Global Network Against Food Crisis (GNAFC) Partnership Programme

Country Investment Myanmar

Pro-Resilience Action (PRO-ACT)
Improvement of food and nutrition security of vulnerable population in Rakhine state

Baseline survey report

August 2019

Contents

List of Tables

List of Figures

1.EXECUTIVE SUMMARY

Project GCP/MYA/028/EC aims at improving the food security and resilience of vulnerable food insecure people in northern Rakhine State. The Project duration is 30 months from October 2018 to April 2021 and is currently the primary intervention undertaken by FAO Myanmar Resilience Unit in Rakhine state. In 2019, the project supported 6,000 vulnerable households in the four townships of Maungdaw, Buthidaung, Rathidaung and Kyauktaw in northern and central Rakhine, through the distribution of agricultural inputs (Monsoon Paddy, assorted vegetable seeds and organic fertilizer), mechanization inputs (Power tiller, thresher and combine harvester) and training in Good Agricultural Practices (GAP) and Nutrition awareness. This report presents the results of the Resilience Index Measurement Analysis (RIMA) baseline survey conducted by FAO Myanmar M&E team on a representative sample of 300 project beneficiaries in the townships of Maungdaw and Rathidaung.

On average, the estimated Resilience Capacity Index (RCI) is 51, with no significant difference between beneficiaries in Rathidaung and Maungdaw townships. There is a clear indication that women-headed households are less resilient (RCI of 45). Moreover, the analysis of resilience showed that in Buthidaung, the main factor influencing the RCI is the ownership of assets (AST) and the access to basic social services (ABS). In Maungdaw AST and social safety nets (SSN), including humanitarian assistance, are essential determinants of resilience capacity. As expected in rural communities, land ownership, livestock and access to agricultural inputs are crucial to household resilience. Small-scale farmers, landless farmers and daily workers that have a lower asset base, limited access to productive inputs and unable to diversify sources of income are less resilient and more prone to food insecurity. This finding confirms the relevance of project focus in strengthening the resilience of small-scale farmers by facilitating access to agricultural inputs (Paddy seeds, fertilizers, assorted vegetable seeds, mechanization services) and training.

Key Findings

Households with few economically active members and high dependency ratio are less resilient and more prone to food insecurity.

The majority of household heads (52%) are not able to read and write, with 38% never attending schools and 49% not completing the primary education cycle. There is a considerable gender gap as only 5 out of 33 women head of household, or 15% are literate.

The primary sources of livelihood are crop production, casual labour, and to a lesser extent animal production. Crop diversification and development of commercial agriculture (vegetables) represent a real challenge for poor subsistence farmers operating in adverse climatic and soil conditions and heavily exposed to climate shocks, high food prices and low market prices of agricultural commodities, in particular for rice. There is a very strong correlation between resilience and the size of the land owned by a household together with the possession of livestock.

The survey results indicated that access to basic services is reasonable. However, there are still substantial number of households having difficulties in accessing basic services due to distance and constraints in moving.

RCI of female-headed households is significantly below that of male-headed households. Moreover, female-headed households are at a disadvantage in access to basic social services, assets and adaptive capacities.

2. INTRODUCTION

The baseline survey of beneficiaries targeted by project GCP/MYA/028/EC is designed to feed into the overall monitoring, evaluation, accountability and learning agenda of the Global Network against Food Crises Partnership Programme. In this regard, the baseline has short, medium and long-term objectives.

In the short-term, the baseline will provide feedback on the project's the theory of change – whether it is well-conceived in terms of project entry points or if some adjustments/complementary actions are to be considered. From the analysis, the programming team can ascertain if the strategy of the project will address the critical factors for resilience to food insecurity. It also serves to support the targeting strategy of the project to ensure that the criteria for selection are aligned with local profiles and realities of the implementation context.

The baseline analysis provides a snapshot of the current situation regarding resilience capacity and its determinants of access to basic services and infrastructure, adaptive capacities, income-generating activities, formal and informal social safety nets, social networks and productive and non-productive assets, and shocks. With this information, the programming team can understand better the profiles of the populations with whom they are working and their needs in terms of resilience to food insecurity; and to provide project/programme managers with the evidence to support their decisions about the intervention.

In the medium term, it sets the thresholds and references for monitoring at activity, output and outcome level. In this programme, outcome-level food security and coping strategy indicators are tracked to understand fluctuations and to inform any required adaptations.

By gathering a wealth of data on the pillars of resilience, the data and analysis may exceed the scope of the current programme; as such, the baseline can provide evidence for discussion with programing teams and humanitarian, development and peace partners on how to collaborate and coordinate to meet the needs of the affected population most effectively. Therefore, the value of the current baseline does not stop with its initial analysis but continues as the findings are shared, discussed and reexamined in collaboration with various partners and stakeholders, including the communities profiled in the report.

In the long-term, the baseline will serve as the reference point for impact assessment at the mid-point and the end of the intervention, by analyzing both changes over time and differences between populations with the same profiles and risk exposure.

It will also serve as a basis to respond to the learning questions established for the programme. These learning questions explore operational, technical and context-specific issues to understand better what works and why in the context of central and northern Rakhine state to increase resilience to food crises.

2.1 Country Background

Despite the economic growth reflected in the increase in income and attainment of national food self-sufficiency in some major staple crops, poverty remains substantial in Myanmar with 25.6 per cent of the population still below the national poverty line. The rate is twice as high in rural areas where 70 per cent of the population lives and mostly relies on agriculture and casual employment for their livelihoods. Stunting prevalence is 29% countrywide with some regions like Rakhine, reaching up to 38%. Rakhine State, located approximately between latitudes 17°30' north and 21°30' north and longitudes 92°10' east and 94°50' east, is situated on the

western coast of Myanmar, bordered by Chin State to the north, Magway Region, Bago Region and Ayeyarwady Region to the east, the Bay of Bengal to the west, and the Chittagong Division of Bangladesh to the northwest. The rest of Myanmar separates it by a chain of mountains. Rakhine State is divided into five districts, 17 townships, 1 042 village tracts and 4 185 villages (MIMU, 2017). Agriculture, fisheries and aquaculture are the primary sources of livelihoods. Coastal fishing is mostly practised in lowlands by people with limited access to agricultural land. The main source of livelihoods inland is crop production, casual labour, and to a lesser extent animal production.

Before the 25 August 2017 events, the population in Rakhine State was estimated at 3.3 million, of which 1.6 million were males, and 1.7 million were females. It is the second poorest state in Myanmar. Based on 2009-2010 data, the World Bank estimated that some 78 per cent of the population is considered poor compared with 37.5 per cent nationally. The same report indicated that Rakhine State accounts for almost 15 per cent of Myanmar's poor. Reflecting new data and updated methodology, the 2015 World Bank study revised the national poverty figure down to 26.1 per cent in 2015. The prevalence of poverty in Rakhine State is likely to remain double that of the national average. Based on Demographic and Health Survey data from 2015, Rakhine State had the second-highest percentage of people in the lowest wealth group after the Ayeyarwady Region.

Rakhine State is rich in natural resources, it has fertile soils, and with a western sea border, it is strategically located for regional trade. The state has favourable agro-ecological conditions and historically, has been a top producer of aquaculture products. The primary source of livelihoods for the population of Rakhine State is agriculture, followed by livestock raising, casual labour and aquaculture.

The northern part of Rakhine State has particularly suffered from protracted conflict, insecurity and "human rights crises". These interrelated crises have severely reduced access to food due to insecurity, substantial displacement, as well as disruption of agricultural production with consequent increase of poverty levels. In 2012, the inter-communal tensions between the Buddhist majority and Muslim minority in Central areas of Rakhine State led to outbreaks of violence, with population movements, and the creation of IDP camps or camp-like settings that currently host some 129 000 people. The escalation of violence in October 2016 and August 2017 caused a massive exodus of Muslims and other minority groups to cross the border with Bangladesh. As of September 2018, around 706 000 refugees have crossed the border into Cox's Bazar in Bangladesh. At the same time, humanitarian agencies have faced restrictions and constraints in accessing conflict areas in Rakhine State.

