



**Food Security Assessment
in Four Townships affected by Cyclone Giri:
Kyaukpyu, Minbya, Myebon and Pauktaw
of Rakhine State, Myanmar**

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February 2011**

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1. SUMMARY OF FINDINGS

1.1. Where are the food insecure?

The overall food security levels in the Giri-affected areas, as measured in this assessment, are poor. The estimated proportion of food insecure across the four townships is 69.8%. Those who are moderately food insecure account for 49.5%, and severely food insecure is 20.3%.

Geographically, and in relative terms, Myebon shows better food security levels than other townships. Minbya has comparatively the worst food security levels, and has a high proportion of severely food insecure. Both Kyaukpyu and Pauktaw have similar levels of food insecurity.

The numbers of households, which are currently food insecure across the townships have been estimated as follows:

	Kyaukpyu	Minbya	Myebon	Pauktaw	Total
Severely food insecure	48,475	65,766	17,433	35,523	146,823
Moderately food insecure	102,190	91,727	65,630	95,150	357,948

1.2. Who are the food insecure?

The most food insecure livelihood groups were found to be those who engage in casual labour, and those sourcing income from marginal livelihoods (hunting, wood cutting, artisan activities). The majority (54.7%) of the food insecure population across the four townships rely on non-agricultural casual labour to source income, and they would be assumed to be the most vulnerable. They depend heavily on the market for labour opportunities as well as income generation from sale of products, and they both rely on the market to access their food.

Food consumption in Giri affected areas appears less severe than other areas of the country where assessments have recently been conducted. Food Consumption Scores, as measured in this survey, are a reflection of two months of relief assistance (November – December) since 81% of households received food assistance. As sources of income, own-production, farming/fishing and business/small-trade have significantly better food security levels than other livelihood groups. Of the two income sources of farming and fishing, it is those engaged in fishing that seem have better overall food security. Some 40.7% of food secure households were engaged in fishing.

An estimated 64% of all households have poor food access. Out of these, 41% are those households whose income source is derived from non-agricultural casual labour. Second to this group are households whose livelihood is based on fishing (own production), followed by agricultural labour households. It is clear that widespread loss of assets and shrinkage of the fisheries/agriculture sector due to the impact of the cyclone have affected these households acutely.

1.3. What are the Sources of Vulnerability?

Access to Agricultural Land: 48% of households have access to agricultural land and the majority own small to medium sized land. Those with access to land have considerably better food consumption than those without. At least 66% of those who have poor food consumption do not have access to land, and households with access to small acreage (less than 2 acres followed by those with 2 to 3 acres) are more food insecure compared to those with larger holdings.

Irrigation: There is a very low access to irrigation (5%) across the sampled households and this has an impact on yields and on food security levels.

Loss of assets: The impact of the cyclone caused widespread damage to livelihood assets. This resulted in a destruction of 40% of boats and 13-54% of different types of fishing gears. Furthermore, around 75% of crop acreage had been damaged and 45% of households reported damage to protective embankments. Significant damage to crop-related assets was also reported, (for example 36% damage to draught animal ploughs). Losses of livestock were considerable, ranging from 12% for cattle to 55% for chickens and there was a high mortality of other small livestock, including pigs (21%), goats (29%), and ducks (41%). This loss has primarily affected small scale and subsistence farmers and landless agricultural workers.

Employment: The most common difficulties expressed by households relate to the paucity of employment opportunities and household expenditure/debt. The most frequently reported constraint being “few job opportunities/low wages” (63.0%), followed by “sickness/health expenditure” (45.6%), and “debts to reimburse” (32.8%). This indicates a serious concern for those households relying on wage income. The scarcity of employment opportunities is the likely outcome of the fishing and agricultural sectors having suffered greatly as a result of loss of assets.

Education: Only 74% of primary age children is enrolled (less girls than boys), and a high absenteeism 30% (with the majority being boys). Only 39% of households reported some expenditure on education, and almost half of the households who have absent children cite expenditure as the reason and more than a third that school damaged from Giri as the reason.

Health: The second most commonly reported expenditure (after food) was on health, with 57% of households reporting expenditure on medicines and/or health services, and 46% of households indicating sickness/health expenditure as a difficulty. These households are adversely affected because of the need to divert scarce resources to health expenses, and also a reduced income generating potential as a result of poor health issues.

Water and Sanitation: Around eighty nine percent (89%) of the sample stated that they had no latrine facilities. The townships of Minbya (89.2%) and Pauktaw (92.8%) have the highest percentage of households with no access to latrines.

Forty five percent (45%) of the households access water from unprotected sources, and around half of these do not treat their water. The greatest risk was found to be in Minbya and Pauktaw (high incidence of unprotected sources, 71% and 60% respectively), followed by Kyaukpyu (due to low water treatment). A dependence on water from unprotected sources poses a serious health risk and this particularly affects children. A very high number (78%) of all sampled households reported never having received any health education on basic nutrition and hygiene.

Indebtedness: Eighty five percent (85%) of households reported being in debt and needing to repay loans. A considerable amount of debt (27%) was taken since cyclone Giri. This coupled with the finding that some 40% of household’s debt is used on food purchases underlines the assertion that the adequate consumption is not sustainable being reliant on both credit and food assistance.

Furthermore, 38% of households have reported undertaking debts for the purchase of inputs and investment in livelihoods. Considering the depletion of assets and scarcity of labour, households which particularly rely on own production whether it be fishing or farming would be vulnerable in the longer term, as they will not be able to use their usual source of income to meet both their basic needs and repay their debts. They are at high risk of entering into a debt trap if they cannot restore their previous own-production/income generation levels prior to cyclone Giri.

Markets: Prices of a range of food commodities across the survey area have increased. Rice prices have increased by 6% on average. Both wage labourers and small-scale farmers/fishers are vulnerable, as they will purchase most of their food from the market, hence are vulnerable to rises in market prices.

Coping Strategies: Although the food insecurity levels are high, the coping strategies adopted by households show that the majority do not resort to practicing.

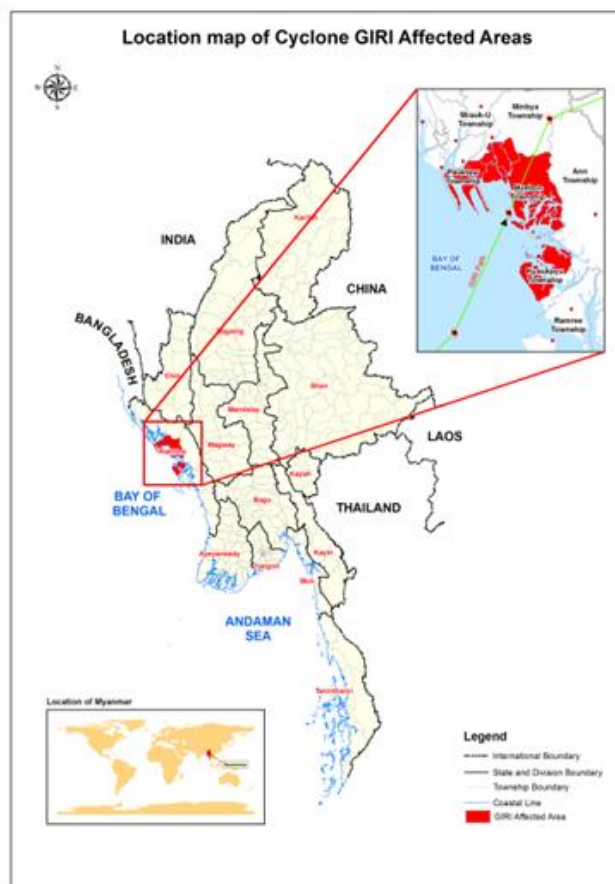
2. BACKGROUND

Cyclone Giri hit Rakhine State in October 2010. The four most affected townships were Kyaukpyu, Minbya, Myebon, and Pauktaw. Rakhine state is one of the least developed States of Myanmar. It suffers from chronic food insecurity, malnutrition, low income and weak infrastructure.

The townships of Minbya, Myebon and Kyaukpyu are located in the western part of Rakhine State on the coastline of the Bay of Bengal (see map). They are densely populated with about 25 people per square km compared to most of Rakhine state with a population density of less than one person per square km (Landscan Global, 2007). The four townships have a combined estimated population of over half a million out of the estimated 3.2 million people¹ in Rakhine state. Majority of the population is of Rakhine ethnicity; with a small percentage being Chin.

Livelihoods in these areas are dependent on paddy and vegetables production. Livestock and fishing also provide sources of income, however part of the population are landless and depend on casual work for their livelihoods.

After Cyclone Giri hit, joint assessments confirmed that 200,000 have been affected and were in urgent need of food assistance. Together with its partners, WFP delivered emergency food assistance for three months, from November 2010 to January 2011 in the most affected villages of Kyaukpyu, Minbya, Myebon and Pauktaw townships.



3. METHODOLOGY

In December 2010/January 2011, WFP and FAO – together with their partners – carried out a livelihood and food security assessment. The purpose of the assessment was to identify the extent of damage and quantify the impact on the food security and livelihood of the population affected by cyclone Giri. The results of the survey will assist in identifying and quantifying the post emergency recovery interventions for the affected population. The assessment covered 680 households in 55 villages (Table 1).

