

**IMPACT OF THE TSUNAMI ON
THE LIVES AND LIVELIHOOD OF PEOPLE
IN MYANMAR
WITH SPECIAL FOCUS ON
LABUTTA TOWNSHIP, AYEYARWADDY
DIVISION**

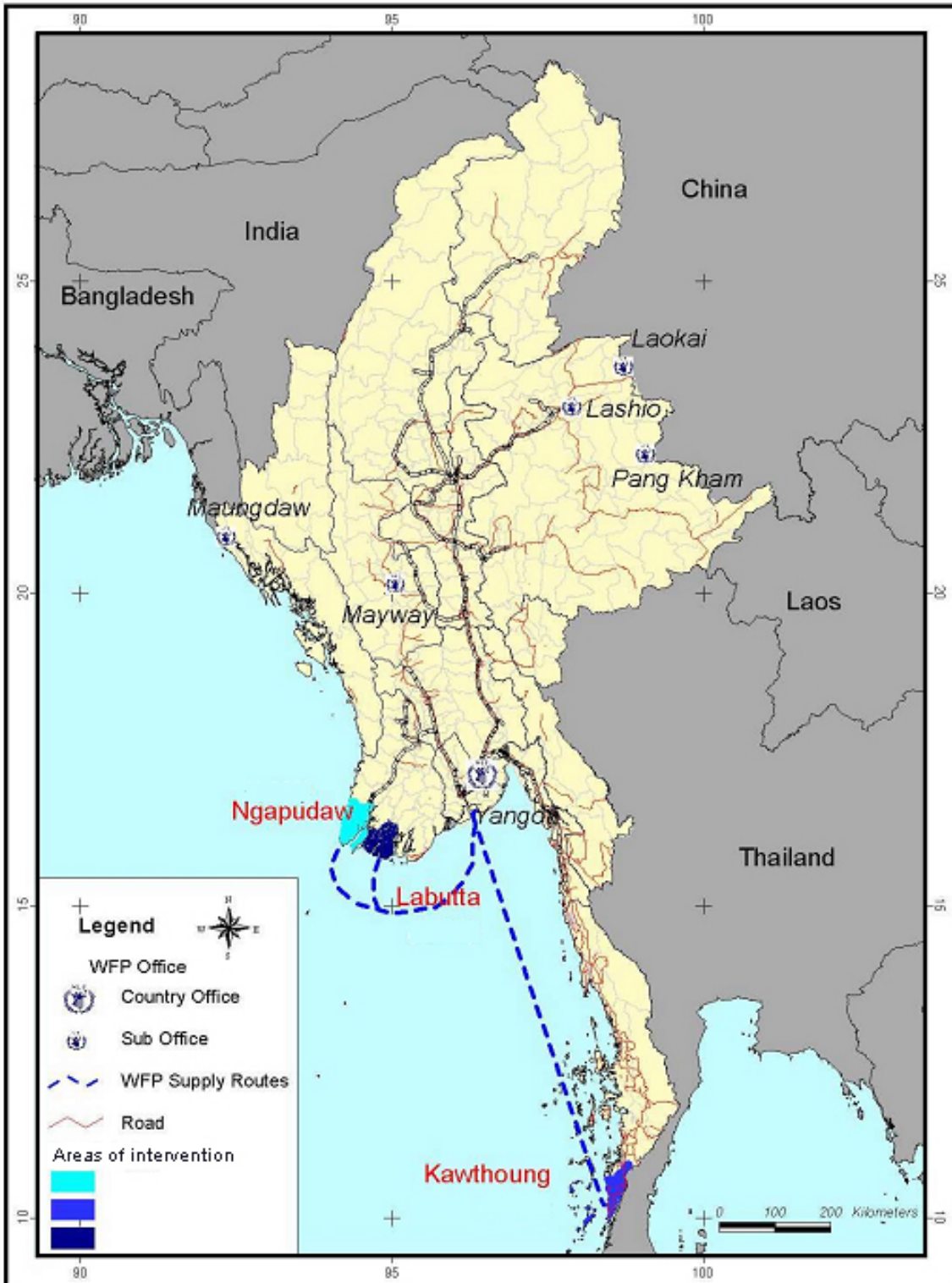


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World Food Programme
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The Tsunami Affected Areas in Myanmar



WFP MISSION COMPOSITION

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ACKNOWLEDGEMENTS

The World Food Programme (WFP) would like to express its condolences to the families of the victims of the Tsunami in Myanmar and elsewhere. We express our sincere gratitude to all the survivors who willingly participated in the community group interviews and provided the necessary information for this assessment.

WFP would like to thank the Government of Myanmar for their support during this assessment. The valuable assistance provided by the interagency team members from FAO, UNDP, UNICEF, UNFPA and WHO is also gratefully acknowledged (refer to Annex 1 for the composition of the interagency mission). We also express our sincere thanks to the Adventist Development and Relief Agency (ADRA) for their logistical support and facilitation.

Executive Summary

The Tsunami on 26 December 2004 hit about 32 coastal villages in Myanmar in the townships of Kawthaung, Labutta and Nagaputaw and in Rakhine state. According to various assessments conducted in the immediate aftermath of the disaster by the Government, UN agencies and NGOs, the direct effects included around 65 deaths, 1,000-1,300 destroyed or damaged houses and around 200 destroyed or partially damaged fishing boats.

A Joint UN Needs Assessment mission (involving WFP, FAO, UNDP, UNICEF, UNFPA and WHO, with the logistical assistance of ADRA; see Annex 1) was organized to validate the findings of these initial assessments, determine the adequacy of the immediate response and assess the medium and longer-term impact of the Tsunami on the lives and livelihood of the residents. The mission visited the four most affected villages in Labutta Township (one of the worst affected areas) on 18-20 January to obtain the required information through community level group interviews covering food security, water and sanitation, and health issues.

WFP's report is based on the findings of this interagency mission and on the information from the initial assessments of WFP as well as other partners (e.g. World Vision, UNICEF, ICRC, and UNDP). This report includes information available as of 25 January; since this date a number of additional assessments have been conducted (e.g. by UNICEF) to assess the damage in different areas. These new findings however are not expected to affect the need for food assistance significantly.

The mission verified that damage to property and livelihoods was limited to certain segments of the villages situated along the lower coastal areas in the Delta. Out of 92,300 people living in 171 villages in the Sub-Township of Pyinsalu, the team observed that some 900 fishermen living in four villages along the coastline lost their productive assets, including boats and fishing gear. In these villages, about 240 households reported having lost their houses¹. Similar losses among 350 fishermen in Kawthung and Ngapudaw Townships could affect their ability to sustain their livelihoods.

Other community property was damaged, including bridges that connect people to other communities, markets, roads and schools. In the education sectors, only a few schools were completely destroyed. Some children lost their books and stationary which were replaced by the Department of Education. No structural and functional damage was reported in the health sector. Outbreaks of infectious diseases have not been reported thus far. The seawater apparently did not extend inland beyond 200 meters; hence sparing the agricultural land. Consequently, no adverse effect is expected on paddy production.

