold and housing quality. Land was not included in the asset list, as issues of ownership are often complex to describe. Land use and ownership was recorded separately. Given the difficulty and inconsistency in calculating monetary value of assets, and in particular the regional variation in monetary value, an alternative scoring system was used to calculate asset value. The total score for asset value was calculated using assigned values for different types of asset. To assess vulnerability, the total scores for assets in each category were capped at a maximum level, as vulnerability reflects risk as well as overall value. For example-a household may have 1,000 chickens, but if that represents the sum total of their assets, it represents a risky profile, as the entire asset value could be lost by an outbreak of bird flu.

**Asset poverty:** Asset poverty is measured by calculating the asset value of the lowest quintile and then classifying as ‘asset poor’ those who fall below that level.

**Asset vulnerability:** Asset vulnerability is measured by calculating the weighted score for assets in the five categories, and if that score is lower than one standard deviation below the population mean, that households is considered ‘asset vulnerable’.

**Child labour:** The initial part of the survey catalogued details of each household member, including the way in which they participated in, or contributed to, the household income generation. Children could either be categorized as dependent, student, or economically active, based on their involvement in household income generating activities. Children were defined as those 16 or under.

**Consumption index:**<sup>67</sup> Household food consumption was measured using a standardized weekly consumption diary adapted for Myanmar. This included the option to indicate if a certain food type was not consumed because of religious beliefs. Overall consumption index was calculated by assigning scores to the stated frequency of consumption of each food category (more than once/day =1; daily=2; 2-3 times per week =3; once per week=4; never = 5. The categories were weighted so that the scores for rice formed 50% of the total score, with fresh vegetables/fruit forming 20%, fish, eggs and poultry 20% and other (including meat, oil, beans and pulses) forming the remaining 10%. This produces an inverted index (high score = low consumption). For classification of food security, see later entries. Consumption frequencies of different types of food were also calculated.

**Debt:** The measurement of debt was undertaken not on the total monetary value of the debt, but on the extent to which the degree and nature of indebtedness posed a risk to the household. Hence, debt was measured by 2 factors: the proportion of total household income which was expended on debt servicing and repayment on a monthly basis, and the identity of the major creditors for that household’s debt. Whilst there are inevitable variations in practice, qualitative research undertaken in Myanmar has demonstrated that rural households perceive debt from family members or relatives and NGOs to be low risk, with typically lower interest rates, as compared to loans from community money lenders, banks and ‘bosses’. Hence, it is a reasonable assumption that a household whose debt is mostly owned by village money lenders is likely to be paying higher interest rates, and to be at higher risk of negative consequences if they default, than a household whose debt is primarily from family members. Likewise,

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<sup>67</sup> This index is not recognized by FAO (note by FAO technical editor).

households who spend 30% or more of their income on debt servicing are likely to be more vulnerable than those whose debt servicing consumes a lower proportion of their income. Households firstly were asked to describe what proportion of their income was spent on what type of expenditure, using the ten seeds method (see expenditure, below). The number of seeds allocated to each category was then converted into a percentage (1 seed = 10%). Next, households were asked to again use the ten seeds method to indicate what proportion of their debt was owed to which type of creditor. A formula was devised to assign risk weighting to the type of creditor. This was combined with the percentage score for proportion of income consumed by debt repayments to calculate an overall 'debt' score.

**Debt vulnerability:** The overall debt score was inverted (lower score = higher risk) and having calculated an overall debt score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the debt category.

**Decision making:** Part of the overall measure of poverty and vulnerability takes into account power differentials and participation in decision making. Earlier research by SPPRG has demonstrated a strong correlation between degrees of equality in participation in village decision making and overall poverty rates at village level. Here, decision making was measured in two ways: firstly, an index cataloguing the degree of participation of the household head in village decision making process. The indicator measured the degree of participation at three levels: attending meetings (how often) participating in discussions (how frequently) and influencing decisions (to what extent). A formula was devised to allocate scores to the degree of participation, with higher scores allocated to the 'influencing decision' category. The same questions were then asked about the participation of the women in that household in the village decision making processes. These two scores were combined, and as with the other main indicators were converted to a scale from 0-1 for the purposes of the umbrella model.

**Decision making related vulnerability:** The overall score was inverted (lower score = higher risk) and having calculated an overall score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the decision making category.