A representative sample was drawn based on Probability Proportional to Size (PPS) across the four townships. Villages were randomly selected using a random table, and households were identified by systematic random sampling based on village lists.

¹ Estimated Population compiled from HMIS 2008

The assessment was initiated and led jointly by WFP and FAO with support and involvement of ADRA, ACF, NCV, NAG, SC, Community Development Education Center, Rakhine Thahara Association, Yaung Chi Thit, and Myanmar Heart Development Organization. The assessment was conducted by 48 enumerators. Data entry was handled by WFP, whilst the analysis was conducted by both FAO and WFP in January 2011.

4. HOUSEHOLD FOOD SECURITY

The following analysis give indications of household food security from consumption and coping strategy perspectives. These findings are combined together with access to give an integrated picture of the food security situation. This section discusses the findings, and draws some conclusions about the food security situation in the Giri affected areas.

4.1. How many are Food Insecure?

From the study, 20.3% of the sample are severely food insecure, 49.4% are moderately food insecure and 30.3% food secure. Analysis of the prevalence of households belonging to each food security group (Table 2) shows that Minbya is in a comparatively worse situation than the other townships, and in particular has the highest proportion of severely food insecure. While Kyaukpyu and Pauktaw have a similar food security profile. Myebon shows significantly better food security, and also has the lowest prevalence of severely food insecure households.

Table 2: Levels of Food Insecurity across Townships

	Kyaukpyu	Minbya	Myebon	Pauktaw	Total
Severely	23.1%	31.7%	13.2%	20.4%	20.3%
Moderately	48.8%	44.2%	49.6%	54.7%	49.5%
Food secure	28.1%	24.2%	37.2%	24.8%	30.2%

Based on the population figures disseminated by the Myanmar Information Management Unit (MIMU) in November 2010², the number of food insecure across the Giri affected areas was calculated as indicated in the table 3 below.

Table 3: How many are food secure

	Kyaukpyu	Minbya	Myebon	Pauktaw	Total
Severely food insecure	48,475	65,766	17,433	35,523	146,823
Moderately food insecure	102,190	91,727	65,630	95,150	357,948
Food secure	58,956	50,190	49,223	43,135	218,627
Total Township Population***	209,621	207,683	132,286	173,807	

*** Population data source: Myanmar Information Management Unit (MIMU) November 2010

4.2. Food Consumption

Household food consumption provides an important proxy of food security. Information was collected on the dietary diversity of households. Households were asked to recall the kinds and frequency of foods that were consumed during the previous seven days. A Food Consumption Score (FCS) was calculated for each household using the information provided.

² Cyclone GIRI - "Who is Assessing Where" November 2010, MIMU

The analysis shows that the households consume rice regularly (about 7 times a week across all townships and Food Consumption Groups. The second group of foods eaten regularly were oil, fish, condiments and vegetables across all townships, and those with borderline and acceptable consumption. The consumption of other food items varied across the townships and food consumption groups. It should however, be noted that consumption of food groups such as meat, eggs and milk was limited across the different consumption groups and the townships (Table 4 below).

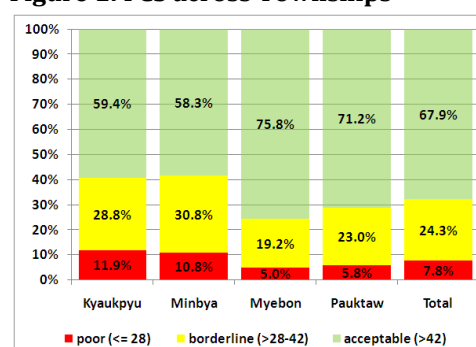
Table 4: Frequency of Consumption of Different Foods/Dietary Diversity

Food Category	FCS Groups			Townships				Total
	poor	borderline	acceptable	Kyaukpyu	Minbya	Myebon	Pauktaw	
rice	6.2	6.9	7.0	6.9	7.0	7.0	7.0	7.0
cereal tubers	0.1	0.3	0.7	0.5	0.4	0.8	0.6	0.6
beans/ pulses	0.1	0.3	2.4	1.7	2.3	1.9	2.0	2.0
fruit/ vegetables	3.1	5.1	5.7	5.8	5.6	5.4	5.2	5.5
meat/ egg	0.0	0.1	1.1	0.9	1.2	1.0	0.5	0.9
fish	0.4	2.0	5.3	4.1	3.4	5.4	4.8	4.6
milk	0.0	0.0	0.5	0.2	0.2	0.3	0.9	0.4
oil	0.6	2.3	5.2	4.5	4.5	4.6	4.7	4.6
sugar	0.0	0.1	0.8	0.3	0.3	0.7	1.1	0.6
condiments	5.6	6.3	6.7	6.0	6.8	6.9	6.5	6.6

Data on food eaten by household members in the last 7 days were used to define a food consumption score. Based on their score, each household was classified in one of the three groups: 1) Poor: FCS = 0 - 28, 2) Borderline: FCS = 28.5 - 42; and 3) Acceptable: FCS > 42). A higher FCS indicates a more diversified diet. Based on this analysis, about 8% of the population was classified as having poor food consumption, 24% borderline and 67.9% as having acceptable food consumption (Figure 1).

The food consumption of Giri affected areas appears less severe than other areas of the country, where assessments have recently been conducted.

Figure 1: FCS across Townships



Across the townships, Myebon and Pauktaw have a higher percentage of households with adequate food consumption, whilst Kyaukpyu and Minbya have the highest levels of population with poor food consumption as shown in the Figure 1 above.

4.3. Food Security by Income Source/Livelihoods

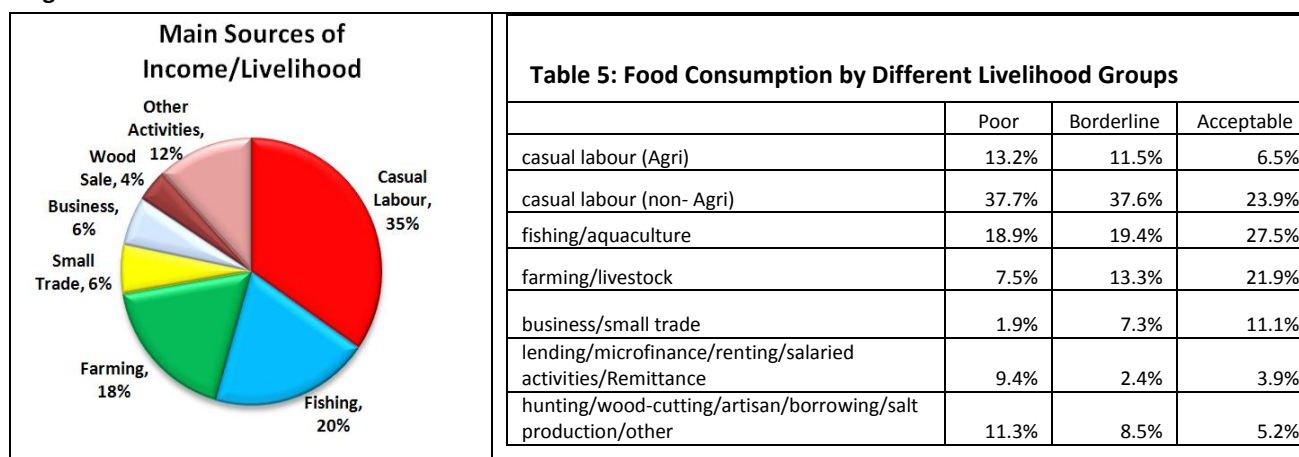
Households' main livelihoods can be categorized according to the reliability and sustainability of income sources. Households whose main income is derived from casual labour account for 35% of the sample, 20% from fishing, and 18% from farming. Some 6% of households engaged mainly in business/petty trade and 6% in lending/microfinance/renting/salaried activities. Households, which were mainly involved in hunting/wood-cutting/artisan/borrowing as a main source of income accounted for a further 6%.

A sizeable proportion of households engage in secondary and tertiary livelihoods. The majority of households have a second income source, amounting to 60.5% while 18.7% of households have a third source. Around 45% of households have two or more income earners. These findings appear to indicate that a sizeable number of households are adopting more than one livelihood strategy.

It is clear that the most insecure groups in this sample, are those households relying primarily on casual labour (food security levels of agricultural and non-agricultural casual labour households are almost identical), and those engaged in marginal livelihoods, such as hunting/wood-cutting/artisanal activities (Figure 2). Both groups would depend heavily on the market purchase to access their food. This underlines the key role of market support as one strategy to improve the food security of these groups.

Comparing food consumption scores across income sources/livelihoods, as table 5 shows, it can be seen that households whose main source of income were casual labour from non agriculture and fishing/aquaculture have a greater degree of inadequate food consumption. Business and trade households have the lowest ratio of poor food consumption. This reflects the unreliability of wage labour, and further underlines their particular vulnerability in a context of lack of employment opportunities and low wage rates.