¹ Source: UNDP Household Survey conducted in Labutta Township.

The response from the Government, communities and aid agencies was instantaneous. Local communities assisted the victims by providing them with basic food and shelter. The local government, apart from food and blankets, also provided land to affected families and gave them permission to cut trees to rebuild their houses in areas further from the shoreline². The aid agencies provided food, clothes, mattresses and family kits (e.g. including utensils, soap). Therefore, the immediate needs of the victims for food, shelter and education have already been adequately met by these responses.

The medium and longer-term needs in all sectors, however, are yet to be addressed. The results of the community group interviews indicated that the households affected by the Tsunami were already very poor, living hand-to-mouth, hence did not have significant food stores or other valuable assets. Therefore, even the small damage caused by Tsunami such as the loss of household items (e.g. cooking utensils, clothes) affected these households significantly. In particular, the loss of boats and fishing gear is expected to have a significant impact on the ability of about 1,250 poorer fishing households in Labutta Township and in Kawthung and Ngapudaw Townships to cope with the demands for food and other essential needs, once the relief foods and other items are depleted.

Unavailability or decreased availability of safe drinking water appears to be the most significant problem immediately facing the victims living in Kine Thaug and Aung Hlaing villages. The mission observed that the rainwater collection and storage tanks were damaged and the wells/ponds were contaminated by seawater. This affected access to water not only in these two directly affected villages, but also in other villages that depend on the now-contaminated water sources. Water shortage during the dry seasons is a chronic problem in the coastal areas and in the islands of the Delta due to the salinity of the river and ground water. The damage caused by the Tsunami further aggravated this water shortage; villagers reported that water prices increased by about 25 percent after the Tsunami.

Community group participants also reported an increase in the market prices of food and other consumables by 10 – 20 percent after the Tsunami. The price of the principal staple (i.e. rice) is expected to be stabilized soon, because a significant amount of rice has already been distributed to the victims (about 200 to 300 kg per household). The price of fishing gear may remain high until most of the fishermen have purchased replacements of the lost items.

The extent of damage to the sea fauna is yet to be assessed. Fishermen reported a decrease in the productivity of the fishing in the area³. If this is

² The Deputy Minister of Relief and Resettlement indicated that GI sheets for roofing and woods to rebuild boats are also being distributed to those whose houses (2,592 persons) and boats (100) were swept away.

³ For example in Kine Thaug where fishmeal production is the major source of income for 95 percent of the population, the head of the village reported that while the production of

confirmed by further studies and if the problem is also experienced in other coastal areas, then even the livelihoods of a significant proportion of the population not directly touched by the Tsunami is likely to be affected.

Based on these results, it is recommended that a total of 1,250 households (5,000 persons)⁴ be targeted for relief food distributions until their fishing gear has been replaced – which is expected to require between one to eight months. Further food availability and market price monitoring should be carried out to determine whether other groups face longer-term food insecurity.

To help the local communities affected by the Tsunami rebuild and strengthen community assets such as drinking water collection/storage tanks, schools, dykes, roads, etc., it is recommended that WFP target up to 7,000 beneficiaries with Food-for-Work activities for a period of six to eight months in Ayeyarwaddy and Tanintharyi Divisions. These efforts should complement the activities planned by other agencies to improve water and sanitation structures, health care services and agricultural production.

Additionally, the government has indicated that they are part of the regional task force to develop an early warning system in the India Ocean and that they are in the process of developing a national and local early warning and response system. It is recommended that WFP support national initiatives with provision of equipment and technical expertise, if needed.

fishmeal was 800 mt last year, this year the production decreased to 250 mt. This loss does not only affect the poorer household immediately, but also decreases their ability to save for the non-fishing season.

⁴ Breakdown: 900 households (3,600 persons) in Labutta, 150 households (600 persons) in Ngapudaw and 200 households (800 persons) in Kawthung.

Impact of the Tsunami on the Lives and Livelihood of People in Myanmar with Focus on Labutta Township, Ayeyarwaddy Division

Introduction

Myanmar bordering Bangladesh, India, China, Laos and Thailand has an estimated population of 52 million and covers 678,000 sq. km of land. Agriculture is the backbone of the economy accounting for 44 percent of the total GDP, and provides employment to 61 percent of the total labor force. Other major resources of Myanmar consist of oil, natural gas, teak and minerals (jade and rubies). Despite the natural endowments, Myanmar is one of the poorest countries in the world with GDP of \$162 per capita⁵ and HDI of 132.

The earthquake of December 26 was felt in different parts of Myanmar at around 07:35 am. The Tsunami, however, reached the coastal areas of Myanmar four hours later, touching around 25 villages along the shore lines in the Townships of Kawthaung (Tanintharyi Division), Labutta and Nagaputaw (Ayeyarwaddy Division) and 11 villages in Rakhine state. The extent and the nature of damage inflicted by Tsunami varied amongst the affected villages. Four villages suffered from significant damage, and yet the devastations were nowhere near like the one experienced in Thailand. Most other villages experienced minor damage.

The waves reported to have touched the coastal villages in low tide period and in three different bouts with each one larger than the previous one. In most villages, the water did not rise above the usual high tide level. In villages where the damage inflicted was greater than the others, the water did not reach beyond 200 meter off the shoreline, affecting only some parts of the villages. The three different bouts of wave reportedly allowed the villagers the time to flee from the beaches to higher land, resulting in a decrease in the number of casualties.

The government, the Red Cross Movements, UN agencies and several NGOs conducted damage assessments soon after the Tsunami was reported to have reached the shoreline of Myanmar. The summary of the findings from these initial assessments indicated approximately 40-65 deaths, 1,000-1,300 houses damaged or destroyed, and some 200 fishing boats destroyed or partially damaged. These damages were reported to have affected the lives of approximately 6,500 people.

The most important community assets other than drinking water tanks include bridges that connect villages to health facilities, schools, markets,

⁵ Economic Intelligence Unit, Country Profile Myanmar - 2004

roads and other community properties. Some minor cracks on school and other public buildings were also reported.

The objective of the current mission was to validate these earlier findings, to provide some additional insight into the livelihoods of the communities affected, to assess the adequacy of immediate responses and the long and medium term needs of the communities affected.

This report covers the findings from the current mission to Labutta Township on 18-20 January, and also summarizes the findings from other earlier assessments conducted by different UN agencies and NGOs individually, aiming at providing a better picture of the impact in all areas affected by the Tsunami in Myanmar.

Methods

Information was collected in several stages. Initially stakeholder meetings were held amongst government officials, sister agencies, the International Federation of Red Cross and Red Crescent Societies, the International Committee of the Red Cross, Myanmar Red Cross, CARE, World Vision, Save the Children and the Adventist Development and Relief Agency (ADRA). Many of these institutions had already conducted assessments in the week immediately following the Tsunami in areas where they have ongoing operations. The assessments were in general focused on the mandates of each institutions carrying out the mission, but also included other information such as the death toll and structural damage (summary - Annex 2).