**Dependency:** The initial part of the survey catalogued details of each household member, including the way in which they participated in, or contributed to, the household income generation. This allowed for broad categories such as family business, waged employment, daily labourer (casual) student and 'own work'/'own business' and of course, 'other'. Based on this, household members could be defined as economically dependent or not. This category is primarily measuring economic dependency, whereby household members who are active, and perhaps engaged in domestic activities such as child care or care for elderly, are nonetheless not included as economically active unless specified by the respondents. A dependency ratio is then determined by calculating the proportion of household members who are economically dependent. This excludes school aged children who are listed as students, but school age children who are listed as being economically active are included.

**Dependency vulnerability:** The overall score was inverted (lower score = higher risk) and having calculated an overall score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the dependency category.

**Disability:** The national disability survey conducted by DSW and TLMI in 2009-2010 used a hybrid approach to measure disability, with a national prevalence of 2.32%. A more functional based approach was used by the national census, which yielded a prevalence of 4.6%, with the difference almost entirely due to higher prevalence of age-related functional decline. Surveys in the Delta and the Dry Zone using a self-designation approach have typically yielded prevalence rates between 3 and 4%. For the purposes

of this survey, self-designation was used, whereby household members were asked whether they had household members who were considered disabled. A short text and accompanying pictures were used to illustrate types of disability for households who were not familiar with the concept. According to the census and DSW criteria, the main types of disability recorded were physical, hearing, seeing and intellectual/mental.

**Expenditure:** Measuring household income is challenging, particularly in rural contexts where income is often seasonal and consumption is potentially reliant on acquired goods as well as monetary income. Likewise, assigning monetary value to income can be problematic, especially where purchasing power of cash varies from region to region. This means that the absolute monetary value of household income does not necessarily correlate with income security. However, measuring expenditure profiles can contribute to the estimation of a reasonable proxy for relative income security. Households who spend the majority of their income on essentials such as food are more likely to be experience food poverty. However, prior research in Myanmar categorized the main types of household expenditure in rural households as follows: Food, Health, Debt repayments and servicing, Education, Livelihoods (including purchase of tools, fertilizers, repair of Equipment etc.), Travel, savings and ‘Official and social’ which includes various voluntary and non-voluntary contributions such as official and unofficial taxes, donations and contributions. Households were asked to describe what proportion of their income was spent on what type of expenditure, using the ten seeds method. The number of seeds allocated to each category was then converted into a percentage (1 seed = 10%) for each category. Members could allocate half a seed to

**Expenditure related vulnerability:** Expenditure profile was calculated by measuring the proportion of expenditure in three ‘essential’ categories: food, debt repayment and health. The overall score was inverted (lower score = higher risk) and having calculated an overall score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the expenditure category.

**Food insecurity<sup>68</sup>:** Previous household surveys utilized a food security questionnaire based on a standardized format, with questions relating to food scarcity and involuntary changes in consumption patterns in the previous 6 months (skipping meals, borrowing food, eating cheaper food etc.) However, previous surveys utilizing this question in areas known to have high levels of food insecurity set yielded very ‘shallow’ results (meaning that the majority of people responded in the same way, that there were no incidences indicating any food insecurity). Extensive field testing of this questionnaire using village volunteers in 80 households in Sagaing Region resulted in over 90% of volunteers reporting that households refused to answer those questions, or in some cases, refused to answer any subsequent questions, because questions about food insecurity were considered offensive and an affront to village pride. Hence, food insecurity was measured using the weekly consumption index, which proved more acceptable on field testing. Food insecurity was measured in two ways: firstly, by calculating using the composite consumption score (see above, ‘Consumption’) and secondly, by the frequency of rice consumption, with rice being a staple. Hence, any household reporting that they eat rice ‘less than daily’ is considered likely to have food insecurity, given the ubiquitous nature of rice as a staple in rural Myanmar.

**Food security related vulnerability:** The consumption score was converted into a 0-1 scale for the purposes of the vulnerability model. The overall score was inverted (lower score = higher risk) and

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<sup>68</sup> This definition and classification are not recognized by FAO (note by FAO technical editor).

having calculated an overall score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the food security category.

**Health:** Indicators for health were measured in two ways. Firstly, the proportion of household expenditure consumed by health costs was calculated. Secondly, the impact on livelihoods of ill health was measured. This was measured in two ways. In the initial section of the questionnaire, questions were asked of each household member as to how many productive working days had been lost to ill health in the previous year, firstly through the ill health of that household member, and secondly, the days lost by that household member in caring for another household member who was sick. In the final analysis, data was cross-matched with recorded data on whether or not that household member was economically active or not, to accurately capture the extent to which ill health in that household had reduced the number of economically productive days. This can be expressed in several ways: firstly, as the average number of days lost by economically active household members to ill health or to being a carer; secondly, the total number of economically productive days lost by that household; and thirdly, the average number of days lost relative to the number of income generating members in that household.