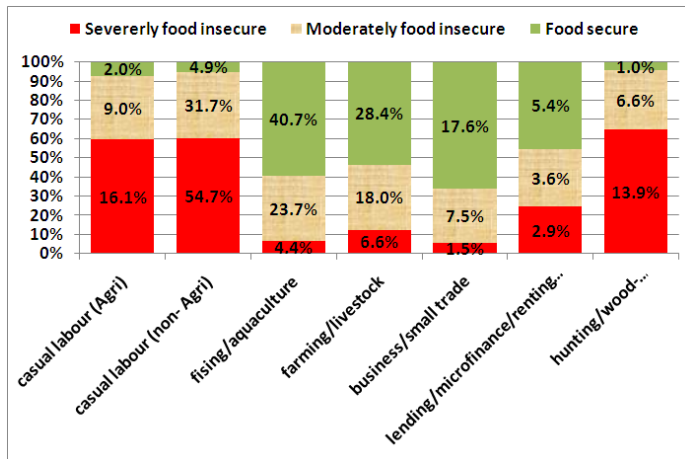
Figure 2: % Households Main Income sources



Households involved primarily in fishing, farming and business/small trade, as well as lending/microfinance appear to have significantly better food security. However, against a backdrop of an overall food insecurity level of some 70% and a widespread loss of assets among farmers and fishermen, their current food security levels are still low and further underlines the much worse food insecurity of households who are primary dependent on the market (Figure 3).

The results in this survey emphasize the importance of fishing and farming as a means to secure reliable incomes. The restoration of these livelihoods is also key to any recovery programme as these sectors in themselves generate labour opportunities. Also, in spite of heavy asset losses, the results show that fishing as a means to source income (as well as own consumption) is one of the most effective in achieving food security.

Figure 3: Food security by Main Income Source



4.4. Household Demography and Food Security

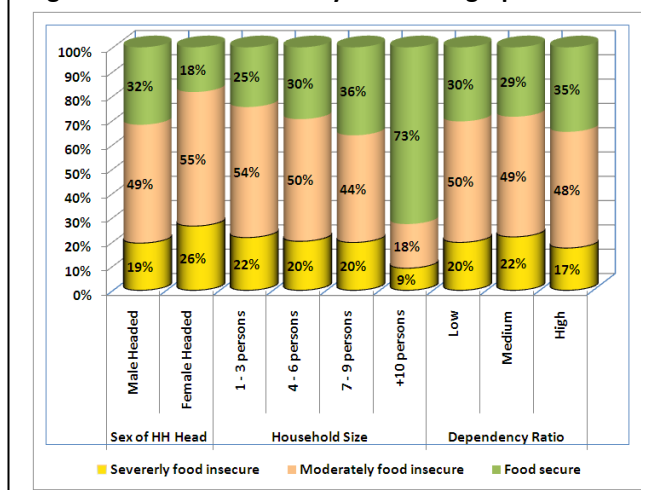
Based on the survey, about 49% of the population are males and 51% are females. Female headed households represented 13% of the sample although there was some variation across townships with Kyaukpyu (18.1%) and Pauktaw (18.7%) showing high levels of female-headed households. The mean age of household heads was 44 years and the range was 19 to 82 years, of which 15% of the household heads are elderly over 60 years of age and no households headed by 18 years or under. The average household size was found to be 4.9, with female headed households having less members (4) compared to male headed (5). In this survey, 2.4% of households were found to have a disabled member and mostly in male headed households.

Data on age of members in the household was used to calculate the dependency ratio. The dependency ratio relates the number of children (0-14 years old) and older persons (65 years or over) to the working-age population (15-64 years old). A high dependency ratio indicates that the economically active population faces a greater burden in terms of achieving food security. The dependency ratio for this sample was 87.7, with male headed households at 90.6 compared to female headed at 67.3, which in itself is considered high. The ratio was significantly higher in Myebon with 96.3. The lowest dependency ratio was found in Minbya at 75.8. To give the reader an idea of scale the dependency ratio for Lao People's Democratic Republic is 83.2 and Australia 59.2 (WHO, 2010).

4.4.1. Household Characteristics and Food Security

Households headed by females have considerably greater food insecurity than male headed households. Around 81% of female headed households are either severely or moderately food insecure compared with 68% of male headed households. Household size does show a relationship with food security levels. Seventy-five percent (75%) of households with 1-3 persons are food insecure (combined severe and moderate food insecure). For households with 4-6 persons 70% of these are food insecure

Figure 4: % Food Insecure by HHs Demographic factors



and 64% of households with 7-9 members are food insecure. The largest household sizes (10+ persons) have considerably better food security; 27% of these households are food insecure.

The dependency ratio would be expected to correlate with food insecurity but in this survey as age dependency in households increases the levels in food security do not appear to change significantly and the reasons behind the results would necessitate more refined analysis beyond the scope of this assessment (Figure 4).

4.5. Household Food Access Classification

The indicators driving food access in Giri affected areas are associated with productive assets (livestock, land and boats/nets). The extent of loss of these assets would determine whether households will be able to acquire food or generate income to get food. Casual employment opportunities are also associated with these sources. Using food sources and assets combined with reliability of income sources, appropriate thresholds were used and an index generated to group households into three categories “poor”, “medium” and “good” food access groups (Table 6).

Table 6: Determination of Food Access

Main food source	Food Access		
	Poor	Medium	Good
Own production	If land is <2 acres and /or <1TLU after Giri. No fishing assets or destroyed completely	If land of >2 acres to 3 acres and /or >1 to 2 TLU after Giri. Partially destroyed fishing assets	If land owned and at least > 3 acres and/or >2TLU after Giri. Fishing assets working (before had asset but not destroyed or partially damaged).
Purchase		If main income relatively reliable : from casual labour, wood/bamboo-cutting, artisan, other income, farming Land > 2 acres to 3 acres) Exchange work for food (not food-aid)	If main income reliable : from salary, farming Land >3 acres, Fishing, trade, small trade, remittances
Borrow, credit or advance	Pay back more than 2 months	Pay back within 2 months	
Exchange items for food, Gift from family or friends, Food aid, Other sources	Unreliable sources of food: All		

The overall measure of Food Security across the sample can be seen as a result of a cross-tabulation of Food Access Group scores and Food Consumption Group scores (Table 7).

Table 7: Food Access levels

Food consumption →	Poor	Borderline	Acceptable	
Food access ↓				Total
Poor (not reliable sources)	5.0%	14.4%	44.1%	63.5%
Average (fairly reliable sources)	0.9%	3.4%	5.2%	9.5%
Good (reliable sources)	1.9%	6.4%	18.7%	27.0%
Total	7.8%	24.3%	67.9%	100.0%

The number and percentage of households in each category across townships is presented in Table 8 showing that 63.5% of all households in the survey had “poor” food access. Across the townships, Myebon appears to have better food access, whereas Pauktaw and

Minbya having similar food access fared worse overall. Kyaukpyu has a significantly greater number having medium food access. This appears to suggest that Kyaukpyu has a more significant chronic food access problem

Table 8: Food Access Group scores

	Kyaukpyu	Minbya	Myebon	Pauktaw	Total
Poor	59.4%	69.2%	59.3%	71.5%	63.5%
Medium	14.4%	7.5%	8.5%	7.3%	9.5%
Good	26.3%	23.3%	32.2%	21.2%	27.0%

On the income sources, 41% of the households whose main income source was casual labour non agriculture had poor food access, followed by fishing–own production (14.5%), casual labour from agriculture (11%), and farming crop production (10%). The largest population (43% of the households) with good access was from fishing-own production, followed by faming–crop production, and trade business/small trade at 19% each. Households with medium access relied, as their main source of income, on farming crop production (28%), fishing (23%), casual labour non agriculture (22%), and casual labour agriculture (11%).

4.6. Food Sources

The analysis of food sources links consumption to food access and this gives a more complete understanding of a household’s food security situation.

From the analysis, food assistance has contributed to improve the food consumption since more than a third of the households, with acceptable consumption, had food assistance as major source of food. Households without access to food assistance had poor or borderline consumption (Table 9).

Table 9: Source of Rice within previous 30 days

Major Food Source	poor	borderline	acceptable	Total
own production	7.1%	7.9%	9.9%	9.4%
purchase	57.1%	65.4%	45.4%	49.4%
borrow, credit or advance	28.6%	7.9%	5.6%	6.5%
exchange work for food		4.7%	1.3%	1.9%
gift from family or friends		1.6%	.2%	.4%
food aid	7.1%	12.6%	37.4%	32.2%
other source			.2%	.1%
Total	100%	100%	100%	100%

The source of the staple food, rice, was from purchases (49%), followed by food assistance (32%). Most of the households with acceptable consumption indicated purchases and food assistance as the major sources of rice. Purchasing or borrowing/credit/advance was the main source of rice for those with poor consumption score. The reason that more than a third of the households with acceptable consumption received food assistance is an indication that more households could be having poor food consumption if they did not get on food assistance. Furthermore, 40% of household debt is used on food purchases. This implies that the adequate consumption for some households is not sustainable, and thus the long term food security situation of households in this area is fragile.