In the second stage, information and data available from all the assessments were reviewed, to help design further assessments in Labutta. Based on this review, the team concluded that the immediate response needs had already been assessed and in most part addressed by various partners. The team also concluded that the focus of further assessments be on mid- and longer-term needs not only of the direct victims but also of the surrounding communities indirectly impacted by the loss/damage of community properties.

The third stage included field visits by the team to one of the worst hit Townships and administering sets of qualitative assessment tools amongst the key informants at the district, township and sub-township levels as well as group interviews with the communities affected.

Sampling

Out of four Townships affected, based on the extent of damage, data/information available, additional assessment and response planned by NGOs, logistical constraints⁶, similarity of the livelihood options, and similarity in economic status of the affected areas, the team decided on a purposive sampling. The township of Labutta in Ayeyarwaddy Division was selected as the sample area, given the above considerations. This area also happens to be the most severely affected of all, with a total death toll reaching 25.

All the four villages affected by the Tsunami in Labutta Township, were sampled. Originally, Kine Thaug village was reported to be entirely dependent upon agriculture, but the teams found out that this village depended entirely on fishery like the rest of the affected areas in Myanmar. However, unlike other areas, this village was not inhabited by migrant fishermen, but rather by a well established community whose livelihood

⁶ Traveling to the affected area was very difficult; starting with travel permit from the government, extremely difficult road conditions, and no roads e.g. it took a day and a half for the team member on road, ferry, motorcycle, tractor, and boat to arrive in one of the affected villages in the delta.

depends entirely on fishing throughout the year. The same was true of Aung Hlaing but the inhabitants in this village depended both on agriculture and fishing for livelihood. In the village of Khar Pyat Thaung, however, most of the fishermen were seasonal migrants – fishing only during the non-agricultural season and returning to their villages of origin for farming during the cropping season.

The sampling thus captured two kinds of livelihoods. As reported by previous assessment reports, they are similar to the other affected villages not visited by the team. However, the results of this assessment reflect the impact of the Tsunami on the villages visited by the team, and therefore may not necessarily fully represent the true situation in the villages not visited.

Data Collection Tools

Based on the information available and information needs for medium term planning, two of the tools received from WFP/Rome were adapted/modified to suit the CO team requirements. Both tools are qualitative in nature and consist of data collection sheets targeted at key informants at different levels and data collection sheets targeted at community group interviews amongst the victims (Annex 3). The data collected were crosschecked by triangulation of information obtained at the district, township and community levels and through community group interviews with 25-40 victims per village.

The team felt that it was not possible to visit a statistically representative number of households because of time and logistical constraints. Furthermore, UNDP staff working in Labutta Township had already visited all 427 directly affected households and had collected some basic information on damage caused by the Tsunami at the household level. The team considered the outcome of community group interviews amongst the victims as an information collection technique that could supplement the data already available at the household level.

Results

Socio-Economic Background

The Delta area is the granary of Myanmar where 40 percent of the total country's rice is produced. The area is also rich in fishing industries producing both home consumption needs and industrial produces such as chicken feeds. Due to these geographical characteristics, the livelihoods in the area depend on the combination of farming and fishing for the majority of the population. Most farmers engage in farming during the paddy season and in fishing during the non-agricultural season; hence contributions from both fishing and farming are important for sustaining the livelihoods of the majority of the households in the region.

The Delta is divided into 26 townships that belong to Ayeyarwaddy division of which two—Labutta and Ngapudaw—were affected by the Tsunami. Additionally some damage was also reported in Rakhine⁷ State and Tanintharyi Division. To date a total of 32 villages were reported to have been affected - some only very slightly, and others more harshly. According to the vulnerability assessment using 13 different indicators (Annex 4), these areas were classified as medium (Ayeyarwaddy and Tanintharyi) to high vulnerable (Rakhine) prior to the Tsunami by the Country Office Vulnerability Analysis and Mapping (VAM) unit. Although the vulnerability of a couple of villages might have changed due to the damage caused by the Tsunami, unavailability of pre-Tsunami information at the village level did not allow assessment of the changes in vulnerability. The vulnerability at the State and Division levels has not changed, because the extent of damage caused was too limited to impact the overall vulnerability at these levels.

In the Labutta Township, reportedly the hardest hit, only 4 out of 172 villages, all in the sub-township of Pyinsalu were affected by the Tsunami. These villages lie in the southern tip of the Delta and include one island located about eight kilometers from the mainland. Almost 100 percent of the population in these villages is of Bamer ethnic origin. Poverty is wide spread. The estimated average income of per day per person is 700 Kyat⁸ (equivalent to approximately \$0.75). Significant proportions of the people live even below this income level.

Demographic Impact

A typical household in the affected sub-township of Pynisalu consists of 3-4 persons. Out of 92,277 inhabitants of this township, the deaths of 25 persons constituted only 0.03 percent of the total population. Consequently, the Tsunami did not affect the population demography to any significant

⁷ UNICEF reported the eruption of a volcano in one of the islands at the same time as Tsunami.

⁸ Men are paid 900 kyats, and women, 400 kyats per day.

extent. The same can be said in the demographic structure of the other three areas where only 8, 5 and 22 deaths were reported, respectively, in Kawthaung, Ngapudaw and Rakhine.

In terms of displacement, 241 houses were reported to have been destroyed, including temporary shelters for migrant workers in the four villages assessed. Those affected were temporarily sheltered in schools and monasteries nearby. Most of the migrant fishermen returned to their original villages within a couple of days after the disaster, while the others are temporarily accommodated by their families. The local authorities have given land for building new houses to those who have lost their permanent houses in the areas less likely to be affected by similar kinds of waves in the future, but within the same villages. They have also been given permission to cut trees for building their houses as well as provided GI sheets⁹ for roofing and a nominal amount of cash to the victims¹⁰.

In the Kyaukkalte and Hpone-daw-bye villages, in Ngaputaw Townships, UNICEF, in its earlier assessments, reported damage of 10 percent and 37 percent of the houses, respectively, with a total of five deaths. In eight villages reported to have been affected, 228 houses sustained slight damage. UNICEF also reported about 1,000 persons affected to various degrees in these eight villages. No damage was noted to the boats and fishing gear. However, the Ministry of Relief and Social Affairs reported that 21 boats were damaged in Ngaputaw.

In the Township of Kawthaung, World Vision reported seven deaths, 107 houses destroyed and 725 houses slightly damaged, 65 boats lost as well as four bridges destroyed. From these losses, World Vision concluded that 4,246 people were directly affected, including 46 casual laborers who depended upon the damaged boats.

In Rakhine State, the joint assessment mission of WFP and FAO concluded that no substantial damage was sustained by any of the villages along the coastline¹¹. Twenty-two people, mostly women and children who were collecting seaweed at the time of Tsunami, were reported to be dead or swept away by waves.

⁹ Information provided by the Deputy Minister of Relief and Social Affairs

¹⁰ The Commander of the District of Myaung Mya to whom the Township of Labutta belongs, reported the distribution of 50,000 kyats per family to those whose family member(s) died; and goods equivalent to about 35,000 kyats and 1,000 kyat in cash per person to all those affected in one way or another by the Tsunami.

¹¹ UNICEF assessments indicated that some of the water ponds were slightly contaminated with seawater.