**Health vulnerability:** Health vulnerability was estimated using a formula to calculate the average number of days lost relative to the number of income generating members in that household, which was converted into a 0-1 scale for the purposes of the vulnerability model. The overall score was inverted (lower score = higher risk) and having calculated an overall score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the health category.

**Household head:** Household head was recorded in the household profile section, according to the response of the respondent.

**Livelihood diversity:** One of the key elements of the survey was to measure livelihood diversity at household level. Livelihood diversity was measured in three ways: firstly, by the number of different types of source from which the household derives its income. Secondly, the proportion of income which is derived from different income source, indicating the degree of dependency on a particular source of income thirdly, whether those different sources are regular or seasonal, which further indicates the degree to which the household has regular or irregular income flow. The questionnaire asked each household to use the ten seeds method to indicate what proportion of their income was derived from which source. The main categories for rural livelihoods were derived from earlier research, and from categories commonly used by market research firms such as MMRD. These included agriculture, fisheries, livestock, fish farming, selling/store vending, casual labour, part-time or full time employment, remittances, technical work, renting of equipment, donations or support, debt interest, pension or other. After allocating seeds according to the proportion of income derived from each source, household members indicated whether those sources were regular or seasonal. From this, the number of income sources for that household can be measured, as well as the extent to which the household has a well-diversified livelihood portfolio.

**Livelihood diversity related vulnerability:** The livelihood diversity index utilizes existing formulae to calculate the number of livelihood sources in relation to the household size, further adjusted by the extent to which the household is reliant on more, or fewer income sources, and whether these sources are regular or not. A household with few members with two main income sources, one of which is regular, may be less vulnerable than a larger household with three sources, but which receives 80% of its income from one irregular source. This does not calculate the monetary value of the derived income, but the extent to which the livelihood portfolio is diversified to ensure that if one source dries up, there are still other potential income streams which can supply family income. The overall score was inverted

(lower score = higher risk) and having calculated an overall score, households whose score was more than 1 standard deviation below the mean are considered vulnerable in the livelihood diversity category.

**Poverty:** Poverty definitions and criteria are discussed in detail in the first chapter.

**Poverty definition models:** Poverty definitions and criteria are discussed in detail in the first chapter.

**Social capital:** The links between social capital and poverty are well established<sup>69</sup>; less universally acknowledged are methods to measure social capital. Where social capital can be constructed in negative and positive forms<sup>70</sup>, the measurement of social capital needs to be done using contextually relevant factors. The underlying assumption is that households with members who play an active role in community events or activities are more likely to have positive social capital, which can in turn result in increased likelihood of receiving assistance from fellow villagers in times of crisis. Field testing demonstrates this to be the case: most respondents in the pilot testing affirmed that, although households were not intentionally excluded from receiving assistance if they were less involved in community activities, that ‘active’ households were perceived more favourably as those who had contributed to the community’s well-being and so were more likely to receive assistance. In this study, households were asked to indicate the frequency of participation in three types of community events: Household events such as anniversaries, birthdays, to which near-neighbours would be invited, but not the whole village. Second tier events would be ones where the whole village would be expected to be invited, such as weddings, funerals and religious festivals. Third tier events are official village meetings, such as ones held for planning, information giving etc. This overlaps slightly with the meetings measured in the ‘Decision Making’ category, but measure frequency of attendance only. The score was derived by multiplying the frequency category (‘Always’, ‘Often’, ‘Sometimes’ and ‘Never’ by the value of the activity, with third-tier activities being more ‘valuable’ in terms of building social capital.

**Social capital related vulnerability:** Social capital related vulnerability was estimated using a formula to calculate the overall score for social capital for members in that household, which was converted into a 0-1 scale for the purposes of the vulnerability model. Households whose score was more than 1 standard deviation below the mean are considered vulnerable in the health category.