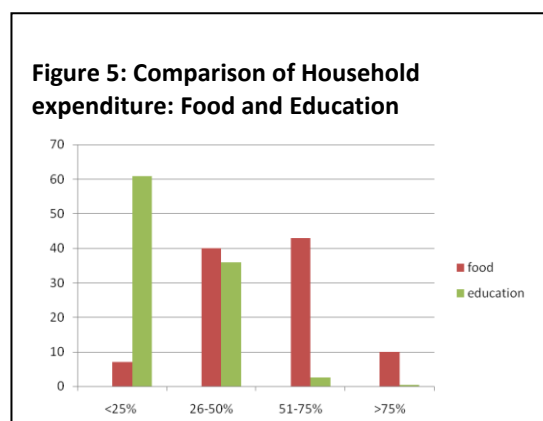
4.7. Sources of Expenditure

The pattern of household expenditure can provide some insight into current food security status. Data on expenditure for food and non-food items, such as education, health,

transport, farm investment, etc. were collected using proportional pilling to provide an indication of household resource allocation and the impact on food security.

Approximately 95% of households reported a monthly expenditure on food; with 81% of these households reporting food to be their main expenditure. The second most commonly reported expenditure was on health with 57% of households reporting expenditure on medicines and/or health services. Only 39% of households indicated expenditures on education, and 20% on agricultural inputs/investment.

As the comparative analysis above depicts (Figure 5), 53% of households spend more than half their monthly expenditure on food. The converse pattern is observed with education expenses, 61% of households spend less than 25% of the monthly household expenditure on education.



4.8. Access to Credit

Eighty five percent (85%) of the sample reported currently being in debt and needing to repay their loan. This is an extremely high figure and indicates that the majority of HHs are unable to source enough food through production/fishing or otherwise generate income in order to meet basic needs.

The average household debt across the sample surveyed was reported at around 254,000 Kyats (average price of rice was 289 Kyats in December 2010). There is little variation in the incidence of debt across townships where the proportion of households having a debt ranges between 80-87%.

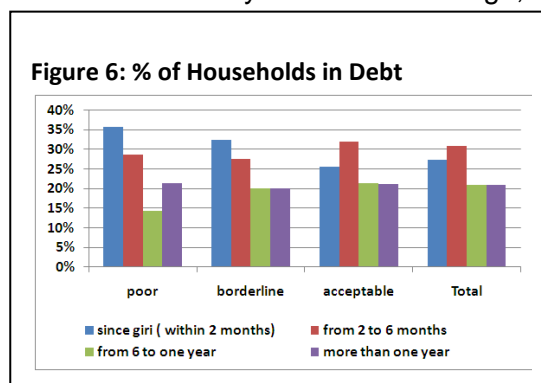
Main Reason for Debt	poor	borderline	acceptable	Total
to buy food	50.0%	50.8%	37.1%	40.2%
others mainly investment	35.7%	21.7%	28.1%	26.9%
to cover health expenses	14.3%	15.8%	12.6%	13.3%
to buy agriculture input/ buy or rent land		10.0%	14.1%	12.9%
to pay education fees			3.4%	2.6%
to buy or rent a flat/ house		1.7%	2.0%	1.9%
to buy animal/ to buy animal feed, fodder, veterinary			2.0%	1.5%
to pay for social events			0.7%	0.5%
Total	100.0%	100.0%	100.0%	100.0%

When the reasons for these debts are explored, 40% of the households took debts to buy food (Table 10). At least more than a third of the households with poor consumption have debt taken since Giri, compared to 26% of those with acceptable consumption (Figure 6). In all cases a fifth of the households have debt more than a year old, indicating that households are highly indebted

As indicated in table 10 above, 38% of households have reported undertaking debts for the purchase of inputs and investment in livelihoods. Considering the depletion of assets and scarcity of labour, households which particularly rely on own production whether it be fishing or farming would be vulnerable in the longer term, as their usual income source would be unable to meet both their basic needs and the repayment of debt.

This should also be seen with reference to the amount of food stocks reported by households across the sample; 56% of households reported having no food stocks at the time of the survey, and only 4% having stocks to last more than 3 months.

A considerable amount of debt (27% of households) was taken since cyclone Giri. Although, this should be viewed in the overall context where in the 3-6 months prior to Giri, 31% of debt was availed of, and in the previous 6-12 months, 21% of debt was taken. Given also that 21% of debts were taken out more than a year previous to the survey (Figure 6), it is clear that households in this area rely on a natural cycle of borrowing and repayment. However, this has almost certainly been disrupted, leaving households in a vulnerable situation and at high risk of entering into a debt trap if they cannot restore their previous own-production/income generation levels prior to cyclone Giri.



5. KEY VULNERABILITY ISSUES

5.1. Education

Households were asked if their child was currently enrolled in school and attending school regularly. Amongst all primary school aged children in the sample, it was observed that 74% were enrolled in school (72.1% of girls and 73.7% of boys). On absenteeism, 22% of all primary aged children in the sample did not attend school at all (22% for girls and 26% for boys). The highest percentage of enrolment was in Kyaukpyu 79.9% and Pauktaw at 79.4%, whilst the lowest in Minbya at 63.6%.

Amongst children attending primary school, 30% could not regularly attend school (32% absenteeism amongst boys, 27% absenteeism girls). While there is slight difference in the reasons for absenteeism amongst girls and boys; the most common were households not affording school costs and the school damaged by Giri. At least 47% of the HHs indicated their inability to afford the cost of school fees, uniforms and textbooks as the major reason for not sending their children to school, and 39% of the households indicated other reasons which was mainly school damaged by Giri.

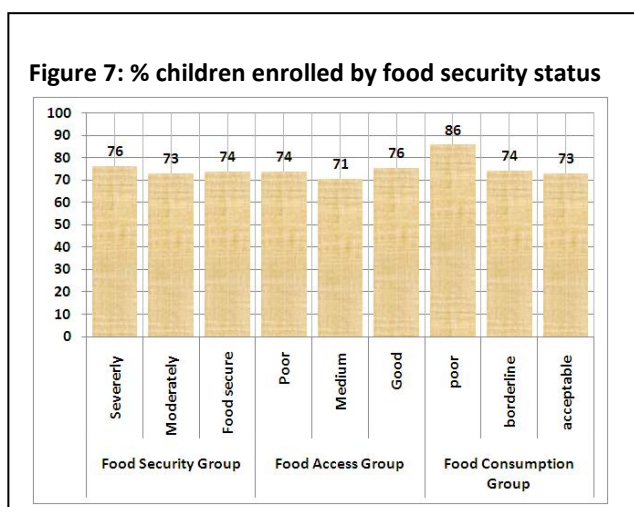
Table 11: Primary School Absenteeism

Reason for Absenteeism	Boys	Girls	All
illness/ handicap	12.8%	16.4%	16.5%
cannot pay school fees, uniform, textbook	42.3%	40.3%	47.2%
cannot pay transportation / far away		4.5%	2.4%
absent teacher/ poor quality teaching	11.5%	13.4%	14.2%
poor facilities	5.1%	1.5%	3.9%
domestic household chores	1.3%	4.5%	3.1%
child work for cash or food	6.4%	6.0%	7.1%
not interested	7.7%	11.9%	11.0%
School damaged by Giri	34.6%	32.8%	38.6%

The cost of sending a child to school is estimated at 36,000 Kyats per year. Given the average rice price of 289 Kyats in December (including an increase of 6% compared to before the cyclone), coupled with loss of income sources due to Giri, could have affected households ability to send their children to school since part of the income was diverted to buy food.

5.1.1. School Enrolment and Food Security

This assessment has also found that primary school enrolment rates are on average marginally higher (76) for severely food insecure households than for moderately food insecure (73) and food secure (74). These results when examined further show that food consumption is the determining factor; a much higher enrolment (86) is observed among the poor food consumption group than borderline (74) and acceptable (73) food consumption groups (Figure 7).



5.2. Water and Sanitation

5.2.1. Access to water

Households were asked about the source of their drinking water. Approximately 45% of households access water from unprotected sources, while the major source for the remaining households (54%) is from protected wells.

The highest percentage of households accessing water from unprotected sources was seen in the townships of Minbya (70.8%) and Pauktaw (59.4%). In Minbya, 49.4% of the households using unprotected sources, did not filter or boil their water. Whilst in Pauktaw, 81.1% of the sampled households boiled or filtered the water irrespective of the source. By contrast about two thirds of households in Kyaukpyu and Myebon townships reported obtaining their water from protected sources. In general, boiling was the most common method used by those treating their water (56%) across all townships.

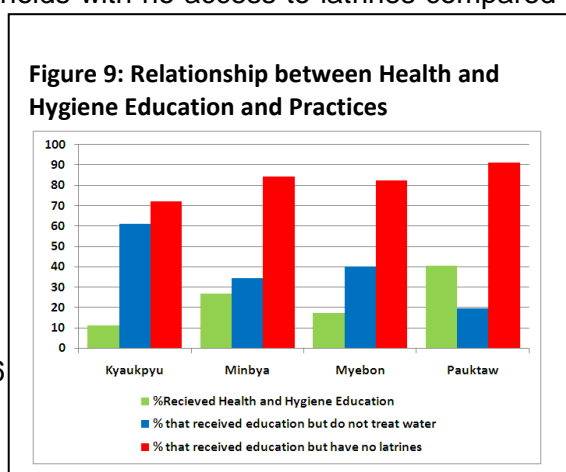
A dependence on water from unprotected sources poses a serious health risk and this particularly affects children. The risk is high in Minbya and Pauktaw followed by Kyaukpyu. Thus it is strongly recommended that any sanitation measures or initiatives undertaken in the Giri affected areas target these townships.