Food Availability and Markets

The sub-township of Pyinsalu is rich in both rice production as well as fishing. The fish production was temporarily affected by the Tsunami, but the fishing resumed only after a couple of days of rest. At the time of the visit of the assessment team, fishing boats were seen along the coastal areas with nets well laid out deep inside the high sea.

The production of the fish was reported to have decreased by 50 percent due to the loss of 32 big and 67 small boats as well as decreased productivity in the sub-township. This decrease did not only affect the fishermen who lost their boats/livelihood, but also the rest of the population in the sub-township.

Discussion with the communities and key informants reflected that the market prices in the sub-township in general went up by 10 – 25 percent for all basic commodities, including food. However, only the price of drinking water went up in Kine Thanung (the Island) despite the fact that the head of the village reported about 70 percent decrease in fish production. The contradiction is probably related to the fact that Kine Thanung primarily produces fishmeal for chicken feed, which is sold in Yangon; hence no direct impact on the availability of consumable fish and other food is yet felt in the village¹². The long-term impact on the market prices and food availability needs to be assessed, if indeed the production of fishmeal went down as reported which is expected to decrease the income for 95 percent of the households in the village dependent on fishmeal production.

The price of rice (the main staple) is expected to stabilize in the sub-township soon, since none of the rice fields were affected by the Tsunami. The seawater was reported not to have reached further than 200 meters in all villages¹³. Households affected by the Tsunami, at the time of the assessment, had already received 200 - 300 kg of rice. This does not take into account yet, the ration WFP is planning to distribute for the next three - six months. Hence apart from the superficial and temporary impact, the Tsunami is not expected to have any significant impact on the availability of or the price of basic food commodities other than fish in the areas affected.

No impact on food availability and the market was reported in Ngaputaw and Kawtahung and Kyauk Phyu Townships by earlier assessments.

¹² The community complained that: with the availability of the relief food (about 300 kg per family), the price of labor went up by 50 percent, i.e. the laborers who were also the primary victims of the Tsunami in the village are now demanding 3,000 Kyats per trip instead of regular 2,000 Kyats, since they seem to have adequate food for the time being.

¹³ This is true for Ngapudaw as well as Kawthaung townships, while in Rakhine the water did not go beyond the usual shoreline.

Livelihood and Households' Access to Food

As discussed above, the main means of livelihood for the majority of the population affected is fishing, followed by paddy production. In the three affected villages along the shoreline, agriculture sector constitutes about 50 percent of household employments and income. Fishing is practiced by almost 90 - 95 percent of the households during the non-agricultural season and also constitutes the primary source of food and income other than the paddy. In contrast, however, in Kine Thanung (the Island), fishing is the only source of income for 95 percent of the households.

Fish production was reported to have decreased to various extents in all villages. In the Khar Phyat Thaug, for example, production of fish decreased by 50 percent, and in Kine Thaug, by 70 percent. Production of poultry was also reported to have decreased by 80 percent due to the deaths of chickens in Khar Phyat Thaug.

Decrease in fish production in these villages was reported to be due to a decrease in outputs from the sea as well as losses of fishing gear (including boats, nets, etc.). The loss of 99 boats is estimated to have affected the livelihood of over 900 fishermen in the four villages in Labutta. This can be translated into that food security for over 3,600 people is directly threatened by the loss.

If the fish production continues to be low for the next couple of months, the severity of the impact on food security of those affected in Kine Thanung is expected to be high, since the only source of livelihood in this village is fishing. However, the victims may only feel the impact after the depletion of the relief rations that have been distributed.

The livelihood of the migrant fishermen in Khar Pyat Thaug and Lay Yin Kwin, and the fishermen in Aung Hlaing are expected to be partially affected, since their principle source of kcal (rice) remained unaffected at the village of origin¹⁴. The migrant fishermen reported to have lost their rice stock for the fishing season, stored in the temporary housing along the shoreline. However, the compensation received from the government and the aid agencies has more than offset the loss of these farmers/ fishermen.

The secondary impact of the decreased fish production is also evident in the Labutta Township. According to community group participants, the increase in the price of fish – the principle source of protein as well as calories for the majority of the population at this time of the year - is reported to lead to a decrease in fish consumption by 20 – 50 percent. The extent of impact on the overall food security of the larger population in this Township may need further assessment; however the impact is expected to be temporary, since

¹⁴ Those who engage in fishing only during non agriculture season and return to field during agricultural seasons

the loss accounts for a very small proportion of the total fishing assets in the township, unless the total fish yield remains low. This needs further surveillance.

Agriculture production was slightly affected by the entry of sea water in one of the watermelon fields and between 3-10 percent of the homestead gardens in the four villages. The agricultural fields in all the villages sustained no other damage.

It is difficult to assess the time frame when the fish production is expected to be fully restored, because the decrease in yield due the natural effect of Tsunami in the sea fauna, as reported, needs to be validated, and also because the reversal time needs to be estimated, if found true. The time frame for replacement of big boats is expected to be between six to eight months, for small boats, between one to four months, and for other fishing gear, within two to four weeks. The full recovery of fishing capacity of these affected villages is expected to take less than eight months.

In Kawthaung, 65 fishing boats were reported lost. World Vision has indicated that it would replace all the boats damaged within three-six months period. Hence the livelihood of some 200 fisherman in Kawthaung is expected to be restored within this period. Currently their immediate food need is met by the relief food distributed by the government, the Myanmar Red-Cross and World Vision. In Nagaputaw, a loss of 21 boats was reported. This is expected to affect the livelihood of about 150 fishermen and their families. To date, in Rakhine State, no loss of boats has been reported.

It is understood that the government¹⁵ will provide wood to build row-boats to small fishermen and is expecting large boat owners to be able to cope on their own. A significant number of casual laborers (25 per boat) depend on the larger boat owners for their livelihood; hence until the boat owners are able to replace the boats, and/or the casual laborers are able to find jobs elsewhere, they would need support to sustain their life.

Other Relevant Sectors

Fresh Water

Generally, shortages of fresh water are experienced during the dry season in all areas in the Delta. In the villages along the coast and the islands, fresh water is scarce and the consumption is found to be inadequate during the dry months - less than 20 liter/day, the minimum required for sustaining a basic lifestyle. In villages along the coastal areas as well as the island, fresh water is usually sold in barrels costing between 150 to 200 kyats (per 10 gallons),

¹⁵ The Deputy Minister of Relief and Resettlement

depending on the distance from the original sources. In addition, rainwater is harvested for drinking purposes in the areas with severe water scarcity.

Water quality is a critical issue, with ponds being regularly contaminated, while wells are often difficult to dig (rock or sand soil) and may contain arsenic as current studies tend to prove.

The Tsunami has severely affected drinking storage capacity of Kine Thaung village where three of the five rain-water-harvesting tanks were destroyed. Many individual water collection pots were also destroyed or contaminated at the household level. Consequently, the price of water was reported to have increased to 250 kyats (from 200 kyat) per barrel (10 gallons). In Aung Hlaing, the major rain-water-harvesting pond was contaminated by the seawater. In Khar Pyat Thaung and Lay Yin Kwin, no damage in fresh water sources was sustained, since these villages reported to be dependent on water from other villages untouched by the Tsunami.