**Umbrella model:**<sup>71</sup> The umbrella model for measuring household vulnerability data collection tools were based on the Umbrella model,<sup>72</sup> so called because of its application to plot household vulnerability in a user-friendly umbrella style radar plot to illustrate the relative degree of ‘protection’ which a household has against shocks and hazards. Validated indicators were used to measure ten key factors (indebtedness, productive income, livelihood diversity, dependency ratio, asset profile, water and sanitation, food security, health, social capital and decision making power) which contribute to household vulnerability. These are based on a livelihood and vulnerability framework developed by the Livelihood and Food Security Trust Fund (LIFT) (Myanmar)<sup>73</sup>. This model looks primarily at resilience (the capacity to cope with shocks and hazards), rather than relative exposure, and measures the relative resilience of a given household or type of household compared to others in the sample population.

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<sup>69</sup> Chan J and Chan E (2006) Charting the State of Social Cohesion in Hong Kong *The China Quarterly* / Volume 187 / September, pp 635-658

<sup>70</sup> Portes, Alejandro, and Patricia Landolt. 1996. “The Downside of Social Capital” *The American Prospect* 26 (May-June): 18-21

<sup>71</sup> This approach differs from FAO’s approach to measuring resilience (Note from the editor).

<sup>72</sup> Aung Min, Griffiths M (2011) Using the umbrella model to measure household vulnerability and facilitate ‘smart’ programming for livelihood vulnerability reduction. UNOPS/LIFT. Yangon

<sup>73</sup> Griffiths M, Woods L (2009) *Vulnerability Analysis: the Building Blocks for Successful Livelihood Intervention*. UNOPS: Yangon



Hence, it is best applied to determine which households are more vulnerable within a given population, rather than for absolute comparison between regions or countries.

Data from these indicators are then converted by mathematical formulae to a 0-1 scale which is plotted on a 10-point radar plot, which resembles an umbrella (hence the name). Scores can be plotted and displayed as single households, or aggregated/mean scores, at village, township or even State level, or clustering by socio-demographic groupings. Higher scores indicate derive a larger umbrella, which is indicative of greater protection (and less vulnerability). A sample model for a village 'plot' is displayed in figure 1.

**Vulnerability:** The concept of 'vulnerable groups' has been applied recently to both relief and development programmes as an approach to try and ensure that those who are most at risk can be enabled to get necessary assistance. This research looks mainly at resilience and the ability to withstand the damage of a hazard and 'bounce back' to continue to survive or even thrive.

Having established some understanding of vulnerability, and of the challenges of how to measure vulnerability in a way which is consistent with a rights-based approach and not based on fixed demographic characteristics, we can now describe an approach to measuring vulnerability which has the potential to measure aspects of household vulnerability in a more detailed way, potentially allowing us to understand more about why THIS household is more vulnerable than THAT household to a certain type of hazard. Understanding this type of vulnerability profile allows us to then look at what needs to be done to reduce the vulnerability of a certain household, rather than simply classifying the household as vulnerable or not. The model studied in this paper, the 'Umbrella' model, can enable a 'rights based' approach, facilitating inclusion of persons with disabilities (and other 'vulnerable' group members) as active participants in process, but without guaranteeing their status as an automatic beneficiary.

Poverty is acknowledged to be multi-faceted, often defying simple analysis and interventions. Studies of transitory and chronic poverty assert that 'potentially much larger reductions in aggregate income poverty might be achieved by enhancing households' ability to smooth incomes across time'.<sup>74</sup> A significant underlying contributors to and causes of transitory and chronic poverty is exposure to, and consequences of, natural disasters and other crises and hazards<sup>75</sup>. This in turn also includes analysis of factors which can affect resilience at community and household level. Hence, poverty reduction strategies have included aspects of vulnerability reduction as essential elements. Tools such as the Livelihood Vulnerability Index have been used to measure projected impact (i.e. vulnerability) at community level of the effects of climate change<sup>76</sup>. In general, poverty is linked to vulnerability to natural disaster, economic shock and other hazards in a cyclical fashion: poorer households are typically more vulnerable to both exposure to and negative impact from shocks, and the increased exposure and impact contributes to chronic poverty. Hence, any understanding of poverty must also include an understanding of vulnerability. Thus it may be that some households can be considered 'poor' but not necessarily vulnerable, and likewise, some vulnerable households may not necessarily be poor. The overall advantage of measuring vulnerability is that it can help identify not only households that are

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<sup>74</sup> McCulloch N, Baulch B (200) Simulating the impact of policy upon chronic and transitory poverty in rural Pakistan. East Sussex: Institute of Development Studies

<sup>75</sup> Kreimer A, Arnold A (2000) Managing Disaster Risk in Emerging Economies. World Bank: Washington DC

<sup>76</sup> Hahn M, Reiderer AM, Foster SO (2009) The Livelihood Vulnerability Index: A pragmatic approach to assessing risks from climate variability and change—A case study in Mozambique. Global Environmental Change. 678

already poor, but those that are at risk of becoming poor. This identification of ‘near-poor’ households with vulnerabilities to specific hazards can be of great benefit to poverty reduction programmes.