5.2.2. Latrine Facilities

Around 89.1% of the sample stated that they had no latrine facilities, with 6.3% having access to fly proof latrines and 3.2% to surface latrine. Minbya (89.2%) and Pauktaw (92.8%) have the highest percentage of households with no access to latrines compared to other townships. Together with the reported data on access to drinking water, this underlines the need to target sanitation initiatives in Minbya and Pauktaw.

5.2.3. Health Education

More than three-quarters (78%) of all sampled households reported never having received any health education on basic



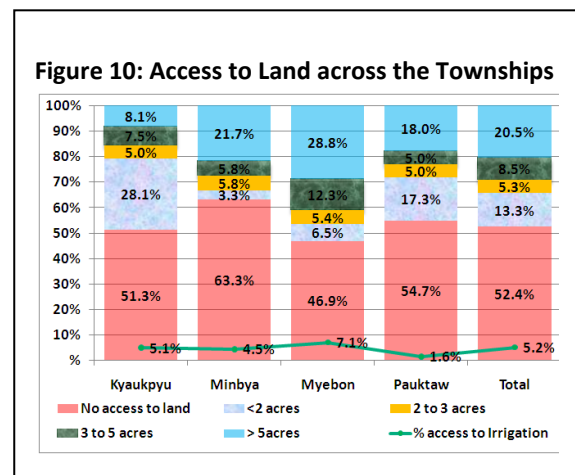
nutrition or hygiene. However there is a considerable variation across townships. In Kyaukpyu 89% of households had received health education. However, health and hygiene education does not determine a household having to use a latrine. On average over 80% of the households who received health education did not have a latrine. This means economic or other factors can explain the availability of latrines. While treatment of water seems to be related to education (see Figure 9).

5.3. Agriculture

5.3.1. Land Holding

Almost half of the sampled households, 48%, have access to agricultural land, of which majority over 90% own over 75% of the land they are cultivating, with only about 5% either renting the land in cash or in kind. In Myebon, 54% of households have access to land, followed by Kyaukpyu with 49%. The least percent of households with land access are in Minbya (37%) and Pauktaw (45%). In general, households have small to medium-size holdings: 27.9% have access to less than 2 acres, 29.1% (2-5 acres), and 27.9% (5-10 acres). A further 15.1% access more than 10 acres. Kyaukpyu reported significantly higher small holdings of less than 2 acres (57.7% of households) than other townships. Whilst Minbya and Myebon, have a larger proportion, 59% and 54% of the households respectively, followed by Pauktaw (40%) with access to large holdings of greater than 5 acres (Figure 10).

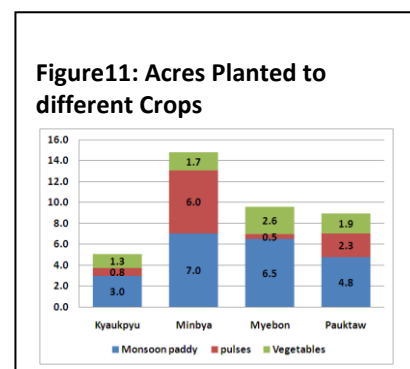
Only 5.2% of the households reported having access to irrigated land. This is significantly lower than irrigation access reported in other areas; for example 21% in Kachin (Dec'09), 28% in Lashio (March'10). The majority of farming households would thus be vulnerable to severe weather conditions. Those with small acreage would be likely to experience relatively low yields. For example: production on average ranged from 936 kg of paddy for those with less than 2 acres rising to 6,947 kg of paddy for those with more than 5 acres in 2009. Households with more land are likely to have better access to food. Hence, in a normal year it is expected that households with better food access based on own production would be mainly in Myebon and Minbya, whilst it is expected to be less in Kyaukpyu (Figure 10).



The majority of households categorized as landless (52%), rely mainly on wages and non-agricultural activities as a source of livelihood. Agriculture and/or fishing where practiced, would be a major source of food rather than an income generating activity.

5.3.2. Area under Crops

Paddy is the major crop in this area; 75.4% of land was used for wet paddy (crops grown in orchards accounted for 16.4%). The average size of land of paddy for households in this survey was 5.9 acres, followed by pulses and vegetables, with a variation across the townships. Based on 2010 Monsoon cultivation, more land was cultivated under paddy and pulses



in Minbya, followed by Myebon for paddy and vegetables (Figure 11).

5.3.3. Land Holding and Food Security

The household overall food security, consumption and access improve with the land size for those households that have access to land. However, it is noted that the population without access to land has the greatest percentage of households that are food secure (Table 12). This indicates that food security in the four townships is driven by other factors other than land, such as access to fishing resources and livestock.

Table 12: Food Security Status and land holding

		No access to land	< 2 acres	2 - 3 acres	>3- 5 acres	> 5 acres
Food Security Group	Severely food insecure	71.5%	9.5%	5.1%	3.6%	10.2%
	Moderately food insecure	51.2%	17.1%	5.4%	7.5%	18.9%
	Food secure	41.2%	9.3%	5.4%	14.7%	29.4%
Food Consumption Group	poor (<= 28)	67.9%	11.3%	7.5%	3.8%	9.4%
	borderline (>28-42)	62.4%	8.5%	5.5%	6.7%	17.0%
	acceptable (>42)	47.1%	15.0%	5.0%	10.2%	22.8%
Food Access Group	Poor	57.8%	14.5%	4.7%	6.8%	16.3%
	Medium	35.9%	29.7%	15.6%	9.4%	9.4%
	Good	45.1%	4.4%	3.3%	13.7%	33.5%
Total		52.3%	13.2%	5.3%	8.9%	20.3%

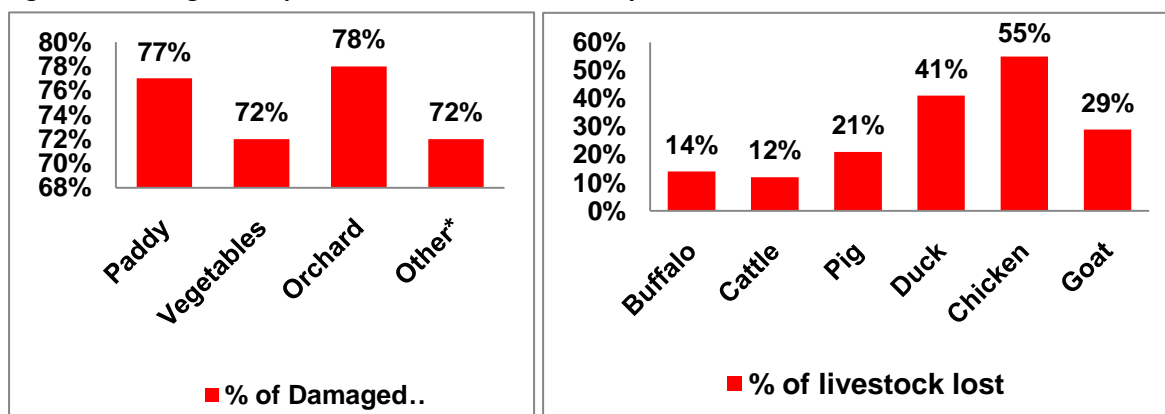
5.3.4. Agricultural and Aquaculture Losses from Giri

Traditionally, farmers in Rakhine State grow rice once a year in the monsoon season (May to October), and the cyclone struck just before the annual harvest in November. This has resulted in a severe damage to crops, with a 77% damage to rice paddy. In addition, there was widespread damage to embankments and dykes designed to protect the land especially from salt water intrusion. Forty-five percent (45%) of households reported such damage.

The damage to livestock assets was also considerable. Reported losses ranged from 12% (cattle) to 55% (chicken). Livestock is significant both as a source of food and as draught animals for agriculture. Cattle, pigs, goats, chickens and ducks provide an important source of farm income and subsistence production. The high mortality of small livestock would have primarily affected small and marginal farmers and landless agricultural workers.

Around 35% of households have crop-related assets, which were also severely damaged. The most commonly reported asset, the draught animal plough numbered 326 across the sample before the cyclone, and was reduced to 210 following Giri, a loss of 36% (Figure 13).

Figure 13: Damage to crops and livestock as a result of Cyclone Giri



Given that fishing is the main income source for 20% of households and that non-agricultural casual labour (28%) would include households relying on fisheries-related income, it is clear that fisheries and aquaculture are important as both a subsistence food source and for commercial production. In this assessment when households were asked if they owned boat assets (either before or after Giri), 40% of households responded that they did. Furthermore, 44% of households owned fishing gear. The devastation caused by Giri resulted in a destruction of 40% of boats of different sizes and 13- 54% of different types of fishing gears.

5.3.5. Constraints to Agriculture

Households were asked to list the main constraints to crop/livestock farming and fishing as a result of Giri. The main threat to household food security across the affected area, was a lack of credit and resources to ensure recovery of livelihoods. The main difficulties expressed in crop-production by households were: the lack of buffalo tilling capacity and lack of inputs (seeds, fertilizer, and pesticides), land spoiled, lack of labour and rat infestation. These will have an impact on next year's production.

Amongst livestock-production constraints, 41.9% reported their primary difficulty as being no feed available for animals, and 35.8% a lack of money to buy animals.