Overall, insecurity and reduced access to means of production continue to undermine the capacity of the most vulnerable populations to produce and access sufficient, diversified and nutritious foods, leading to the employment of negative coping mechanisms and limited ability to meet basic needs. Restrictions obstruct physical and economic access to food and add constraints on the already scarce livelihood opportunities available to the displaced and relocated Muslim population.

Given its long coastline, Rakhine State is susceptible to extreme weather and natural hazard induced disasters. Every year, extreme weather events such as heavy rains, mudslides and floods put agricultural production and productivity at risk. Heavy rains and floods do not only wash off agricultural lands, crops, prawn ponds and livestock, but also homes along the

riverbanks. The combination of strong winds and high tides during planting season hamper rice production in low-lying areas that are often inhabited by the poorest members of the community. Another challenge faced in Rakhine State is the low government investment, leaving communities to suffer from poverty, poor social services and a scarcity of livelihood opportunities.

According to the Special Report of the FAO/WFP Agriculture and Food Security mission in Rakhine[1], the agricultural production throughout Rakhine State is generally constrained by a number of structural issues, such as inadequate access to land, low productivity, shortages of casual labour, limited credit availability and general lack of systematic, timely and efficient training and extension services to farmers. The same report highlights that in Rakhine, there is a high number of vulnerable populations with weak resilience and low agricultural productivity prevail. The recurring population displacement and acute limitations to movements for those not displaced caused the breakdown of value chains, losses in food production and destruction of assets.

2.2 Project Impact

The overall objective of the project is the enhancement of food and nutrition security and resilience to socio-economic shocks and natural disasters in Rakhine State.

Specific attention is placed on ensuring that women, particularly pregnant and lactating women with children under two years of age, have sustainable access to nutritious foods, as well as improved incomes and knowledge on proper nutrition practices for improved diets.

The specific objective of the project aims to restore and protect agriculture livelihoods of vulnerable communities in Maungdaw, Sittwe and Marauk U districts of Rakhine State. By supporting crop, livestock and aquaculture production through quality inputs and technical assistance, the project will increase food availability and access in targeted areas well beyond the project cycle. The negative impact of climate-related disasters will be reduced by climate and disaster-resilient agriculture production systems and the establishment of small-scale multi-purpose infrastructures built according to DRR standards. Income generation will be further supported through support to harvesting, food processing and conservation hence increasing availability of financial resources within the villages and reducing seasonal indebtedness.

The project will specifically address the food and nutrition security of women and children, particularly pregnant and lactating women with children under two years of age. Special attention will be paid to the disproportionate impact of disaster and crisis on women and women-headed households in vulnerability ranking and selection of beneficiaries. Gender equality and women empowerment will be a focus in the design and delivery of training on the use of agriculture inputs to improve the production of nutritious foods, post-harvest management and processing as well as cash for work in building multi-purpose community infrastructures. Support for home gardening will specifically target women. Besides, top-up to the existing Maternal Child Cash Transfer (MCCT) program will be provided to pregnant and lactating women to help them ensure continued access to nutritious foods in case of a disaster and/or lean season. The project is making a strong investment in training,capacitating at State level and national level the counterparts (MoALI) to improve their food security analytical skills

---

[1] Report published in July 2019

and to manage DRR information that can contribute to reduce the disaster risk exposure of farmers in targeted areas.

The project will build upon and expand on existing methodologies used successfully under the FAO Myanmar country programme, other partners, as well as FAO corporate initiatives. The project strategy and methodology has been designed in a way that is sufficiently flexible so that it can adapt and change if necessary, in particular data and information gathering will be carried out during four months Inception Phase to assess needs and feasibility better. During the Inception Phase, the intervention logic might be subject to reviews and updates by EU Delegation, FAO and MoALI. The project approach emphasizes demand-driven interventions and gender-sensitive, strategic peace-building, conflict-sensitive programming, mainstreaming disaster risk management, information management and learning, promotion of evidence-based advocacy and policy dialogue. Gender equality is central to FAO's mandate to achieve food and nutrition security for all by improving agricultural productivity, sustainable natural resource management and improving the lives of rural populations. The persistence of hunger is not merely a matter of food availability but also stems from structural and socio-cultural inequalities, which affect women and girls disproportionately.

The project implementation strategy implies partnerships agreement with the relevant Ministries, technical departments and, NGO Implementing Partners that will be developed in line with the FAO corporate policy.

This project is part of the Global Network against Food Crises (GNAFC) which, through evidence-based context-specific actions, will help in better defining and documenting interventions within the overall framework of the Humanitarian-Development-Peace nexus.

The Global Network against Food Crises (GNAFC) was established to combat food crises from humanitarian and development perspectives and tackle its root causes. This partnership aims to promote enhanced coordination among stakeholders through consensus on analyses and coherent projects implementation. More broadly, it will contribute to Sustainable Development Goal (SDG) 2, "End hunger, achieve food security and improved nutrition and promote sustainable agriculture", SDG 5 "Gender Equality & Empowerment of Women and Girls and SDG 13 "Take urgent action to combat climate change and its impacts". These, in the context of Rakhine State, will require extraordinary efforts by the project to ensure women consultations, taking into consideration also ethnic diversity and structural and cultural challenges to gender equality. Significant effort will be dedicated to providing that women and men will enjoy the same benefits and opportunities generated by the project.

3. BASELINE METHODOLOGY

This baseline survey utilizes the Short Resilience Index Measurement and Analysis (RIMA) developed by FAO. This methodology systematically explores the relationship between a core set of context-specific variables of resilience (See Annex 1) to construct the Resilience Capacity Index (RCI) based on the four pillars of resilience (assets, social safety nets, adaptive capacity and access to basic services) and food security indicators. The RCI measures a household's capacity to withstand stresses and shocks that have long-lasting effects.[2]

---

[2] FAO.2016. RIMA II: Analysing resilience for better targeting and action. http://www.fao.org/3/a-i5665e.pdf

RCI provides a useful baseline to a) inform/support targeting decisions, as it can be used as a ranking tool to identify households that are most at risk; b) to identify the specific weaknesses (or negative coping mechanisms) that increase vulnerability.[3] Also, the methodology explains c) how much each pillar contributes to resilience capacity and how each observed variable contributes to its pillar.[4] It is with this information that the theory of change, targeting and implementation strategy can be examined, and that the main indicators of the project (food consumption score, household dietary diversity, coping strategy index, RCI) can be calculated. Finally, d) the RIMA methodology will be employed for assessing the impact of the project on household's resilience.

3.1 Sampling methodology

In total, 300 beneficiaries or 6% of the total 4,500 project beneficiaries were randomly selected from the beneficiary list made available by the implementing partner. The sample can be considered representative of the overall beneficiary population with a ±5% margin of error at a 95% confidence level.

Due to the delay in receiving travel authorizations to the project areas, FAO M&E officers and field assistants could not travel to the sampled villages but had to administer the questionnaires from offices located in Buthidaung and Maungdaw township (the respective District headquarters) from the 13th to 18 August 2019. The selected beneficiaries were, therefore, requested to reach the interview locality with FAO covering the cost of the travel. Moreover, and due to heightened insecurity at the time of the survey, Rathedaung township was not accessible, thus reducing the possibility to interview beneficiaries from this township and further reducing the sample size.

3.2 Limitations

Due to security concerns, no permission was granted to interview the non-beneficiary population, making it impossible to include a control group to the baseline study. Other alternatives are being considered to address this gap. Due to safety concerns expressed by beneficiaries and local authorities, questions related to subjective conflict perception were removed from the questionnaire. Therefore, the optional Conflict Module was not administered in the Rakhine context. In the coming months and building upon the peace-building and conflict resolution activities carried out in the first year (see in annexe main result of the workshop) the project team will make efforts to include this component in future surveys.

4. BASELINE RESULTS

Results of the survey were analyzed by gender of household head and township administrative level where applicable. Moreover, the findings were analyzed by other categorical variables whenever appropriate to cross/combine some results from the resilience analysis with other aspects of the baseline survey.

---

[3] Ibid.

[4] Ibid.

The following sections provide the main findings starting with demographic analysis, followed by descriptive statistics of key variables under the pillars of resilience, food security indicators, and finally the RIMA.