The umbrella model primarily measures relative resilience- the capacity to cope with shocks and hazards-rather than relative exposure. Hence, it is best applied to determine which households are more vulnerable within a given population, rather than for absolute comparison between regions or countries. Vulnerability was defined in relative terms, by measuring the relative deviation of a particular household score from the overall population mean. The score for each factor (for example, health) was measured against the overall population score, and if it was more than one standard deviation below the overall population average, then that factor was classified as ‘vulnerable’. Overall, a household was classified as ‘vulnerable’ if they had three or more of the ten factors which scored over 1 standard deviation lower than the population mean for those factors (i.e. three or more factors individually classified as ‘vulnerable’).

**Water/Sanitation:** Water and sanitation was measured with specific reference to livelihood related vulnerability. There is a link between water scarcity, the time/resources consumed to meet household water requirements, and livelihoods<sup>77</sup>, whereby time and resources consumed for water acquisition are taken from productive economic activity. Hence, this study measured water and sanitation based on three factors: time taken to acquire household water in the dry season, time taken to acquire household water in the rainy season, and whether the household regularly bought water with cash. These were combined to calculate an overall water and sanitation index.

**Water/Sanitation related vulnerability:** Vulnerability was estimated using a formula to calculate the overall score for water and sanitation based on the average time taken to get water, with additional scoring if water was regularly purchased with cash. This was then inverted and was converted into a 0-1 scale for the purposes of the vulnerability model, so that a lower score constituted higher risk. Households whose score was more than 1 standard deviation below the mean were considered vulnerable in the water and sanitation category.

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<sup>77</sup> Bebbington A (1999) Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty. World Development Vol. 27, No. 12, pp. 2021±2044

## Appendix 1: Sampled Townships

State/Region	Township	State/Region	Township
Ayeawaddy	Ama	Mon	Thanbuzayat
	Laputta		Mudo
	Zalun		Kyaikhto
	Myaungmya		Paung
Tanintharyi	Dawei	Rakhine	Myauk Oo
	Kawthaung		Myepon
	Ye Phyu		Kyauk Phyu
	Myeik		Gwa
Yangon	Kyauk Dan	Chin	Mindat
	Htantapin		Paletwa
	Taik Kyi		Tunzan
	Thongwa		Tantalan
Bago	Shwedaung	Kayin	Hpa-An
	Letpadan		Phapun
	Phyu		Kawkareik
	Waw		Myawaddy
Sagaing	Chaung Oo	Kayah	Hpruso
	Homalin		Loikaw
	Kawlin		Phasaung
	Kalewa		Bawlakhe
Magwe	Taungtwinkyi	Kachin	Putao
	Thayet		Waingmaw
	Pakokku		Bhamaw
	Gangaw		Mokaung
Mandalay	Myitha	Nay Pyi Taw	Pyinmana
	Ngazun		Tatkon
	Madaya		Lewe
	Wundwin		Wundwin
Shan	Lashio		
	Pinlaung		
	Kalaw		
	Kyaington		



	<b>2. Household Expenditure</b>	<b>Number of stones</b>
2	evaluate the percentage of your various household expenditures using stones method (last year)	
1	Food expenses	
2	Debt repayment	
3	Health expenses	
4	Education expenses	
5	Livelihood expenses	
6	Official/social expenses	
7	Travel expenses	
8	Others (Specify)	
9	Savings	
	Person who has main control over expenditure Male Female	
2.2	For this household, who are the main creditors?	<b>Number of stone</b>
1	Relatives/friends	
2	Money lender	
3	Bank (Public/Private)	
4	Employer/boss/broker	
5	INGO/NGO	
6	Others (Specify)	

<b>3.1</b>	<b>Sources of Household Income and Diversity</b>	Number of stone	Regular?
1	Agriculture		
2	Fishing/fisheries		
3	Livestock rearing		
4	Fish breeding/aquaculture		
5	Selling other goods through a shop or stall		
6	Irregular day-wages		
7	Regular part-time employment (employee)		
8	Regular full-time employment (employee)		
9	Remittances/contributions from family/friends		
10	Other services provision/ Small technical work		
11	Rental of assets		
12	Donation		
13	Debt interest repayments		
14	pension		
15	Others		