In Ngaputaw Township, UNICEF earlier reported ponds in six villages were contaminated by seawater, while in Kawthaung townships and Rakhine State, no significant damages to water sources were reported.

These situations reflect an urgent need to undo the damages caused by the Tsunami and also to explore the possibility of permanent solutions to freshwater scarcity in the areas.

Health

No outbreaks of any communicable diseases were reported in the areas struck by the Tsunami. It must be noted, however, that malaria is endemic in Myanmar. Also, waterborne diseases such as diarrhea are common even in times of no natural or man-made disasters.

Education

Amongst the four villages assessed, the school building in Aung Hlaing was damaged by the Tsunami and therefore was temporarily relocated up on higher ground. School supplies of children were washed away along with their houses in all the four villages affected.

In Ngaputaw Township, UNICEF reported some minor damage by the earthquake and the Tsunami in eight schools, and a need to replace books for children whose houses were washed away. No damage to school structures was report in Kawthaung and Kyauk Phyu Townships¹⁶.

1. ¹⁶ At the time of this report, it was understood that the school supplies were provided by the Department of Education in all the affected areas.

The mission observed that the school structures were in general poor standard and needed strengthening to withstand damages from future disasters.

Agriculture

Apart from a small watermelon field in Khar Phyat Thaug and some homestead vegetable gardens damaged by the seawater, no other agricultural fields were damaged by the Tsunami, because as noted above, the seawater did not reach the inland far enough to destroy the agricultural field or the crops. The same was true for Ngaputaw, Kyauk Phyu and Kawthaung Townships.

Aquaculture

Aquaculture is not common in the area struck by the Tsunami in Labutta Township. Hence no damage was observed to aquaculture in the villages assessed by the team. The same is true for Ngaputaw and Kawthaung. In Rakhine state, aquaculture is commonly practiced by local fishermen. No damage to aquaculture was reported by WFP/FAO assessment team in Rakhine.

Food Consumption, Utilization, Nutritional and Health Status

The immediate food consumption needs of the victims were met by the relief food items provided by the government and various relief agencies. The relief items consisted mainly of rice, some oil, beans and eggs (adequate for one month). The community group participants reported a decrease in fish consumption. Since the main source of income for the time of the years has also been affected for the majority of the victims, consumption of vegetables and fruits from market is expected to have decreased for those households dependent on the markets for such produces (e.g. Kine Thaug – the backyard garden was used for drying fish, with no vegetable production). While the kcal requirement is fully met by the relief items already distributed for up to four months for a family of five, micro-nutrient intake may be at risk due to the decrease in fish and vegetable/fruits consumption by poorer households unable to supplement the relief items. No change in nutritional and health status is expected in the short term. However, if the intake of micro-nutrient continues to be low, both nutritional and health status of young children of poorer households may be threatened. This would require a closer surveillance.

Response Options

Responses from the government and the various aid agencies are adequate to address the immediate needs of food and shelters for the time being. The medium and long-term health, education, water and sanitation, and

livelihood needs, however, are enormous not only as a result of the Tsunami, but also from the cumulated needs over the years.

Apart from the livelihood needs for those who lost their income-generating assets, other needs are not unique to the victims of the Tsunami. They encompass the needs of the larger communities where they live in. The response, hence, needs to be looked at from a larger perspective to avoid the shocks of the disasters like the Tsunami in the future. Myanmar was fortunate that the Tsunami only brushed passed its shoreline and escaped the worst damages, and that the response capacity of the country was not threatened. However, the existing facilities at the coastal areas of the country are poor and not sufficient to provide efficient public services even in normal times.

As part of the immediate and long terms response, these communities can benefit from food-for-working projects for clearing/cleaning seawater contaminated ponds, building of rain-water harvesting tanks and ponds, strengthening school structures and dykes, and repairing/building damaged/destroyed houses of the poor who can not afford to loose a day of income.

These areas can also profit from repair/upgrading of village roads since accessibilities to these villages is a major problem. As noted earlier, it took one and a half days for the assessment team to reach the affected villages by means of four wheel vehicles, speed-boats and motor-cycles. Increasing the access to these areas would not only make the villagers' life easier immediately, but can also facilitate the delivery of relief items in case of major emergencies.

Recommendations

Food Security and Livelihood

1. Continue food assistance to 1,250 fishing households (approximately 5,000 persons) until their means of livelihood are fully restored (expected to be maximum of six months).
2. Closely monitor market prices, fish production, and replacement of the lost fishing gear in the affected areas.

Reconstruction and Rehabilitation of Local Infrastructure

3. Assist in re-construction of community assets such as roads, schools, water ponds/tanks, reclamation of seawater-affected ponds, dykes and others community properties destroyed by the Tsunami with food-for-work (FFW) support.
4. Assist poor households who cannot afford to lose income by providing FFW during the reconstruction of their houses.
5. Assist in structural strengthening of the community assets through FFW to minimize the damages from potential disasters in the future and to increase access to these communities.

For these FFW activities, a caseload of up to 7,000 beneficiaries in Ayeyarwaddy and Tanintaharyi Divisions for a period of six to eight months is recommended.

Emergency Preparedness and Response

6. Assist the government and the communities in developing an early warning system and response actions/disaster management plans, by providing equipment and technical assistance.

Annex 1

INTERAGENCY MISSION COMPOSITION AND LIST OF PERSONS MET

Interagency Mission Members:

1. Dr. Pushpa Acharya, Ph.D. - Programme Advisor, Regional Bureau for the Middle East, Central Asia and Eastern Europe, WFP/Cairo (Team Leader)
2. Dr Sann Aung, Ph.D – National Consultant, FAO/Myanmar
3. Dr. Soe Aung - National Consultant (Malaria), WHO/Myanmar
4. Mr. Pyone Cho - Township Specialist, ICDP Project, UNDP/Myanmar
5. Mr. Terence Kadoe - Project Officer, Water and Environmental Sanitation, UNICEF/Myanmar
6. Dr. Maung Mar, Ph.D. – National Consultant, FAO/Myanmar
7. Mr. Zin Aung Swe – Programme Assistant, WFP/Myanmar
8. Mr. Kyaw Thaung - Project Officer, UNICEF/Myanmar
9. Mr. Tun Tin - Township Coordinator, ICDP, UNDP/Myanmar
10. Dr. Ne Win, National Programme Officer, UNFPA/Myanmar

With the Assistance of:

Mr. Saw Teddy, Country Director, ADRA

List of Persons Met

1. Brig.Gen Kyaw Myint, Deputy Minister, Ministry of Social Welfare, Relief and Resettlement
2. Brig.Gen Sein Thaung, Advisor, Ministry of Social Welfare, Relief and Resettlement
3. Mr. Than Oo, Director General, Department of Social Welfare, Relief and Resettlement Department
4. Mr Zaw Win, Myanma Fire Bridgett, Ministry of Social Welfare, Relief and Resettlement
5. Mr. Maung Maung Khin, Deputy Director, Relief and Resettlement Department, Office of the Ministers
6. Mr. Maung Pe, Head of the Minister Office, Ministry of Social Welfare, Relief and Resettlement
7. Mr. Bhim Udas, Director and Representative, World Food Programme
8. Mr. Wynn Lwin – Secretary, Myanmar Red Cross Society
9. Dr. Kyaw Win, President, Myanmar Red Cross Society
10. Dr. Tun Sein – Secretary General, Myanmar Red Cross Society
11. Mr. Samuel Bon, Deputy Head of Delegation, ICRC
12. Mr. Patrik Vinberg, Programme Coordinator, ICRC
13. Mr. Heikki Vaatamoinen, Disaster Management Delegate, IFRC
14. Theophile Voilquin, Associate Country Director, ADRA
15. Mr. Peter Newsum, Country Director, CARE

16. Dr. Leonard I. Ortega, Medical Officer, WHO
17. Ms. Hilda Thin Thin Kyn, Programme Assistance, UNDP
18. Jean Benoit Manhes, Project Officer, UNICEF
19. Lt.Col Kyi Htut Win, Chairman, District Peace and Development Council, Myang Mya District
20. Mr. Kyin Taung, Member of Village Peace and Development Council, Kaing Thaung.
21. Mr. Hla Win, Member of Village Peace and Development Council, Kaing Thaung.
22. Mr. Tin Nyunt, Member of Village Peace and Development Council, Kaing Thaung.
23. Some 100+ Community Members in the villages visited

Annex 2

Overview of the Impact of Tsunami in Myanmar – Compiled from available Assessment Reports

Township	Affected Area	Number of people affected	Death*	Injured	Houses destroyed	Houses partially damaged	Displaced population**	Community asset destroyed	Private asset destroyed	General Remarks
Kawthaung (World Vision)	9 villages	4,200	7	1	107	725	435	4 bridges	65 Boat, HH consumable, few months food stocks	
Kawthaung (ICRC)	Not Reported (NR)	NR	7 + 1 (cause uncertain)	-	140		1900 initially – except for few most returned to their homes	NR	NR	No effect visible
Kawthaung ***(UNICEF)	7 villages	2,836	6	NR	7	39	NR	Bridge – but repaired already	School supplies of children, boats	No major damages, assistance already provided to those who were affected, confirmed that the local authorities provided cash, food, clothing, blankets etc. In one village - no assistance was provided as at the time of UNICEF's visit
Labutta (UNDP)	4 villages	2,137	25	-	241	No Information (NI)	1563	NI	Fishing nets, 69 boats, 766 animals, household consumables, few months food stocks brought to the shore for fishing season	
Nagapudaw (UNICEF)	8 villages, only 2 major		5	1	188	NI	Approx: 912 estimated based on 5	Some cracks in walls in couple of schools, water	NI	

							person per HH	source contaminated - not critical and not very different from the pre-existing situation		
Rakhine (WFP/FAO)	11 villages	NR	22	NR	NR	NR	NR	NR	NR	No visible sign of any effect and no report on any effect on personal or communal properties, no impact on food security
Rakhine (UNICEF)***	7 villages		13	1	NR	NR	NR	NR	NR	Volcanic eruption in Manaug Island - water level decreased in Manaug, no other damage

- * Most deaths were those who were out in the sea and children and women who were collecting seaweeds
- ** Mostly include also those who actually come temporarily in the costal areas for fishing during off farm season hence actually are not truly displaced (no information on actual displace but is believed to be small)
- *** Complied from individual available report from UNICEF

Annex 3

Earthquake and Tidal Wave disaster in Myanmar Outline for a check-list for township level interviews

State/Division	Sub: Township:
Surveyor:	
Signature:	Date:

Area(s) affected	<p>Which areas are significantly affected (map).</p> <p>Distinguish between areas devastated and those partly damaged, if appropriate.</p>		
Population and livelihood groups in those areas		Previous population (in percent)	Current population (<i>only if the community has been significantly changed</i>)
	a) fishing communities	a)	
	b) employed directly or indirectly in tourist industry	b)	
	c) employed in other businesses	c)	
d) traders	d)		
e) cultivators	e)		
f) casual labourers	f)		
g) others ...	g)		
Basic demographic breakdowns:	Men >18 years Women > 18 years		
Total Population:	Boys 5-17 years Girls 5-17 years		
	Boys <5 years Girls < 5 years		
	Pregnant		
Numbers of households with no adult/able bodied member able to work			

Displacement	<p>Number of people/hh presently in 'displaced/dislocated'.</p> <p>How long people are expected to stay in the displaced/dislocated area including family/friends (number of weeks/months)</p>		
Availability of essential services/infrastructures (number)	<ul style="list-style-type: none"> a) schools b) sub health centres/health facilities c) cold chain d) health service provider e) road/bridge f) irrigation facilities g) fish ponds h) warehouses i) farmlands j) trained health personnel on maternal health k) number and type of teachers 	Before/pre-existing	After Tsunami (<i>also state then number of people affected by the loss for each item</i>)
Availability of water and sanitation infrastructure (number)	<ul style="list-style-type: none"> a) wells b) ponds c) latrines d) water harvesting tanks/containers e) others.... 	Before/pre-existing	After Tsunami
Impact on food supplies/ 'availability'	Whether there has been, or will be, a significant impact on food/fish availability in the state/province? (Proportion of state/division food/fish production originating from the affected areas?)		

Impact on markets	<p>Locations where market facilities (i) have been destroyed and (ii) are still functioning</p> <p>Localities without any access to functioning markets (e.g. within 10 km).</p> <p>Prices for main food items, water, and other essentials in functioning markets; fishing gears, medicines, education materials; how these compare with before Tsunami.</p> <p>Problems and prospects as seen by traders.</p>	
Impact on households' access to food	<p>Nature and extent of the impact on households' livelihood assets, own production, sources of income (agricultural inputs, fishing gears etc.), and expenditures for the different groups.</p> <p>Food and income sources available, and how they are likely to evolve?</p> <p>When crops and vegetables may be able to be planted and harvested? (<i>only to be asked for areas where people major livelihoods have been affected</i>)</p> <p>Hence the estimated numbers of people/hh in different groups and localities who are:¹⁷</p> <ul style="list-style-type: none"> • <i>destitute</i> – who have no access to food now or in the next 6-12 months; • <i>presently dependent and long-term substantially food insecure</i> – who have little or no access to food in the next 10-30 days but who should be able to provide 50% of their needs in the next 6-12 months; • <i>only temporarily dependent/ food insecure</i> – who have little or no access to food in the next 10-30 days but who should then be able to meet their needs for the next 6-12 months. 	
	<p><i>To be asked only for those areas where the main and secondary livelihood is destroyed by Tsunami</i></p> <p>When production and income sources are likely to be restored, and to what level?</p> <p>Possibilities for survivors to diversify their own production and sources of income in the immediate future.</p>	