4.1. Basic descriptive statistics

4.1.1 Demographics

The average household size is 7.3 household members, with households in Buthidaung slightly larger with 7.5 members compared to the 6.6 members in Maungdaw township. This most likely stems from the high rate of displacement and out-migration in Maungdaw during the conflict in 2017. Such a high household size would indeed strain food security. Household composition corresponds well with the general characteristics of rural households in Myanmar with a Women/Men ratio close to 1 to 1, and 51% of the members below 18 years of age. Women head 11 % of the households.

Overall, the dependency ratio is 1:2, with 2.5 working members in each household. However, while the dependency rate in Buthidaung is 1.8, households in Maungdaw have only 1.7 active members in a family of 6.6 members with a dependency rate of 2.8. Households with few economically active members and high dependency ratio are more prone to food insecurity

4.2. Livelihood

4.2.1. Main Source(s) of income

In Rakhine state, Agriculture, fisheries and aquaculture are the primary sources of livelihoods. Coastal fishing and aquaculture are mostly practised in the coastal lowlands by people with limited access to agricultural land. At the same time, the primary source of livelihoods inland is crop production, casual labour, and to a lesser extent animal production.

In Buthidaung and Maungdaw, crop production is mainly for subsistence, and the main crop is paddy rice cultivated during the monsoon season. Secondary crops are assorted pulses and oilseed crops as groundnut and mustard. Vegetables such as potato, chilli, eggplant, long bean, water-gourd, pumpkin and cucumber are mainly planted during the monsoon season, and in areas where water is available (close to the river or creek banks) during the dry season, farmers will cultivate tomato, okra, snake gourd, eggplant, cucumber and chilli. Fishery is also common in villages in the proximity of internal water bodies.

Crop diversification and development of commercial agriculture (vegetables) represent a real challenge for poor subsistence rice farmers operating in adverse climatic and soil conditions.

As expected, the most common activity of FAO beneficiaries is farming (55 %), followed by farming complemented by livestock raising, fishing and other activities (22 %), farming and casual labour (11%), farming and small business (9%) and other non-farming activities (4%).
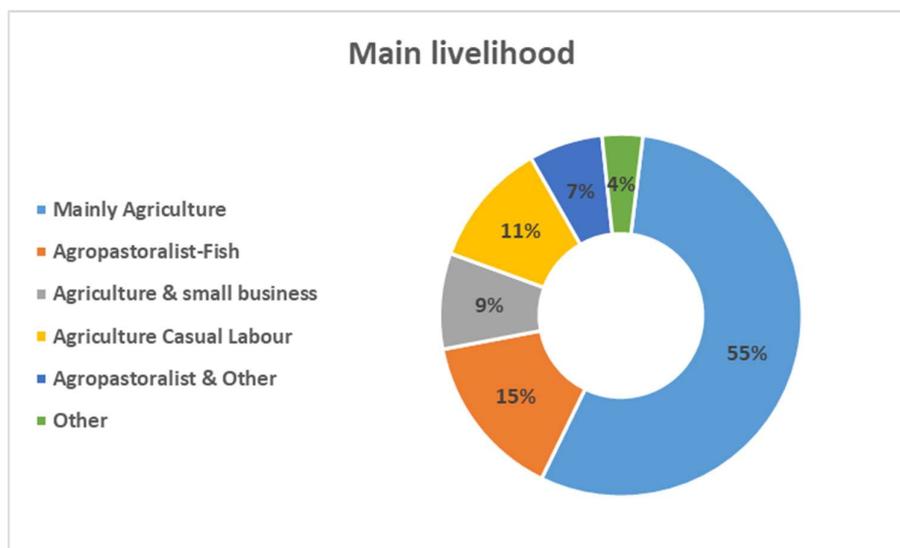
Figure 1: Main Livelihood

As far as cultivated crops are concerned, the respondents have been focusing on rice production (97%) with 45% of them only planting this type of crop. Nearly 40% can also cultivate monsoon vegetables and winter crops (like pulses and vegetables).

Crop	Households harvested/expect to harvest (%)	Average quantity harvested/expected to harvest (kg)
Paddy	97%	5813
Green gram	1%	172
Black gram	2%	1008
Cow pea	3%	938
Vegetable	77%	112

Table 1: Percentage and quantity of harvested/expected to harvest

As for Table 1, 77% of respondents answered that they planted project distributed vegetable seeds in the monsoon season. The seed distributed would allow each beneficiary to cultivate 0.25 acre of assorted vegetable (Yard long bean, chilli, eggplant, okra, bitter gourd and roselle). The project also strengthened the beneficiary's knowledge by administering Good Agricultural Practice (GAP) and nutrition awareness sessions in each village. The seed distributed has been chosen after discussing farmer's preference with the beneficiaries, the tolerance to heavy rains and confirming the nutrition value of each species with FAO nutrition expert.

Thus, the majority of the sampled households are dependent on agriculture-based livelihood opportunities that are heavily exposed to climate shocks, high food prices and low market prices of agricultural commodities, in particular, rice.

4.3. Access to basic services:

4.3.1. Human capital:

The majority of household heads (52%) are not able to read and write, with 38% never attending schools and 49% not completing the primary education cycle. There is a very large gender gap as only 5 out of 33 women head of household, or 15% are literate. However, the

situation improves, considering that children are now attending school regularly, and 79% of households have at least one member that completed the primary education cycle. Overall, 58% of the households have a family member of working age that completed the primary education cycle. This is very important as a household with higher literacy has higher possibility to diversify livelihood sources and is less prone to food insecurity.

The findings of the baseline survey are well in line with the results of the study "Vulnerability in Myanmar" published by the Myanmar Information Management Unit (MIMU) and the findings of the 2014 population census indicating that 35.7% of the population of Maungdaw (91,419 persons) have no formal education.

4.3.2. Social capital

The survey allowed to assess the prevailing types of social networks and social assets available to the household with a focus on agricultural production (see Table 2 below). Due to the impact of conflict, displacement and insecurity social network have been heavily disrupted. There is now distrust and lack of confidence that restrain contact between communities. Movements are restricted; hence social networking and interactions tend to remain within the enlarged family, local village tracks and the ethnic groups represented in the area. Some 23 per cent of respondents relied on association while 86 per cent depended on relatives, friends, or family members. Only 10 per cent on both type of networks to sustain the household.

Township	Buthidaung	Maungdaw	Total
Household relying on association	44	27	71
%	19%	35%	23%
Household relying on Relative on Friends or members	196	66	262
%	86%	86%	86%
Household relying on both Association and Relatives/Friends/Family	13	16	29
%	6%	21%	10%

Table 2: Type of Networks that households members can reply for social capital

4.3.3. Natural capital

Rakhine is situated on the western coast of Myanmar, bordered by Chin State to the north, Magway Region, Bago Region and Ayeyarwady Region to the east, the Bay of Bengal to the west, and the Chittagong Division of Bangladesh to the northwest. It is separated by the rest of Myanmar by a chain of mountains. The climate is characterized by a hefty rainfall (up 5 meters) from June to the end of October followed by a long dry season (November to May). Soil is predominately poor-quality acid clay soils.

Due to the current unrest and insecurity movements between village tracks are limited hence access to land, even if owned by household, is restricted. The same situation applies for access to rivers or ponds or forests if outside a village track or shared between village tracks.