3.2	<p>Did your household grow any crop in the past one year?</p> <p>Yes / No</p> <p>If yes, how many acres did your household grow?</p>	<p>seasonal crop</p> <p>_____</p> <p>_____</p> <p>Perennial crop/</p> <p>_____</p> <p>_____</p>	<p>Type of land(SA)</p> <p>1 Own land</p> <p>2- Rent in cash</p> <p>3... Rent in kind</p> <p>4-Use the land for free</p>
3.3	<p>Did your household catch fish last year? (yes/no)</p> <p>If yes, from where?</p> <p>1- Sea</p> <p>2- River</p> <p>3- Stream</p> <p>4- Lake</p> <p>5- Canal/waterway</p> <p>6- fishpond</p>	<p>Did your household grow fish last year? (yes/no)</p> <p>1- If yes, where? Sea</p> <p>2- River</p> <p>3- Stream</p> <p>4- Lake</p> <p>5- Canal/waterway</p> <p>6- fishpond</p> <p>What is the size of fish cultivation place?</p>	<p>Who owns the place where you fish?</p> <p>1- Community</p> <p>2- Government</p> <p>3- Private company</p> <p>4- Personal</p> <p>5- Other</p> <p>Do you have to pay to fish there?</p> <p>0- No payment</p> <p>1- Part of catch</p> <p>2- cash payment</p>

No.	4. Household assets	Quantity
	<b>Home assets</b>	
01	Generator	
02	Television	
03	Telephone/Mobile	
04	Radio	
05	Other(Specify)	
	<b>Livelihood assets (agriculture)</b>	
01	Draught animal	
02	Buffalo/cow	
03	Pig	
04	Chicken	
05	Sheep	
06	Goat	
07	Duck	
08	Horse	
09	Quail	
10	Hand tools	
11	Machine	
12	Small home business Assets	
13	Sewing machine Loom machine	
14	Fishing equipment	
15	Other(Specify)	
	<b>Transportation Assets</b>	
01	Bicycle	
02	Motorcycle	

No.	4. Household assets	Quantity
03	Car	
04	Trawler-G	
05	Tricycle	
06	Animal drawn car	
07	Boat	
08	Other(Specify)	
	<b>Other household assets</b>	
<b>5</b>	Housing	
<b>5.1</b>	What source of walling materials does your house have?	None -0 Thatch/big leaves/palm leaves/polytarp/plastic tarp -1 Bamboo/bamboo sheets -2 Raw wood -3 Brick (concrete/mud) / Finished wall -4 Other -5
<b>5.2</b>	What source of roofing materials does your household primarily use?	None-0 Thatch/big leaves/palm leaves/ polytarp/ Bamboo/bamboo sheets/plastic tarp -1 Zinc sheet -2 Others finished roof (shingles and tiles) -3 Other - 4
	What source of lighting does your household primarily use?	No electric power (only kerosene, battery, candle, LED ,etc.)-0 Someone else's private generator-1 Public electricity (or) hydro-power-2 Household's own private generator-3
<b>5.4</b>	Main cooking fuel	1-wood 2- charcoal 3- gas/electricity 4- other
<b>5.4</b>	Toilet	Yes no

#### 4. Food Security<sup>78</sup>

<sup>78</sup> This does not reflect FAO's position on measuring food insecurity at household level (Note by FAO technical editor).

During the past week, how many times has your household eaten the following foods:	>once per day	Daily	2-3 times	Once in the week	Not at all	Don't eat because of personal preference or religion
Rice						
Beans/pulses						
Fresh vegetables						
Fish						
Meat						
Fresh fruit						
Wheat/flour/noodles						
Eggs						
Poultry						
Oils/fat						
Sugar/honey						
Nuts/seeds/grains						
Tobacco/alcohol						

### 7. WASH

7.1	Time taken for fetching domestic/drinking water in one day	Normal season (Minute)	Dry season (Minute)	Buy water
				Yes no

### 8. Social Participation

	How do household members participate in	Always	Frequently	Some	Never
9.1	Village meetings				
9.2	Weddings, funerals, religious festivals				
9.3	Household events				

### 9. Decision Making

	To what extent does the <u>household head</u> participate in village planning?	Always	Frequently	Some times	Never
9.1	Influences decisions				
9.2	Participates in discussions				
9.3	Attends meeting				
	To what extent do the <u>women</u> in your household participate in village planning?	Always	Frequently	Some times	Never
9.4	Influences decisions				
9.5	Participates in discussions				
9.6	Attends meetings				