Impact on food consumption, utilization and nutritional status	<p>What are the normal food habits of the different groups – what foods do they normally consume and how do they prepare them? Any taboos?</p> <p>What (if anything) are people in different localities hard hit by Tsunami finding to eat if different from normal?</p> <p>What risks are associated with what people are eating (contamination, toxicity) in areas where food consumption changed due to Tsunami ?</p> <p>What more can and needs to be done to reduce environmental health risks in these areas?</p>		
Impact on Health	<p>Is there notable increase in communicable disease in the area?</p> <ul style="list-style-type: none"> - water born disease - food born disease - vector born disease - ARI 		
Impact on Education	<ul style="list-style-type: none"> a) number of students b) number of students attending schools c) availability of water and latrine in the school d) average distance to the nearest school e) % of children working after school (girls/boys) 	Before	After
Children in need in special protection	<ul style="list-style-type: none"> a) number of children separated/unaccompanied b) kind of work children do c) survival strategies adopted by children whose families have lost their livelihood d) areas children are dropping out of school and seeking work e) survival strategies of the youth and children who lost their livelihood f) do people foresee that there might be a higher number of migrants – as a longer term consequences of loss of livelihoods due to the tsunami? g) are children reporting violence at home, due to the distress faced by parents/families linked to Tsunami? 	Before (<i>if applicable</i>)	After

Coping responses by households	<p>What coping strategies are people adopting (food, water/sanitation)? How sustainable are they?</p> <p>What needs to be done to avoid people resorting to ‘distress’ strategies (skipping meals, reducing consumption, selling assets etc.)?</p>	
Compensatory actions by the government, traders and others	<p>What progress is being made in:</p> <ul style="list-style-type: none"> • distributing relief items : food, water, health supplies, education supplies, clothing etc. • reopening transport communications (if applicable) • reopening and restocking markets (if applicable) <p>What are the principal constraints and what can be done to overcome them? – in normal situation and now</p>	
	<p>What community-based or administrative systems are being used to distribute relief; how effective are they; what other mechanisms are available?</p>	
Contextual factors influencing response options both before and after Tsunami	<p>Capacities of individuals and communities</p> <p>Social dynamics, positive and negative</p> <p>Logistic constraints</p> <p>Institutional capacities for implementation</p>	

Response options	<p>Opportunities and capacities to organize (public and private sectors):</p> <ul style="list-style-type: none"> • public works (water supplies)/ employment programmes paid in cash and/or food • stimulate markets • targeted safety net programmes for the most vulnerable households 		
Response options	<p>Health</p> <p>a. Is there a need to training to enhance the skills of existing health service provider</p> <p>b. Are there sufficient safe delivery kits at the existing health facilities?</p> <p>c. Access and availability of emergency obstetric care and contraceptive commodities</p> <p>d. Need for reestablishment/establishment of maternal health care services</p> <p>e. Need for psycho-social support for the victims (only if applicable)</p> <p>f. Need for support to youth</p> <p>g. Other main health issues arising from the disaster (only if applicable)</p>	Before Tsunami	After Tsunami (<i>if different</i>)
	<p>Education</p> <p>a) Required number of learning materials</p> <p>b) Required number of teaching materials</p>	Before	After Tsunami (<i>if different</i>)
Fishery and Aquaculture			
Extent of damage	Extent of fishing gears destroyed for farmers with primary/secondary livelihood of fishing		

	Extent of aquaculture assets destroyed for farmers with primary/secondary livelihood of aquaculture	
Early Warning	<p>a. Are there traditional methods used locally for forecasting disaster? If yes, how effective are they?</p> <p>b. Has any thought been given to the development of early warning system by the government/officials to minimize the impact of natural disaster (flood, drought, earthquake, etc.)?</p> <p>c. If yes, for (a), what kind/type of support the sub-township will seeks:</p> <ul style="list-style-type: none"> - technical expertise - equipment - financial - other 	
General Observation	Concerning Food Security:	
	Concerning Water/Sanitation:	
	Concerning Fishing/Aquaculture:	

	Concerning Agriculture:
	Concerning Health:
	Concerning Education:
	Concerning Other Priorities:

Earthquake and Tidal Wave disaster in Myanmar

Outline for a community group discussion guide

State/Division:	Township:			
Surveyor:	Village/neighbourhood:			
Signature:	Evacuation site (if relevant):			
Date:	Shared characteristics of the group:			
Extent of damage:	Large Medium Little None			
Basic demographic breakdowns In proportion – use the proportionate piling methodology using beans. See the guideline for using proportionate piling	Men >18 years Women > 18 years Boys 5-17 years Girls 5-17 years Boys <5 years Girls < 5 years Pregnant			
Household composition (for the population sub-group represented)		Number before	Number today (<i>only in the community where significant number of people have died</i>)	
	What was/is the size of a typical household?			
	How many households do not have an adult able to work?			
Displacement (among this population sub-group)		Estimated number of people displaced	The number expected to return	When they are expected to return
	Displaced within the community/families/friend			
	Gone to other places			
Principal means of livelihood	Before (e.g. fishing, employed, trade, casual labour):		Now:	

Principal productive assets of a typical household	Before (e.g. boat, bicycle, skilled household member):	Now:		
Prospects for recovery (for this population sub-group)	What are the prerequisites for recovery?			
	When may livelihoods recover?			
Sources of food (for a typical household in this population sub-group) In proportion – use the proportionate piling methodology	Fishing Aquaculture Hunting/gathering Own production Market purchases From social networks From relief distributions Other sources...	What are the principal sources of food for a typical household? What proportion of food came/comes from each of these sources?	How are things expected to change in the next few weeks? (<i>only in the communities significantly affected</i>)	
		% Before	% Now (<i>only in the communities significantly affected</i>)	
Current consumption (for a typical household in this population sub-group)	How many meals per day? ... How many days will household stocks last? ... Is the household able to prepare suitable foods for young children and sick/elderly people? ...	What are households actually eating now?		
		Basic staples Normal protein sources (e.g. fish, meat, beans, milk) Cooking oil Sugar Other important items...	Yes	No

Sources of income (for a typical household in this population sub-group)	Employment Sale of produce (own production) Cash received from social networks Cash relief Other sources...	Which was/is the most important source of income (#1), then #2, #3?		How are things expected to change in the next few weeks? (for significantly affected households)	
		Before	Now (<i>for significantly affected households</i>)		
Ability to prepare food now (for a typical household in this population sub-group)	Water Cooking stove Cooking fuel Utensils	Available?		Are the quantities sufficient?	
		Yes	No	Yes	No

		Before Tsunami	After Tsunami (if applicable)
Water and sanitation	<p>a. Are minimum standard reached?</p> <p>1.1 Water</p> <p>1.1.1 20l/pers/day</p> <p>1.1.2 200 people/point</p> <p>1.1.3 100 m from housing</p> <p>1.2. Sanitation</p> <p>1.2.1 One latrine per family?</p> <p>1.2.2 50 m max from housing?</p> <p>1.2.3 6 m min from housing?</p> <p>b. medium terms improvement and rehab needs</p> <p>c. Inputs and specifications needed for point b.</p> <p>d. Potential contractors</p> <p>e. Community willingness/ability to contribute</p> <p>f. Support already received and gaps</p> <p>g. Partners (NGO/UN/Religious...) that can help</p> <p>h. Best dissemination channel for Health messages</p> <p>i. Cost estimate</p>		