4.3.4. Physical capital

Physical assets are the main element of livelihood, which facilitate the better living standard, economic growth and assure the money. The respondents confirmed having productive and non-productive assets. 85% of respondents have mobile phones, and 60% have agricultural tools such as Machetes.
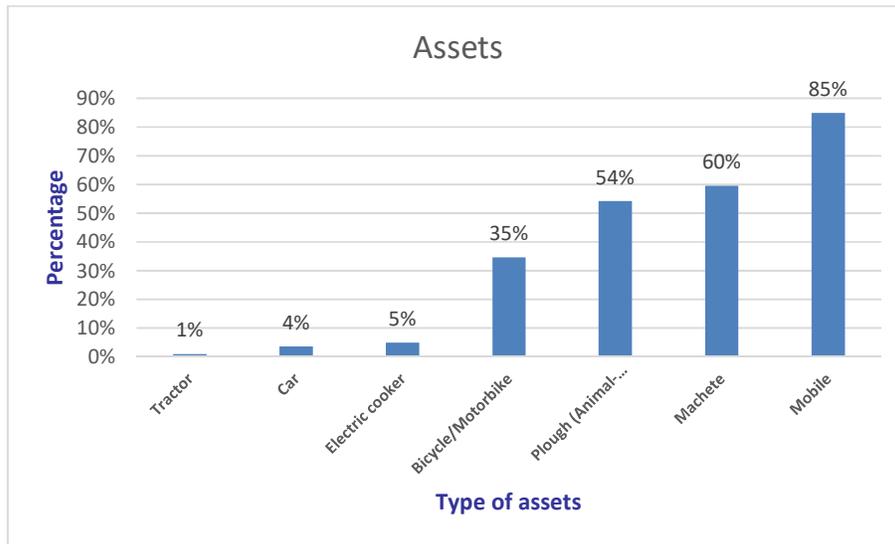
Figure 2: Assets types

Livestock remains an essential component of local livelihoods and coping capacity. 83% of respondent own poultry (on average of 7 chickens), and 56% have cows/calves/buffalo (on average 3 Cows/calves/buffalos) used mainly as draught animals. Goat raising is only 34% (on average 3 goats) of households declared to have goats.
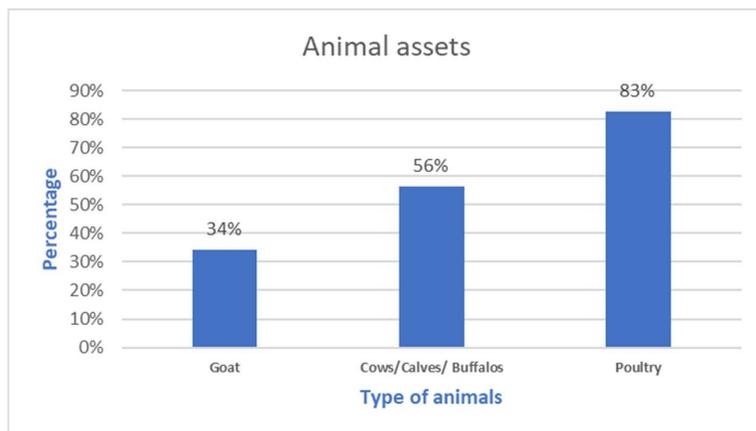
Figure 3: Animal assets

Agricultural inputs were in general available and even if fertilizer is not easy to find in the market and is considered expensive, 94 % of respondent apply fertilizer most probably in relatively small quantities, and only 2% could not afford to procure agricultural inputs.
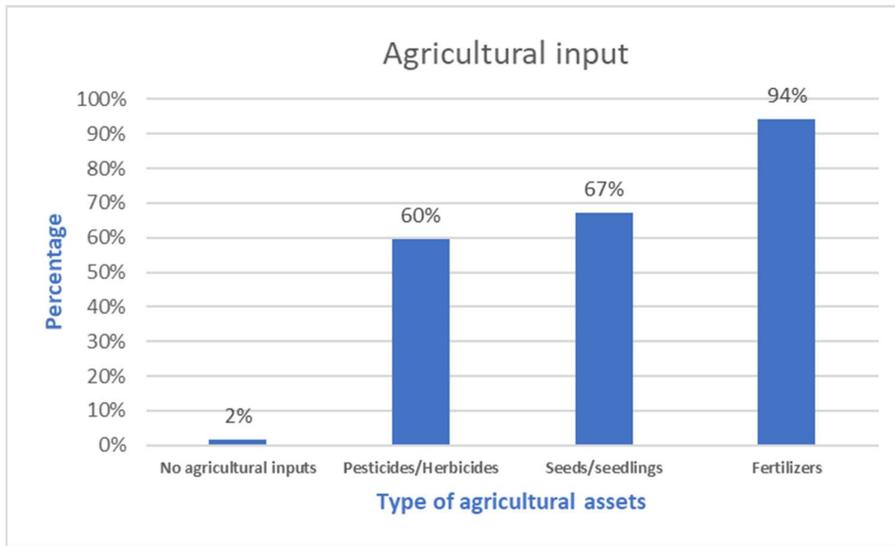
Figure 4: Agricultural inputs

Land ownership corresponds to the targeting criteria with approximately 94% of respondent cultivating less than 5 acres of land
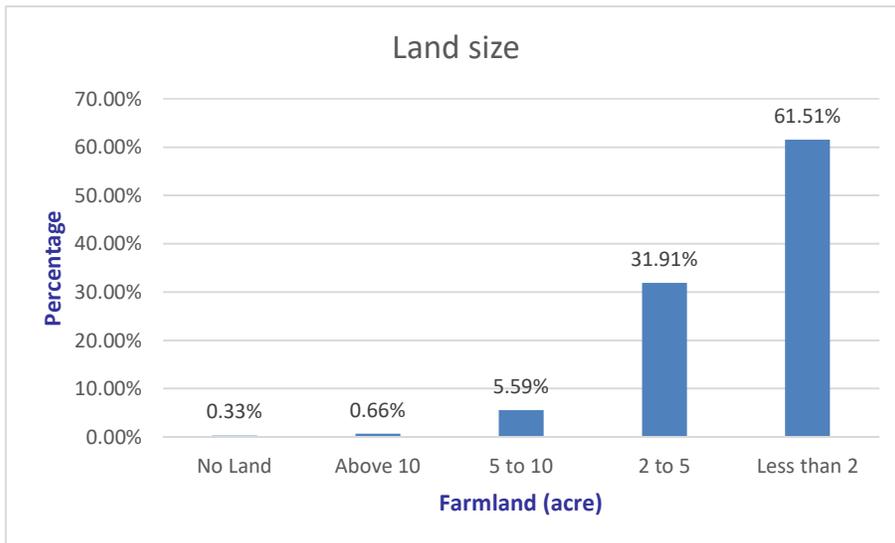
Figure 5: Land size

.

4.3.5. Financial capital:

Approximately, 95% of households were able to generate income through farming, livestock raising and fishing. Moreover, 64 % received transfers and social assistance.
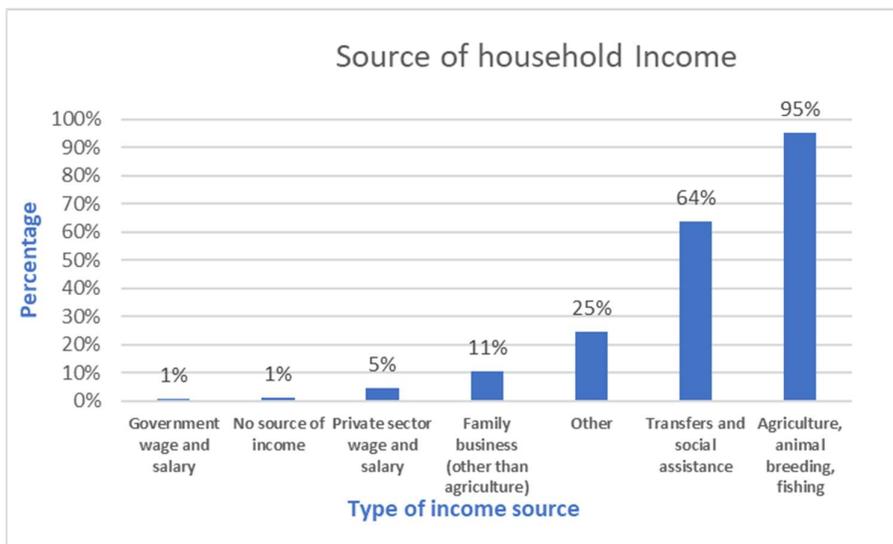
Figure 6: Source of household income