When asked about major constraints to fishing, 28% expressed that they had no money to replace or repair boats and gear. These damages have affected the availability of fish and fishery products, as well as the employment and the capacity of the community to restore their livelihoods. Loss of boats would have diminished the productive capacity of the fisheries sector, resulting in limited opportunities for employment.

There is a high level of debt amongst householders and 85% of households have an outstanding debt. Overall, the share of this debt used to finance productive investment in farming/fishing activities is 29.4%. However amongst households - whose main income source is farming or fishing - this share rises to around 58%. This represents a considerable burden and without the means to repay in the short-term, it would have an impact on the overall food security.

The loss of crops, livestock, fishing boats and gear, as well as other productive assets appears to have led to increased unemployment of those who depend on wage labour for their livelihood. This is reflected overall in the most common difficulty/shocks in the last six

months expressed by households across the sample³: few job opportunities/low wages; unable to practice fishing and agriculture.

5.4. Markets: Prices, Wages and Terms of Trade

According to the information collected, there was an overall increase in prices for a range of food commodities in all the four townships as the table below depicts. Small-scale farmers/fishers are vulnerable due to limited production potential, and their status as net buyers would make them vulnerable to rises in market prices (Table 13).

Table 13: Prices changes in percentages for major food items and wage after the cyclone 2010

Township	Rice	Chili	Cooking oil	Garlic	Onion	Pulses	Wage-female	Wage-male
Kyaukpyu	19%	14%	7%	13%	23%	0%	8%	10%
Minbya	-8%	24%	10%	11%	17%	6%	7%	0%
Myebon	7%	10%	10%	11%	19%	11%	10%	5%
Pauktaw	4%	9%	4%	4%	16%	23%	0%	-6%

The Terms of Trade (indicatively the ratio of wage rate/price of rice) across the townships shows a variation across locations (Figure 14). In Kyaukpyu and Pauktaw, a day's wage buys slightly less rice than before the cyclone, while the situation in Meybon and Minbya appears relatively good. However, it should be noted that this does not capture the complete picture, i.e. the specific availability of labour. Furthermore prices of non-staple food commodities have increased at a much higher rate, at an average of 12% (while the price of rice has risen by 6% on average across the region). Overall, wage rates have increased by 6% for females and 2% for females.

5.5. Major Shocks Affecting Households

Respondents were asked to list the 3 main shocks or difficulties faced by their household in the past 6 months. The scarcity of employment opportunities was the main shock for the fishing and agricultural sectors, which suffered greatly as a result of widespread loss of assets. The main constraints indicated by households were: 'few job opportunities/low wages' (63%), followed by 'sickness/health expenditure' (46%) and 'debts to reimburse' (32%).

Table 14 shows that Minbya has particularly high levels of unemployment, which is exacerbated by a significantly high level of debt among households.

³ Data was collected from respondents' answers to a multi-response question used in the HH questionnaire, hence the results are reported here in proportion to the number of cases and not in proportion to household numbers

Table 14: Major Shocks experienced by Households in Last 6 months⁴

	Kyaukpyu	Minbya	Myebon	Pauktaw	Total
few job opportunity/low wages	64.3%	74.1%	55.5%	65.9%	63.0%
unable to practice fishing	20.4%	15.5%	28.0%	29.6%	24.3%
sickness/ health expenditure	49.0%	43.1%	44.9%	45.2%	45.6%
unable to practice agriculture	10.8%	6.0%	9.4%	6.7%	8.6%
education expenses	34.4%	15.5%	16.1%	23.0%	21.8%
lack of access to markets	5.7%	2.6%	1.6%	3.0%	3.0%
unable to obtain good price for agri product	4.5%	2.6%	2.0%	2.2%	2.7%
high post harvest lost	21.0%	21.6%	16.9%	15.6%	18.4%
debts to reimburse	26.8%	43.1%	36.2%	24.4%	32.8%
flood, heavy rains, landslides	8.9%	6.0%	24.0%	26.7%	17.8%
other shock	20.4%	6.9%	39.0%	25.9%	26.3%
Total cases	157	116	254	135	

5.6. Coping Strategies

Respondents were asked to list coping strategies (based on food consumption) that their household was forced to rely on, and the frequency of this strategy in the previous 7 days. Table 15 shows that the majority of the households used two main mechanism: 68% of the households relied on less preferred foods; 64% have purchased food on credit or have incurred debts, which means that a large number of households are unable to source enough food or income to meet their food requirements. Between 5% and 21% respectively reported going entire days without eating, or reducing number of meals a day.

Table 15: Frequency of coping strategy adopted (mean number of days)

Coping Mechanism	Mean Frequency	% of Household using Strategy	% Used Strategy greater than 3 times in past week
rely on less preferred food	2.96	68.3	42.1
purchase food on credit, incur debts or borrow food	2.41	64.5	29.7
limited portion size at meals	1.68	47.1	20.9
restrict consumption by adults in order for small children to eat	1.45	41.7	16.3
rely on food help from friends or relatives	1.02	31.2	11.2
reduced number of meal eaten in a day	0.65	20.9	7.4
skip entire days without eating	0.16	4.9	1.7

⁴ Data were collected from respondents' answers to a multi-response question used in the HH questionnaire, hence the results are reported here in proportion to the number of cases and not in proportion to household numbers

The Reduced Coping Strategy Index can be used to compare food security across different contexts and is calculated on the basis of a specific set of behaviours each with its own universal severity weighting.

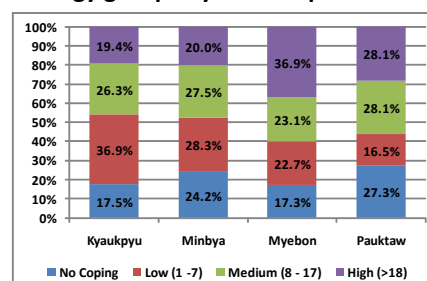
In the following analysis, households have been ranked according to this index and, using thresholds, divided into four coping strategy groups categorized as: “no coping”, “low”, “medium”, and “high”. The findings presented in Table 16 show that almost 70% of the severely food insecure households fall into the “medium” or “high” coping strategy group compared with about 48% of moderately food insecure and 53% of food secure.

Table 16: Food Security Status level and Coping

	Food Security Group			Total
	Severely food insecure	Moderately food insecure	Food secure	
No Coping	7.3%	24.9%	22.1%	20.4%
Low (1 -7)	23.4%	27.2%	25.0%	25.8%
Medium (8 - 17)	31.4%	21.6%	28.9%	25.8%
High (>18)	38.0%	26.3%	24.0%	28.0%

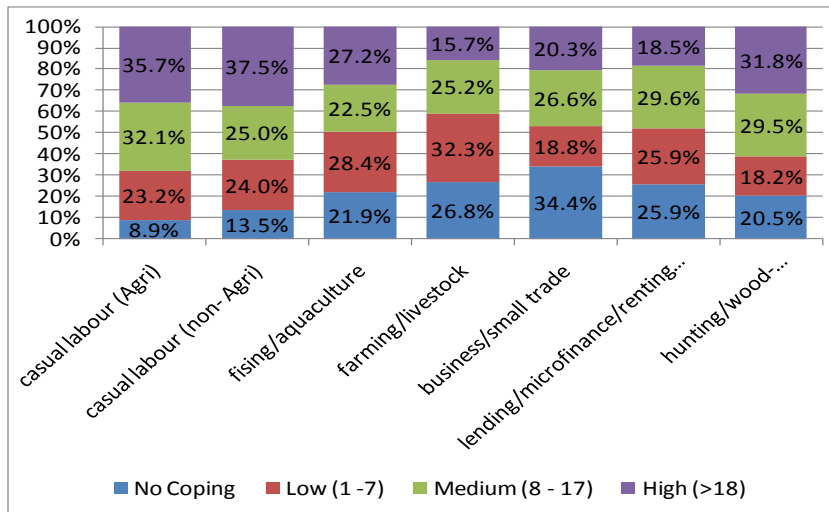
This shows the wide disparity between those households experiencing severe food insecurity and the remaining households across the sample. It can also be seen that, across townships, (Figure 15), Myebon has the greatest ratio of households in the high coping strategy group, and closer analysis reveals this is largely due to a higher incidence of households relying on less preferred food.

Figure 15: Prevalence of coping strategy groups by township



The coping strategies employed by each income group (Figure 16) shows that households utilizing agricultural casual labour (and to a slightly lesser extent marginal livelihood households) are forced to adopt risky coping strategies most often. Almost 68% of households with agricultural labour fall into the medium or poor coping strategy group. Furthermore, around 63% of non-agricultural labour households and 61% of marginal livelihood households are medium or poor. This compares with around 41% of farming households and 49% of fishing households, and serves to underline the greater vulnerability of casual labour and marginal livelihood households in this area. Further analysis reveals that casual labour households purchase food on credit and restrict consumption by adults to feed small children more often than other income groups. They are hence most at risk if there is deterioration in food security.