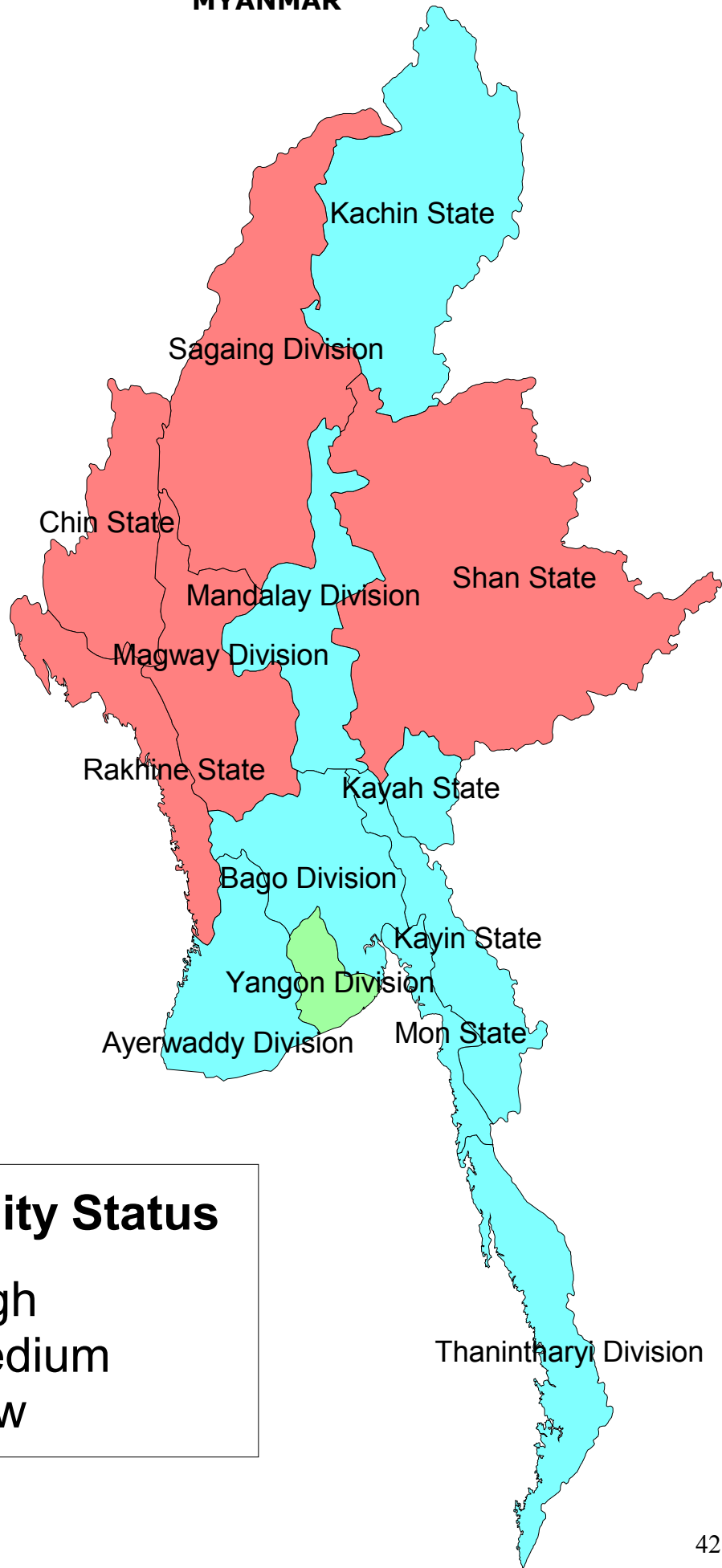
		Before Tsunami	After Tsunami (if applicable)
Health Infrastructure and services	<ul style="list-style-type: none"> a. Has there been destruction of health facilities, if yes state number and number of people affected by the destruction b. Has there been death of health service provider, if yes, how many people are affected by the death in terms of availability of health services provided by this person/s c. Is there a need to training to enhance the skills of existing health service provider d. Are there sufficient safe delivery kits at the existing health facilities? e. Is there availability of emergency obstetric care and availability of adequate contraceptive commodities? f. Has people been affected psychologically by the disaster (afraid to go out in the beach, other behaviour changes)? 		
Education	<ul style="list-style-type: none"> a. number of school b. damage to education infrastructure c. number of students (and breakdown) d. attendance e. language(s) f. availability of water and latrines in school premises? g. Distance to the nearest school? h. % of children working after school (boys/girls) i. Required learning material (type and quantity) j. Required teaching material (type and quantity) k. Number and qualification of teachers 		

Fish and aquaculture	<p>What proportion of households has lost their assets for fishing and aquaculture? What proportion of the people in the community have been affect by the loss (direct and indirect)</p>	
	<p>What are the most typical items lost by the fisherman?</p>	
	<p>What support has thus far been received from the government, and other organizations</p>	
Production and storage of agricultural products	<p>a. Was there any damage to the crop? If yes, please explain which crops b. What proportion of the household income source does it constitute?</p>	
	<p>a. Was there any damage to the production field? If yes, what proportion of the total productive field of the community? b. What needs to be done to restore the production to the level prior to Tsunami? c. Is there anything being done so far? If yes, by whom? Is the response adequate? If not what is lacking? d. What support would the village seek for restoring the productivity?</p>	
	<p>b. Was food and other agricultural stock in the village swept away by the Tsunami? If yes, what proportion of the total stock did it constitute? c. How does the village plan to deal with the loss? d. Has any storage capacity been destroyed/damaged? If yes to what extent? e. What are the possibilities/prospects for reconstruction of the damaged properties?</p>	

<p>Long term and medium term needs</p>	<ul style="list-style-type: none"> a. Is there availability of local expertise and facilities for building boats? b. What are the specifications of typical fishing gears in the areas? c. Netting materials: (cotton/nylon, twine type, depth of net, mesh size, dept, length, shape, size, floatability) d. Lead “kheydi”: shape, size, hole diameter, weight, leading (kg/100m), floating (kg/100m) e. Mending and mounting twines: (materials – cotton/nylon; twine size, colour, weight/spool) f. Ropes: materials - cotton/nylon, diameter, twisted or breaded, colour, length g. Pots and traps: local, material needed for construction h. Hooks: number, dimensions, shank, bend, colour, extremity – flat/twisted, with/without eye, manufacturer/quality (provide sample if possible) i. Swivel/snaps: type, size (provide sample) j. Boats - 	
<p>General Observation</p>	<p>Concerning Food Security:</p>	

	Concerning Agriculture:
	Concerning Health:
	Concerning Education:
	Concerning Water/Sanitation:
	Concerning Fishing/Aquaculture:
	Concerning other priority needs:

ANNEX 4 – VULNERABILITY TO FOOD INSECURITY IN MYANMAR



Vulnerability Status

- High
- Medium
- Low