**Section 2 – poverty**

1. When identifying poor households in your village, what criteria do you use? (choose up to 3)

Criteria	
a. Insufficient income	
b. Lack of assets	
c. Lack of livelihood assets	
d. Non-working dependents	
e. High levels of debt	
f. Landlessness	
g. Lack of education	
h. Widows/female headed households	
i. Poor quality housing	
j. Lack of own business/livelihood	
k. Other (specify)	

2. When you consider your community, what percentage do you consider are ‘poor’? (use ten seeds to estimate %) ( )

3. When considering if a community is poor or not, what criteria do you use? (choose up to 3)

Criteria	
a. poor roads/road transportation	
b. lack of public services (school, clinic, electricity, water)	
c. Lack of businessmen in the village (who provide employment)	
d. Limited availability and quality of natural resources for livelihood (farmland, rivers, lakes, forest)	
e. Limited access to natural resources for livelihood (farmland, rivers, lakes, forest)	
f. High level of migration due to lack of work	
g. Low level of education	
h. Lack of social & ethical character	
i. Poor quality of housing and buildings	
j. Lack of livelihoods and work	
k. Lack of long-term agriculture/fisheries/forestry	
l. Poor health standard	
m. High proportion of people engaged in casual labour	
n. Lack of connection with markets	
o. Other specify	

4. Do you consider your village poor compared to surrounding areas? Yes No

5. What are the reasons why people become poor? (choose up to 3)

Reason	
a. What are the reasons why people become poor?	
b. Lack of own business	
c. Lack of capital	
d. Income doesn't cover expenditure	
e. High proportion of income is spent on debt repayments and interest	
f. Wrong mindset	
g. Price fluctuations in market	
h. Lack of education	
i. Natural disaster and climate change	
j. Lack of long-term planning	
k. Lack of land assets	
l. Lack of skills for alternative livelihoods	
m. Poor transportation & infrastructure	
n. Lack of moral discipline and ethics	
o. Too many non-working dependents	
p. Market instability	
q. Other specify	
r. low production of crop/fishing due to seasonality	
s. loss of access to assets for fishing, agriculture, forest	

6. What are the consequences of financial problems & unsustainable debt burden? (choose up to 3)

Consequences	
a. legal action	
b. fleeing village	
c. Migrating for work to repay debts	
d. Reduce food intake	
e. Reduce expenditure on health/education	
f. Difficult/dangerous or illegal work	
g. Withdraw children from school	
h. Loss of assets	
i. Household conflict	
j. Social Exclusion in community	
k. no more access to credit	
l. Depression	
m. increased reliance on brokers	

7. What should be done to reduce poverty? (choose up to 3)

Activity	
a. Access to low/no interest loans	
b. Access to practical education	
c. Access to alternative livelihoods to replace dangerous/unsustainable livelihoods	
d. Access to livelihood programmes for working age youth	
e. Minimal household income policy	
f. Support for small business initiatives	
g. Access to/links to markets	
h. International assistance to go straight to households/villages, rather than through institutions such as NGOs/ UN agencies	
i. Support to community organizations	
j. Health services	
k. Support to vulnerable groups (e.g. older persons/persons with disabilities)	
l. Guidance/mentoring to promote moral and ethical behaviour	
m. Stable government policies for agriculture and fisheries and other livelihoods	
n. promote effective use of technology for sustainable use of local resources	
o. road & infrastructure development	
p. disaster risk reduction and environmental protection action	
q. timely and flexible agriculture and livelihood loans	
r. financial support for livestock, fisheries and agriculture development <sup>79</sup>	
s. nationally owned factories (rice mills and similar processing	
t. assistance to households to develop long-term mindset	
u. other specify	

8. What kind of assistance can poor people get if they have difficulty? How have you ever received help for any such things? (indicate type of assistance, according to areas of need)

Problem/assistance	Loan	Financial assistance	Training	Help in kind	Service	Other
1. Neighbours						
2. Village association						
3. Government						
4. NGO						
5. Insurance						
6. Other						
Lack of food						
Crop failure						
Emergency health problem						
Disability						
Older person assistance						
Pregnancy/childbirth						
Children's education fees						
Abuse/violence						
Other (specify)						
Closed season in fisheries						

9. what should be done to promote a positive mindset in rural populations? (choose up to 3)

Characteristics	Votes
9.1 need to give people wider vision through training and awareness events	