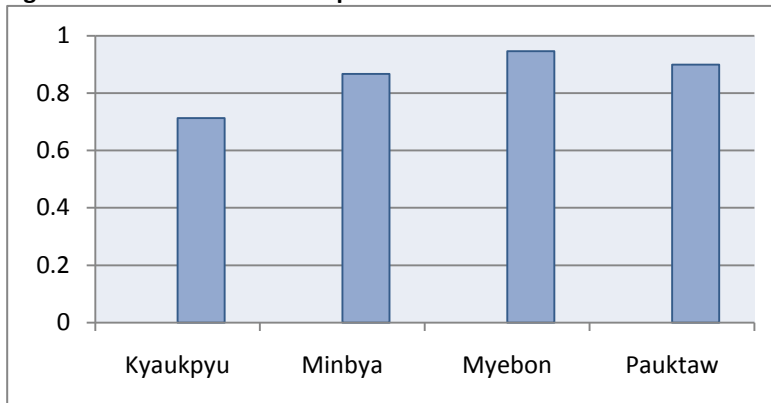
Figure 16: Level of Coping of Households by Main Livelihood Group



6. Assistance Programmes

The table below shows that 95% of households in Myebon reported receiving assistance, whilst 70% of households benefitted from food assistance in Kyaukpyu. This can be explained by the severity of the damage cause by Cyclone Giri, since Myebon was the most affected among the four townships.

Figure 17: Households in receipt of humanitarian assistance



7. GENERAL RECOMMENDATIONS

Immediate/Short term Actions

- In order to restore the production capacity of farmers by the monsoon season, it is crucial to repair the damaged embankments to protect agricultural land from intrusions of salty water.
- An effective targeted community infrastructure rebuilding/restoration programme should be considered. Since employment opportunities have shrunk as an economic impact of the cyclone, it would be appropriate therefore to develop response strategies, which would support the creation of employment. A cash-for-work or food-for-work programmes aiming at rebuilding community structures damaged by the cyclone, would contribute to an effective recovery programme, which might also channel more household expenditure on education and health.
- In areas where schools have been damaged, a programme should be supported to rebuild these structures and restore accessibility.
- Support the rehabilitation of fishing nets/ gear and assets so that the households that depend directly and indirectly on fishing and aquaculture could maintain their livelihoods.

Medium to Long term actions

- Programmes, which aim to restore livelihood assets lost during the cyclone, should be supported. This would include targeted livestock distribution (especially small livestock lost by the most vulnerable) and distribution of crop-related assets (such as draught animal plough), as well as support to restore productivity, including distribution of seeds. Additionally, programmes should be implemented to restore fishing gear, nets and boat assets, as well as to increase access to irrigation across the area, especially for small land holders (less than 2 acres).
- Support to market mechanisms should be considered, which would ensure stable price levels of staple food and basic food items. The most vulnerable livelihood groups in this area, casual labour and marginal livelihoods depend heavily on the market.
- Given the vulnerability of this area, it is recommended to monitor the food security situation. The main food security indicators to monitor would be those relating to food access, prices and market availability of essential commodities and wage labour opportunities.
- It is also recommended to target water and sanitation projects in Minbya, Pauktaw and Kyaukpyu, including health and hygiene practices.

Annexes

Characteristics		Township				Food Security Group			All
		Kyaukpyu	Minbya	Myebon	Pauktaw	Severely food insecure	Moderately food insecure	Food secure	
	DEMOGRAPHICS								
1	Gender of household head (%)								
	male	82%	89%	92%	81%	83%	86%	92%	87%
	female	18%	11%	8%	19%	17%	14%	8%	13%
2	Age of household head (mean)	44.0	44.8	42.2	43.9	42.0	43.0	44.9	43.3
3	Household size (mean)	4.7	5.2	5.0	4.8	4.7	4.7	5.3	4.9
4	Household having under 5 children (%)	36%	48%	46%	42%	50%	43%	38%	43%
	Average children number (person)	0.5	0.6	0.6	0.5	0.7	0.5	0.5	0.5
5	Ratio of dependants (= Number of dependants / Number of non-dependants)	0.81	0.76	0.96	0.89	0.86	0.87	0.92	0.88
	EDUCATION								
6	Average primary school-aged in the household (person)								
	boy	0.6	0.7	0.7	0.6	0.6	0.6	0.7	0.7
	girl	0.5	0.6	0.7	0.7	0.6	0.6	0.7	0.6
	all (boy&girl)	0.9	1.3	1.2	1.2	1.1	1.1	1.2	1.1
7	Children are enrolled in primary school (%)	80%	64%	73%	79%	76%	73%	74%	74%
8	Children are not regularly attending school (%)	11%	33%	25%	42%	29%	28%	24%	27%
	HH FOOD AVAILABILITY								
9	Access to agricultural land (%)	49%	37%	54%	45%	29%	49%	59%	48%
10	Average size of land (acre)	3.4	7.9	7.9	5.3	4.9	4.7	8.7	6.2
11	Access to some irrigation system (%)	5%	5%	7%	2%	8%	3%	8%	5%
12	Major constraints in growing crops								
	first	land spoiled	lack of input/ lack of buffalo tilling capacity	lack of input/ lack of buffalo tilling capacity	lack of buffalo tilling capacity	lack of buffalo tilling capacity	lack of input	lack of buffalo tilling capacity	lack of buffalo tilling capacity
	second	lack of input	lack of input	land spoiled	lack of input	lack of input	lack of input	lack of input	lack of input
	third	other pest infestation/ appropriate seeds not easily available	rat infestation	lack of input/ rat infestation	lack of labour	lack of labour	lack of input	lack of input/ rat infestation	lack of labour/lackof input
13	Stored Seeds (Paddy)								
	price before Giri (mean)	4,400	3,156	11,336	20,050	4,350	6,643	18,196	11,248
	price after Giri (mean)	5,079	3,328	12,620	18,580	5,075	6,865	17,698	11,591
14	Giri Destroy any dykes/embankment (%)	49%	40%	72%	40%	45%	52%	63%	55%
	HH FOOD ACCESS & LIVELIHOODS								
15	Main source of RICE consumed in HH in the last 30 days (%)								
	own production	14%	8%	7%	9%	4%	5%	20%	9%
	purchase	54%	48%	52%	40%	57%	33%	72%	49%
	borrow, credit or advance	6%	4%	6%	10%	5%	5%	8%	6%

	exchange items for food	0%	0%	0%	0%	0%	0%	0%	0%
	exchange work for food	1%	3%	2%	3%	7%	1%	0%	2%
	gift from family or friends	1%	0%	0%	1%	1%	0%	0%	0%
	food aid	24%	37%	33%	37%	26%	55%	0%	32%
	other source	0%	0%	0%	0%	0%	0%	0%	0%
16	Food Consumption (%)								
	poor (<= 28)	12%	11%	5%	6%	29%	4%	0%	8%
	borderline (>28-42)	29%	31%	19%	23%	71%	7%	21%	24%
	acceptable (>42)	59%	58%	76%	71%	0%	89%	79%	68%
17	Food Stocks in HH (%)								
	no stock	44%	78%	60%	43%	75%	49%	55%	56%
	less than 2 weeks	32%	13%	23%	24%	17%	25%	24%	23%
	2 weeks to one month	16%	3%	12%	22%	5%	19%	11%	14%
	1 to 3 months	2%	4%	2%	4%	1%	4%	3%	3%
	more than 3 months	6%	3%	3%	6%	2%	4%	6%	4%
18	HH received any assistance (%)	71%	87%	95%	90%	87%	89%	84%	87%
19	HH received assistance by Type (%)								
	shelter/shelter materials	16%	61%	59%	53%	41%	57%	39%	48%
	medicine/ health care	3%	14%	22%	14%	9%	19%	11%	15%
	clothes	29%	46%	68%	60%	47%	58%	50%	53%
	cash for work	1%	1%	1%	0%	1%	0%	1%	1%
	cash relief	0%	3%	6%	0%	0%	4%	1%	3%
	cash for house building	0%	0%	0%	0%	0%	0%	0%	0%
	fishing equipment	1%	0%	6%	2%	0%	4%	2%	3%
	crops supports	0%	0%	0%	0%	0%	0%	0%	0%
	livestock support	0%	0%	0%	0%	0%	0%	0%	0%
	water purifying tablets/ bottle water	0%	8%	37%	6%	13%	21%	12%	17%
	food	55%	86%	67%	81%	75%	70%	68%	71%
20	when the situation will be return to previous level (%)								
	less than one month	8%	10%	10%	10%	10%	7%	14%	9%
	1 to 3 months	11%	3%	4%	6%	6%	5%	6%	6%
	3 to 6 months	9%	9%	3%	9%	3%	7%	7%	6%
	more than 6 months	23%	7%	26%	18%	22%	19%	21%	20%
	don't know	49%	72%	58%	57%	60%	62%	51%	58%
21	Food Access Group (%)								
	Poor	59%	69%	59%	72%	96%	89%	0%	64%
	Medium	14%	8%	9%	7%	4%	7%	17%	9%
	Good	26%	23%	32%	21%	0%	4%	83%	27%
	LIVESTOCK								
22	Any livestock (%)	61%	73%	63%	60%	57%	60%	75%	64%