Overall, 92.11 per cent of the respondents reported farming activities as the primary income source, and 18.75 per cent of respondents described that livestock is the second main income source.
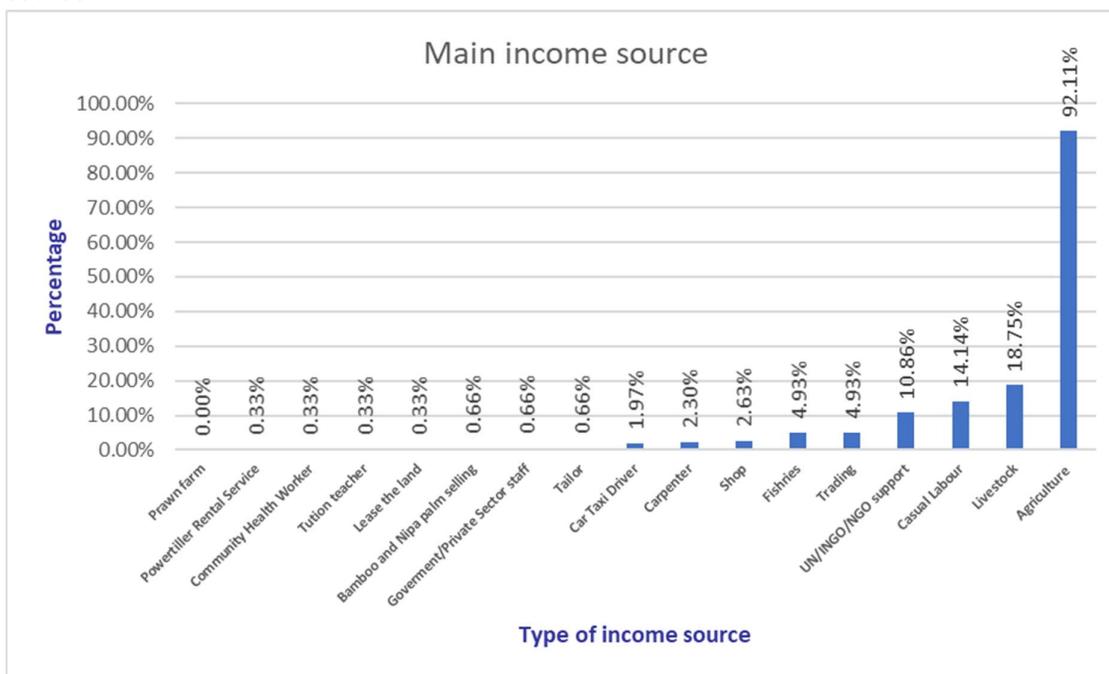
Figure 7: Main income source

Access to credit, monetary transfers and government transfers is largely variable depending on location and ethnic group. Overall, access to financial services is low and somewhat informal. However, the government's social safety net does facilitate some transfers to the most vulnerable households, i.e., mother and child cash grants. Humanitarian assistance needs to be mentioned.

4.3.6. Access to basic services

The survey results indicated that access to basic services is reasonable. On average, 58% of respondents have access to drinking water at home, 72% to toilet facilities and 58% to electricity. The distance to the drinking water source is on average 0.37 mile, while the distance to the school is 0.62 mile, (Maximum length is 7.5 mile). Distance to the clinic is 2.8 miles (maximum is 10 miles). Distance to agricultural and livestock market is 3.4 miles, with a maximum of 14 miles. The average distance to the public transport is approximately 0.7 miles. However, there are still a substantial number of households having difficulties in accessing basic services due to distance and constraints in moving.

4.4. Shocks and Coping strategies

4.4.1 Relevant shocks reported by the household, as well as coping strategies to respond to, and overcome, reported shocks.
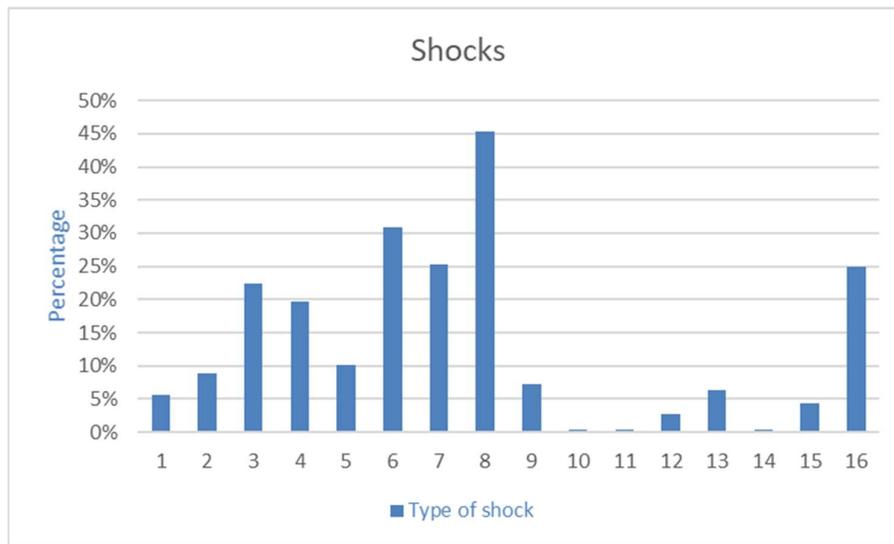
Figure 8: Shocks

1.Drought 2.Floods 3.Water shortage 4.High level of crop pests & disease 5.High level of livestock disease 6.High costs of agricultural inputs 7.Low prices of agricultural output 8.High prices of food 9.Serious illness of accident of income earner(s) 10.Death of other household members 11.Theft of money/valuables/non-agricultural assets 12.Theft of agricultural assets/output (crop or livestock) 13.Conflict/Violence 14.Fire 15.Other (specify) 16.No shock

On a twelve-month recall basis, interviewed households have been affected mainly by economic shocks such as high food prices (45%), high costs of agricultural inputs (31%) and low prices of agricultural produce and commodities (25%). Respondents have also been affected by dry spells and water scarcity (22%) and plant and pest disease (20%). 25% of respondents did not declare any negative impact or shocks in the last year.

As mentioned above, the conflict module was not administered as such, as the questions were considered very sensitive, and beneficiaries were very reluctant to answer them. However, it is to be noted that conflict as a shock was mentioned by 7% of the respondents.

4.5. Food security/Nutrition

4.5.1. Food Consumption Score (FCS)

Overall, 59% of the household interviewed reported acceptable consumption patterns, while 40% have a borderline consumption. Female-headed households have a slightly better consumption pattern in relation to male-headed households, with 67% declaring an acceptable consumption against the 58% reported by men headed households. Household food consumption is, however, dependent on humanitarian assistance and other social safety net transfers (96% of respondents) and loans (67% of respondents). Moreover, the average percentage of the income used to buy food is 67%, with 76% of respondents declaring to use more than 50% of their income to purchase food. Figures indicate that households spend a more substantial component of their incomes on food and food items to maintain acceptable consumption level. The findings reflect the actual situation of the Rakhine State.

Myanmar FCS	Profiles	No	%
0 - 24.5	Poor Food consumption	2	0.66%
24.5 - 38.5	Borderline Food consumption	122	40.13%
>38.5	Acceptable food consumption	180	59.21%