<sup>79</sup> This means financial support to develop aspects of these sectors

9.2	increase access to information (e.g. weather, markets)	
9.3	Improve quality of education	
9.4	Increase access to livelihood-related knowledge	
9.5	Enable all-round development to reach village level	
9.6	Ethics and morality training and 'mentoring'	
9.7	Effective government and administration	
9.8	Improved transportation links	
9.9	Stable government policy in agriculture and fisheries	
9.10	Promote competent leadership (even at household level)	
9.11	Promote more unity and co-ordination	
9.12	Other specify	
9.13	Increased participation by communities in natural resource management (	
9.14	Better organization at small-scale producer/community level	

10 What should be done to better protect/sustainably use natural resources (land, waterways, forests)?  
Who is mainly responsible? Is this being done in your village?

What should be done to protect/sustainably use natural resources?	selection	Being done in your village
9.1 replanting policies (cut down one tree, plant two)		
9.2 Training on laws and practice for environmental protection		
9.3 Formation of village level environmental protection committees		
9.4 Systematic and safe refuse disposal		
9.5 Sign boards in villages		
9.6 Promote sustainable production techniques/equipment (fisheries/forestry)		
9.7 Planting of water-retaining/soil retaining trees		
9.8 Stronger networking between organizations and private sector		
9.9 Make sustainable livelihoods so people don't have to destroy environment		
9.10 Active Participation of community members in decisions about natural resource management		
9.12 Other specify		
9.13 Ensure secure access to natural resources (land, forests, fisheries)		
9.14 Central planning but household implementation		

### Appendix 3: Summary table of government social protection programmes (World Bank mapping 2014)

Early childhood (equity and opportunity)	School-age children (equity and opportunity)	Working-age population (equity and resilience)	Old age (equity and resilience)	All age groups (opportunity, equity and resilience)
<ul style="list-style-type: none"> <li>• Institutional care for orphans (MSWRR)</li> <li>• Support for triplet and greater sets of newborns (MSWRR)</li> <li>• Early childhood development programs (MOE)</li> <li>• Maternal and child health vouchers (MOH)</li> <li>• Provision of food and micronutrient supplements for pregnant and lactating mothers, fortified food for children (MOH/WFP)</li> <li>• Community case management of illness (UNICEF)</li> <li>• Cash transfers (SC)</li> </ul>	<ul style="list-style-type: none"> <li>• Stipends, scholarships, supply of textbooks (MOE)</li> <li>• School supplies and access to education for vulnerable children (UNICEF)</li> <li>• School-feeding (WFP)</li> </ul>	<ul style="list-style-type: none"> <li>• Social security for formal workers and government employees (MOLESS)</li> <li>• Employment services for migrant workers (MOLESS)</li> <li>• Voluntary homes for women (MSWRR)</li> <li>• Food and cash for work (WFP)</li> <li>• Cash for work and other livelihood programs for vulnerable communities (LIFT and partners, ILO)</li> <li>• Migration centers (MOLESS/IOM, ILO)</li> </ul>	<ul style="list-style-type: none"> <li>• Pensions for formal workers and government employees (MOLESS, MOF)</li> <li>• Voluntary homes for the elderly (MSWRR)</li> <li>• Pensions for over 100 year olds (President's Office)</li> <li>• Support to old people self-help groups (MSWRR/HAI)</li> </ul>	<ul style="list-style-type: none"> <li>• Care for people with disabilities (MSWRR)</li> <li>• Welfare services for people with leprosy (MSWRR)</li> <li>• Rice donations to homes (MSWRR)</li> <li>• Cash and in-kind emergency support after disasters (MOBA, MSWRR, WFP, SC, others)</li> <li>• Cash and in-kind support to internally displaced people (WFP and partners, HAI)</li> </ul>

**The Food and Agriculture Organization of the United Nations (FAO) is exploring evidence of the linkages between poverty, social protection and natural resource management with a view to developing instruments and programmes to enable rural communities to transition to sustainable natural resource management and poverty reduction. In Myanmar, it commissioned analyses of social protection needs and opportunities in the context of rural development and poverty reduction with a focus on fishing communities. The analyses were conducted in collaboration with the Myanmar Department of Rural Development. The initial findings, which were discussed with state and non-state actors on 29 and 30 September 2015 in Nay Pyi Taw and Yangon, Myanmar, highlight the need for significant expansion of social protection services as a key component of rural development and for urgent interventions for households in fishing communities. Further research and methodological analysis are needed to verify the initial findings and inform rural development and poverty reduction programmes.**

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