23	TLU								
	before giri	0.63	0.79	0.96	0.88	0.42	0.72	1.27	0.83
	after giri	0.60	0.71	0.70	0.82	0.36	0.66	1.00	0.70
24	Main constraints you are facing after Giri with livestock activities								
	first	no feed available for animals	lack of money to buy animals	lack of money to buy animals	no feed available for animals	lack of money to buy animals	no feed available for animals	no feed available for animals	no feed available for animals
	second	can't find animals to buy	can't find animals to buy	no feed available for animals	limited water for animals/ theft	lack of money to buy animals	no feed available for animals	no feed available for animals	no feed available for animals
	third	lack of shelter	no feed available for animals	lack of shelter	theft	no feed available for animals	lack of shelter	lack of shelter	lack of shelter
	ASSETS								
25	HH own any crop assets (%)	36%	32%	40%	30%	19%	36%	46%	35%
26	HH own any boat assets (%)	34%	33%	53%	30%	19%	38%	57%	40%
27	HH own any fishing net assets (%)	42%	29%	55%	37%	23%	42%	60%	44%
28	Giri Destroy any of your aquaculture ponds (%)	4%	9%	6%	2%	0%	4%	7%	5%
	SOURCE OF INCOME								
29	Number of earner (Mean)								
	before giri (person)	1.70	1.77	1.54	1.48	1.49	1.54	1.79	1.61
	after giri (person)	1.71	1.79	1.53	1.50	1.50	1.56	1.77	1.61
30	Main income source								
	first	casual labour-non agri	casual labour-non agri	casual labour- non agri	casual labour- non agri	casual labour-non agri	casual labour-non agri	fishing - own production	casual labour-non agri
	second	casual labour-non agri	casual labour-non agri	casual labour- non agri	casual labour- non agri	casual labour-non agri	casual labour-non agri	casual labour- non agri	casual labour-non agri
	third	casual labour-non agri	farming-home garden	farming -crop production	casual labour- non agri	casual labour-non agri	casual labour-non agri	casual labour- non agri	casual labour-non agri
31	Estimate the relation contribute to total income of each activiy (%)								
	casual labour-agri	10.2	13.6	4.2	6.1	13.8	8.2	2.7	7.7
	casual labour-non agri	28.1	26.2	30.3	32.2	51.4	31.6	11.5	29.5
	govt salary	1.9	2.0	0.7	0.5	0.0	1.2	1.9	1.2
	private salary	1.4	0.0	0.2	1.0	0.3	0.6	0.8	0.6
	farming-crop production	15.3	13.1	12.6	10.6	5.0	12.5	19.3	13.0
	farming- home garden	2.8	5.4	4.2	3.3	2.0	3.9	5.2	3.9
	fishing	19.8	13.1	23.4	22.3	5.3	20.3	31.3	20.6
	aquaculture	0.8	2.2	2.9	0.0	0.0	1.2	2.9	1.5
	bamboo/ wood cutting	1.0	6.9	2.5	3.1	9.0	1.9	1.1	3.1
	trade/business	4.9	4.7	8.2	5.9	2.1	5.9	9.7	6.3
	small trade	4.0	3.7	4.0	6.7	1.9	4.1	7.0	4.5
	artisan	3.1	3.5	1.8	0.0	2.3	2.6	1.0	2.0
	remittance	1.2	2.8	0.4	3.2	1.3	1.6	1.8	1.6
	livestock	0.7	0.3	0.8	0.5	0.4	0.3	1.3	0.6
	salt production	0.8	0.0	0.0	0.1	0.0	0.3	0.2	0.2
	lending	0.7	0.0	0.8	0.1	0.5	0.5	0.5	0.5
	borrowing	1.5	1.7	0.8	1.6	3.0	1.0	0.6	1.3

	micro-finance	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	rent or lease of property	0.3	0.8	0.8	0.7	0.9	0.9	0.2	0.7
	hunting	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.1
	other income	1.1	0.0	1.4	2.0	0.9	1.3	0.8	1.1
	SOURCE OF EXPENDITURE								
32	Main expenditure								
	first	food	food	food	food	food	food	food	food
	second	education	health	health	health	health	health	health	health
	third	clothes/ shelter	health	health	utilities	health	utilities	health	health
33	Estimate the relation contribute to total HH expenditure (%)								
	food	55.1	58.6	48.9	52.8	57.5	52.6	50.7	53.0
	education	11.6	8.8	9.4	10.1	8.8	10.2	10.1	9.9
	health	12.3	17.8	14.8	15.8	17.0	14.9	13.9	15.0
	cloth/shelter	5.6	4.9	6.1	5.6	5.9	5.3	6.2	5.7
	framing input/ investment	7.4	3.5	11.7	5.6	3.7	7.7	11.2	8.0
	utilities	6.4	5.6	7.5	7.8	6.7	7.5	6.4	7.0
	transport	0.5	0.8	0.9	0.5	0.0	0.7	1.0	0.7
	other expenditure	1.2	0.0	0.8	1.8	0.4	1.1	0.5	0.8
	ACCESS TO CREDIT								
34	HH have any debt or credit (%)	87%	85%	87%	81%	91%	82%	87%	85%
35	Average debt for HH (Kyats)	203,688	247,422	298,753	231,046	139,960	204,589	399,672	250,864
36	Main reason for debts or credit (%)								
	to buy food	36%	60%	34%	40%	60%	39%	29%	40%
	to cover health expenses	17%	9%	12%	16%	13%	14%	13%	13%
	to pay education fees	4%	4%	2%	2%	1%	4%	2%	3%
	to buy agriculture input	7%	7%	19%	9%	6%	10%	19%	12%
	to buy animal feed, fodder, veterinary	0%	0%	1%	0%	0%	1%	0%	1%
	to buy animal	1%	2%	1%	0%	0%	2%	0%	1%
	to buy or rent land	1%	1%	0%	3%	1%	1%	1%	1%
	to buy or rent a flat/ house	4%	0%	2%	2%	2%	3%	1%	2%
	to pay for social events	1%	0%	0%	0%	0%	0%	1%	1%
	investment	23%	13%	23%	22%	15%	19%	28%	21%
	other	6%	4%	6%	6%	4%	6%	6%	6%
37	When were this load/ credit taken? (%)								
	since giro (within 2 months)	33%	20%	30%	22%	35%	29%	20%	27%
	from 2 to 6 months	28%	40%	29%	29%	29%	30%	34%	31%
	from 6 to one year	14%	19%	26%	21%	16%	19%	26%	21%
	more than one year	24%	22%	15%	27%	20%	22%	20%	21%
38	Average months that HH think they can be able to repay (months)	9.7	4.5	12.2	11.3	8.6	10.8	9.9	10.1
	HH SHOCKS & COPING STRATEGIES								
39	Main shocks in the past 6 months								

	first	few job opportunity/ low wages	few job opportunity/ low wages	few job opportunity/ low wages	few job opportunity/ low wages	few job opportunity/ low wages	few job opportunity/ low wages	few job opportunity/ low wages	few job opportunity/ low wages
	second	sickness/ health expenditure	sickness/ health expenditure	sickness/ health expenditure	sickness/ health expenditure	sickness/ health expenditure	sickness/ health expenditure	unable to practice fishing	sickness/ health expenditure
	third	no difficulty mention	no difficulty mention	no difficulty mention	no difficulty mention	no difficulty mention	no difficulty mention	sickness/ health expenditure	no difficulty mention
40	Average number of days that HH coping during the past 7 days (days)								
	rely on less preferred food	2.4	2.6	3.7	2.6	3.4	2.8	2.9	3.0
	rely on food help from friends or relatives	1.0	0.7	1.0	1.3	1.2	1.0	1.0	1.0
	limited portion size at meals	1.3	1.6	2.0	1.6	2.4	1.5	1.5	1.7
	restrict consumption by adults in order from small children	1.1	1.2	1.8	1.4	2.0	1.3	1.3	1.5
	reduced number of meal eaten in a day	0.6	0.5	0.7	0.8	1.0	0.6	0.6	0.7
	skip entire days without eating	0.2	0.1	0.2	0.2	0.3	0.1	0.2	0.2
	purchase food on credit, incur debts or borrow food	2.3	2.1	2.5	2.6	2.8	2.1	2.6	2.4
41	CSI reduced	12.3	12.3	16.8	14.5	18.3	13.1	14.2	14.5
	UTILIZATION								
42	Drinking water (%)								
	piped	1%	2%	1%	0%	1%	0%	2%	1%
	borehole with pump	1%	0%	0%	0%	0%	0%	0%	0%
	protected well or other protected source	66%	28%	65%	41%	47%	56%	54%	54%
	other un protected sources	33%	71%	33%	59%	50%	44%	44%	45%
	others	0%	0%	0%	0%	1%	0%	0%	0%
43	Treat the water before drinking for "unsave water source" (%)								
	no	67%	49%	20%	20%	51%	31%	34%	36%
	yes - filter	6%	6%	14%	4%	3%	11%	6%	8%
	yes- boiling	27%	45%	67%	77%	46%	58%	61%	56%
44	Get health ducation on nutrition & hygiene (%)	11%	27%	17%	41%	15%	27%	19%	22%
45	Latrine facilities (%)								
	no latrine	88%	89%	88%	93%	95%	91%	82%	89%
	surface latrine	1%	8%	3%	1%	2%	2%	5%	3%
	direct pit latrine	1%	2%	1%	1%	0%	1%	2%	1%
	fly proof latrine	10%	1%	7%	5%	3%	5%	11%	6%
	DISPLACEMENT								
46	HH live in this village before Giri (%)	100%	100%	95%	100%	100%	99%	96%	98%