Table 3: Food Consumption Score

4.5.2. Household Dietary Diversity Score (HDDS)

Cereals, vegetables and oil complemented by meat/fish, pulses and sugars are the most frequently consumed food with the majority of the households reporting a regular consumption of these items. Hence, household dietary diversity is adequate, with only 10% of respondents consuming less than five food groups. It is to be noted that the majority of the respondent declared a shallow consumption of milk and dairy products and fruits. The average Household Dietary Diversity Score (HDDS), i.e., the number of food groups consumed, is 6.1, with women-headed households reporting a slightly higher score (6.18) compared to men headed households (6.11). As for the FCS, data year reflect the real situation of the Rakhine State.
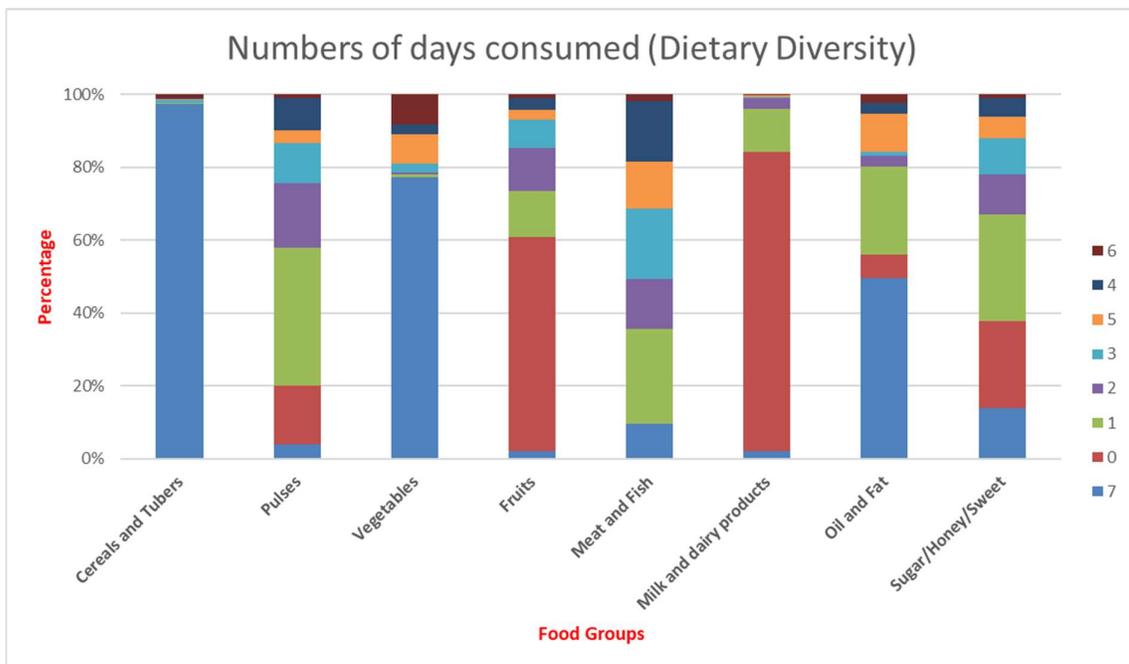
Figure 9: Dietary Diversity

4.5.3. Coping Strategy Index (CSI)/ Reduced Coping Strategy Index (rCSI)

Consistent with the pattern of food consumption is the use of food coping strategies with the majority of respondents declaring no or low levels of coping strategies applied, while 27% are indicating the highest level of coping. Average CSI index of all respondents is 7.36, while average CSI index for female-headed households indicates high coping range (10.9) and male-headed households applied medium coping range (6.9). This clearly shows the effort made by women-headed households to maintain an adequate level of food consumption of the household
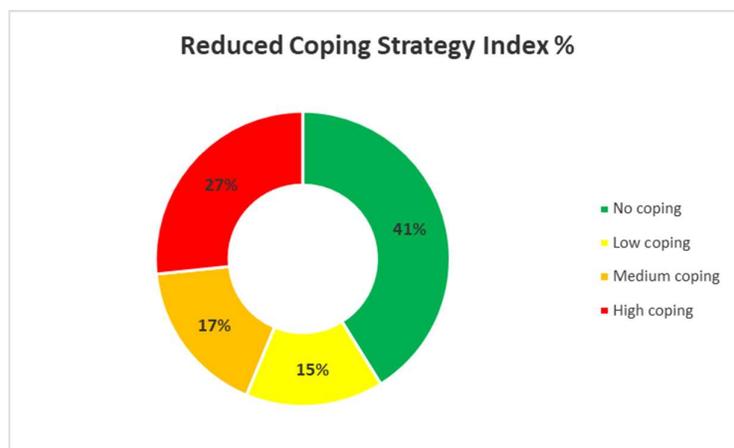
Figure 10: Reduced Coping Strategy Index

4.6. Resilience

4.6.1. Resilience Capacity Index

The Resilience Capacity Index (RCI) measures household capacity to cope and deal with stresses and shocks, preventing it from having long-lasting harmful effects. The index is based on four

pillars: 1) Access to basic Services (ABS); 2) Assets (AST); 3) Social Safety Nets (SSN) and 4) Adaptive Capacity (AC).

- ABS - Access to Basic Services shows the ability of a household to meet basic needs, and access/effective use of basic services; e.g., access to schools, health facilities; infrastructures and markets.

- AST - Assets comprise both productive and non-productive assets. Examples of indicators include land, livestock and durables. Other tangible assets such as house, vehicle, and household amenities reflect the living standards and wealth of a household.

- SSN - The Social Safety Nets pillar measures the ability of households to access assistance provided by international agencies, charities, and NGOs, as well as help from relatives and friends.

- AC - Adaptive Capacity is the ability of a household to adapt to a new situation and develop new livelihood strategies

Food security indicators are used as outcomes of the resilience index.

The analysis will elaborate on the overall levels of resilience of households targeted by the intervention in the Rakhine context identifying the main factors contributing to resilience and differences of importance, strength and weaknesses of each pillar.

Overall, the RCI shows that on average resilience index is just above 50. Access to basic services and infrastructure, access to financial services and investment, as well as access to land and income diversity, and livestock ownership seem to make the most significant difference in household resilience.

While the RCI is not significantly different in Buthidaung and Maungdaw, RCI of female-headed household is considerably below the rest of the group. Moreover, female-headed households are at a disadvantage in access to essential social services, assets and adaptive capacities. It is worth to note that female-headed households fare better than men in terms of social safety nets that may refer to women stronger social networking abilities as well as priority access to humanitarian assistance.
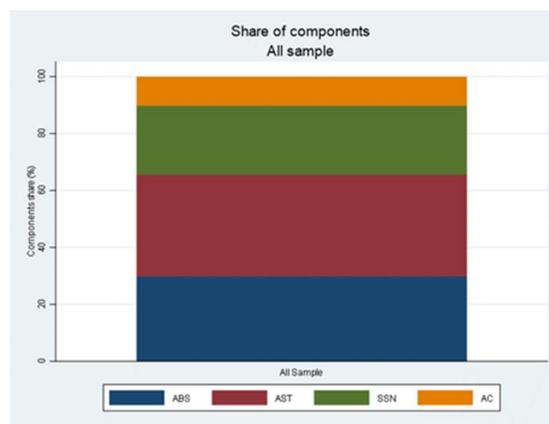
Figure 11: Resilience Coping Index

A closer look at the RCI by livelihood type shows that households with additional financial income source (AG& small business and non-agricultural livelihoods) seem to do significantly better on all pillars and the overall RCI, as compared to households relying only on agriculture. Additionally, the more diversified livelihood of Agro Pastoral demonstrates a good level

similarly in at least the assets and adaptive capacity pillars. As expected, the less resilient livelihood group is represented by household depending on subsistence farming and casual labour.
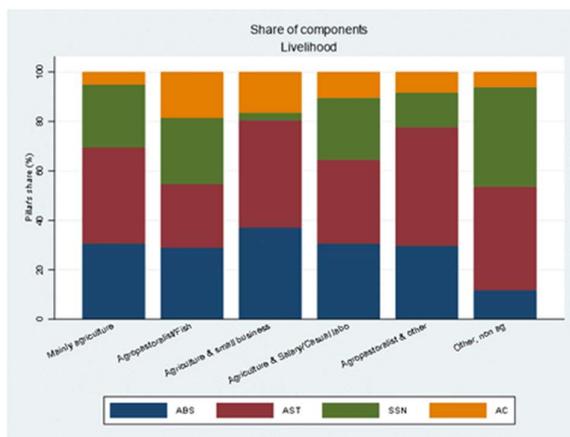
Figure 12: RIMA components by livelihood types

1-Mainly Agriculture, 2- Agro-pastoralist/Fish (Agriculture, fisheries, livestock and forest product), 3- Agriculture & small business (Agriculture and Tok Tok driver, trading, pharmacy, tailor, tuition teacher, bamboo trading, shop), 4- Agriculture & Casual labour (Agriculture and staff salary, construction worker), 5- Agro pastoralist & other (Agriculture, livestock and betel leaves plantation, carpenter, nipa palm and bamboo), Non-Agriculture (Tok Tok driver, trading, shop-keeper)

Overall, the results from the RCI analyses by livelihood and gender confirm the suggested program approach of focus on women-headed households and small-scale farmers, promoting income and crop diversification, access to financial services and the promotion of knowledge and skills for improved practices and decision making at the household level.

4.6.2. Contribution of different pillars

A detailed analysis of the contribution of each pillar to the household resilience is instrumental to understand which component is providing the most significant contribution to overall household and livelihood resilience and food security and which component should be strengthened in priority.

The analysis of the data for **Access to Basic Services pillar** indicates a positive correlation between resilience and access to basic services such as water both for productive use (irrigation and livestock) and for human consumption as well as electricity in the house. In general, all household are in proximity to basic services such as water, primary schools, health services and livestock market. However, access to safe drinking water, sanitation facilities and electricity is more problematic in particular for female-headed households. There is, therefore, a need for the project team to make further analysis and identify possible structural or administrative constraints that could be at least partially influenced and removed by the intervention. It will also be essential to create synergies and complementarities with the organizations working on the improvement of access to safe water, sanitation and education.
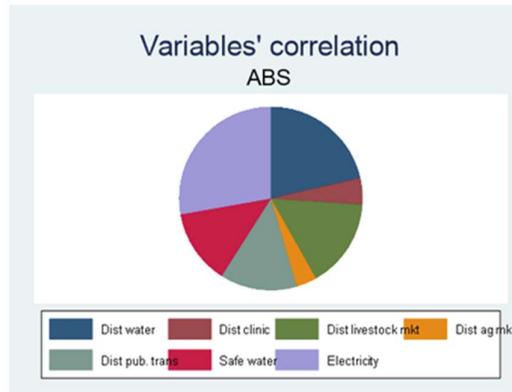
Figure 13: Access to Basic Services components

The most important component of the RCI is represented by the possibility to access productive and non-productive assets that play a critical role in ensuring resilience.

A strong correlation is found between resilience and the land size owned by a household, also reinforced by the possession of livestock. The review of the **Asset pillar** reveals that women-headed households are generally on the lower end of each of the subcomponent, leaving room for improvement and confirming the focus on women-headed households by project activities. Additionally, households in Maungdaw are facing severe constraints concerning land ownership and livestock. This situation might require adjustments to how activities can be implemented to support low resilience household unable to access productive land. Restocking, provision of animal feed and veterinary services, training in improved animal husbandry techniques indeed remains very relevant.
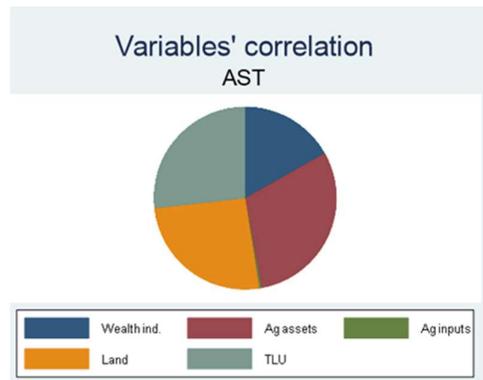
Figure 14: Assets Ownerships

The **Social Safety Nets pillar** demonstrates that female-headed households are slightly marginalized compared to other male-headed households. However, their access to food assistance programs seems to be marginally better, confirming a recognized higher vulnerability and need in these households by other actors too. Additionally, access to loans demonstrates that Rakhine households have much better access to financial services and government loans is as compared to other ethnic groups. This finding would support an approach to facilitating access to formal and informal financial services for all households, including saving groups, cash transfers, and formal microfinance of bank services.
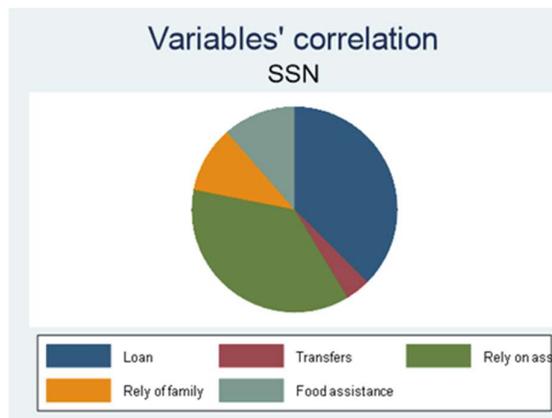
Figure 15: Social Safety Net components

Lastly, the **Adaptive Capacity pillar** again supports a program approach targeted at female-headed households and women level. Additionally, households in Buthidaung have lower crop and income diversity from their Maungdaw counterparts, and this could be further elaborated and addressed through project activities.
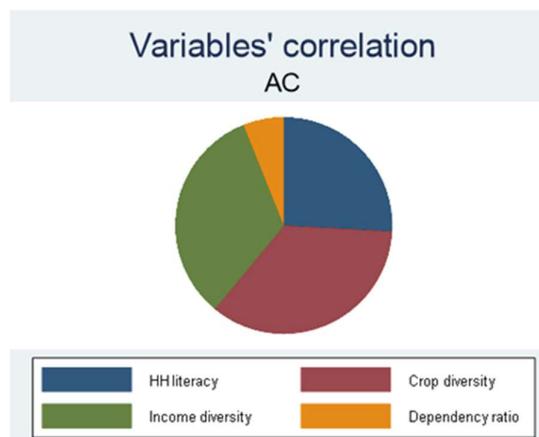
Figure 16: Adaptive Capacity components

Addressing these various identified shortcomings under each of the pillars will support and reinforce household resilience-building accordingly.

4.7. Baseline findings related to specific indicators of the logical framework
Lesson learned from the baseline process

Interventions should be conflict-sensitive and adaptive to access and contextual changes with the flexibility to change between emergency and resilience programming. The learning agenda should include conflict sensitivity monitoring, access modalities in insecure contexts and more broadly, adaptive programming mechanisms.

Within the Myanmar context, resilience programming needs to consider the right balance between the humanitarian type of support and capacity building of all parties to improve service delivery (small scale rural infrastructure, livestock support aquaculture, social protection, early warning early action).

19

Key Finding 1: Despite the same resilience profile, differences are found in the critical services between Buthidaung and Maungdaw townships?

Maungdaw households show difficulties in accessing basic services due to distance and constraints in moving. Administrative constraints are the main challenges.

Recommendation: resilience-building activities should be focusing on giving equal access to basic services, and on creating synergies and complementarities and partnership with organizations working on the improvement of access to safe water, sanitation and education allowing for substantial renovation, investment. Involvement of local authorities is crucial to improve access to basic services and financial services for all communities and households.

Key Finding 2: Female-headed households are found to have lower resilience capacity than male-headed households in both Buthidaung and Maungdaw townships.

Female-headed households are at a disadvantage in access to basic social services, assets and adaptive capacities; this is clear evidence of the effort made to maintain an adequate level of food consumption of the household. They rely mostly on social safety nets, given the priority access to humanitarian assistance.

Recommendation: Resilience-building activities in these areas should target women. Capacity-building activities are particularly important and should focus on skills for generating income, finding employment and establishing businesses. Partnerships with women-oriented actors such as UNWOMEN can be explored

Key Finding 3: The large households, coupled with a high dependency ratio, may put pressure on food security.

More broadly, individuals of working age represent only 36% of the beneficiary population.

Recommendation: Considering the composition of the household, resilience-building activities in these areas should target youth, including young women. Capacity-building activities are particularly important and should focus on skills for generating income, finding employment and establishing businesses.

Key Finding 4: Households relying mostly on agricultural production as the main source of income are less resilient.

The most important component of the RCI is represented by the possibility to access productive and non-productive assets, both playing a critical role in ensuring resilience. Households in Maungdaw are facing severe constraints to land ownership and livestock.

Recommendation: Resilience-building activities in these might require adjustments to how activities can be implemented to support access to productive land. Restocking, provision of animal feed and veterinary services, and training in improved animal husbandry techniques remain very relevant

*Key finding 5: Disparities in access to financial services.*

Rakhine households have much better access to financial services and government loans as compared to other ethnic groups.

Recommendations: Support and approach systems to facilitate access to formal and informal financial services for all households through saving groups, cash transfers, and formal microfinance of bank services.

4.8 Discussion of learning agenda questions

The learning relates to the exploration of appropriate modalities for remote management. Given the complexity of the operating context, learning agenda has focused more on the operational aspects rather than on technical ones. The attention was placed on "how" rather than on "what", for the principle of "stay and deliver".

The local subcontracting organizations, which have access to the areas restricted to international organizations, entail the following advantages and risks:

a)   Ability to have a dialogue with all parties; and build acceptance of external intervention.

b)   Empower the local organizations having a strong presence on the ground, working on building their technical capacity and understanding, and applying a conflict-sensitive programming approach.

c)   The partial risk of reduced quality control and accountability being mitigated through hiring/secondment of FAO staff for monitoring and technical oversight within the IP.[5]

Within this context, resilience programming needs to consider the right balance between:

(i)   the humanitarian type of support for the affected communities and the capacity building of all parties to improve service delivery (small scale rural infrastructure, aquaculture, social protection, early warning early action),

(ii)   the engagement at national level on broader advocacy/policy issues so that the structural problems (equal access to services/natural resources/jobs) can be addressed over time.

5. Conclusion

- Program target and activity focus (crop production with livelihood diversification) seem to be relevant within the scope of the resilience analysis. It remains to be established if the Theory of Change will hold, given the volatile context and fluid change in the implementation environment.

- Operationalization within this high insecurity context needs to be on the learning agenda to ensure improved ways of working, access to communities and quality control.

---

[5]

        Through various monitoring tools, including the baseline / endline, village profiling, beneficiary profiling, Attitudes and Practice Survey (KAP) and the RIMA resilience measurement index will help to assess the implementing partner. Particularly, this last one (RIMA) data collection, will bring randomly 300 head of households (in the course of August 2019) in the township cities for the RIMA survey conducted by two FAO M&E experts. this will give occasion to FAO staff to directly verify if the proposed beneficiary comply with the beneficiary criteria.

- Involvement of local authorities is crucial to improve access to basic services and financial services for all communities and households.

- The ability to access communities and collect data freely will likely continue to be limited. Hence the ability to merge data collection from different project and access communities for data exercises needs to be taken when opportunities arise. Careful planning combined with the spontaneity of data collection needs to exercise, to complement the relevant data necessary to monitoring and following project implementation.
- A creative mechanism for beneficiary feedback mechanisms should be developed to entourage participating communities and households to report and voice concerns or feedback to MHDO and FAO.

Key recommendations/actions to be taken following the baseline.

To strengthen the resilience of the vulnerable household, the project needs to coordinate with partners -in charge to improve access to basic services of within same communities, sanitation, and education allowing for substantial renovation, investment.

Ways of women and youth empowerment through capacity building focused on improving skills to generate income need to be considered including in partnership of other organization working in the same area.

Improving access to productive combined with animal income diversification including Restocking, provision of animal feed and veterinary services, and training in improved animal husbandry techniques remain very relevant in the context of resilience building.

Different types of supports need to be envisaged, especially those related to improving access to formal and informal financial services for all households through saving groups, cash transfers, and formal microfinance of bank services. Most feasible action need to be considered to take into account the problematic context in which the project is being implemented.

ANNEXES

1. Logical Framework Matrix
2. Baseline questionnaire
3. Output tables
4. Conflict Sensitivity Programme Clinic

Annex(1). Project Logical Framework

Progress towards targets

Results chain	Indicators	Baseline	Progress to date	Percentage achieved against target for the reporting period	End target (expected value at project completion)
Impact: Enhancement of food and nutrition security and resilience to socio-economic shocks and natural disasters in Rakhine State.	Change in Household Resilience[6]	(RIMA baseline exercise)	December, 2019		100%
Project Outcome: Agriculture livelihoods of vulnerable communities in Maungdaw, Sittwe and Marauk U districts are restored and protected	Coping Strategy Index (CSI) Food consumption Score (FCS) Household Dietary Diversity (HDDS)	High Coping :27% No Coping : 41% Poor FCS : 0.66% Border Line FCS: 40.13% Acceptable FCS: 59% Average HDDS : 9.7 (it was calculated by 7days recall)	December, 2019		100% of target
Output (1): Improved household food production and livelihoods diversification.	Change in diversity of crops and livestock produced by female/male headed households	*[7]	December, 2019		100%
Act 1.1: Community consultation and planning to tailor agriculture production and livelihoods activities for different target areas and beneficiaries	Number of community agriculture action plans completed.	0	December, 2019 118 communities were consulted in four Townships[8]	100 % of target for 2019	100% of the target
Act 1.2: Provision of inputs and training to farmers for nutrition sensitive	Number of women and men trained and provided agriculture inputs		December, 2019 - 6,000 households received agriculture inputs[9].913 female and 5017	100% for 2019	

---

[6] This is a composite indicator whose sub-components will be identified during the inception phase and refined based on the baseline findings

[7] Will be known when the PDM analysis is completed (end of January 2020)

[8] For availability and security reason, the community action plan was not carried out as such but a lighter approach was used (potential beneficiary profiling data collection was carried out)

[9] 148 key farmers receive the ToT training, 26 farmer from Rathedaung still need to receive ToT training. 50 % of total 4,500 beneficiaries receive the village level agricultural training. Due to the recent conflict, the village level training were postpone for a

			male farmers received agriculture inputs and involved in awareness raising 261 key farmers received GAP and nutrition sensitive trainings. 98% of distributed paddy and 92% of distributed vegetables are planted (PDM findings)		
Act 1.3: Reinforce livestock production and productivity through integrated livestock interventions	Number of male and female Community Animal Health Workers (CAHWs) trained and provided with animal health care kits Number of households provided with animal feed during the critical period	0 CAHWs trained and received kits 0 households	Will be carried out in Feb. 2020 – (30 CAHWs planned under this activity) 20 received CAHW training. The remaining 10 person will received the training after Covid-19 epidemic Will be carried out in April 2020 (700 HH planned) Max 150 villages can covered (1 CAHW can cover 3~5 villages)	67% (20 people out of targeted 30 people)	
Act 1.4: Promotion of riverine and inland small-scale integrated aquaculture schemes.	Number of women and men trained and provided aquaculture inputs	0 fish ponds constructed and renovated in XX townships. 0 aqua farmers received aquaculture inputs and involved in training (ongoing plan)	200 fish ponds will be constructed and renovated in two townships. 200 aqua farmers will receive aquaculture inputs and received training (ongoing plan) Ongoing for 200 ponds	Aquaculture assessment has been done. 200 (new and old) pond are planned to select according to the relevant criteria)	
Output (2): Increased household income through the rehabilitation and construction of small-scale multi-purpose infrastructures, and	Change in total income and income diversity pattern of male/female headed households.	0%	*[10]		100% of target

---

[10] Will be known when the PDM analysis is completed (end of January 2020)

strengthening agriculture value chain systems					
Act 2.1: Consult communities and conduct analysis on vulnerabilities to natural hazards and potentials for DRR infrastructures and agriculture value chain strengthening	Number of community action plans completed	*xx of action plans*	Will start in March 2020	0%	100% of target
Act 2.2: Provision of inputs and trainings for improved harvest, post-harvest management and market activities.	Number of women and men provided with mechanization, processing and marketing tools Number of female and male farmers trained	0 village mechanization committees provided with mechanization processing and 0 people trained on management, repair and maintenance of mechanization equipment 0 beneficiaries benefited from the agro processing equipment	37 village mechanization committees were provided with mechanization processing and 74 people were trained on management, repair and maintenance of mechanization equipment Approximately 660 beneficiaries benefited through 16 power tillers, 20 threshers and 1 combine harvester.	50% of target for 2019. Project is planning to distribute 54 power tiller in upcoming Monsoon season	100% of target
Act 2.3: Construction and/or rehabilitation of multi-purpose infrastructures	Number of infrastructures created and functioning	0 infrastructure rehabilitated	Rehabilitation work identified (6 infrastructures in 4 Townships) will start in Feb. 2020 (LoA with partners being finalized)	15% Project signed LoA with IPs. As per Covid-19 Pandemic, project work are postponed.	100% of target
Output (3): Contribute to improving access and consumption of nutritious foods	Minimum Dietary Diversity for Women (MDD-W)	xx% of MDDW *[11]	Xx % of MDDW	100% of target	100% of target
Act 3.1: Community consultation on nutrition gaps and awareness training/workshops on food-based nutrition good practices	Number of women and men involved in training/workshop	0% of 6000 HH involved in training/workshop (detail figures has not received from the IP)	93% of 6000 HH involved in training/workshop (detail figures has not received from the IP)	100% of target	100% of target

---

[11] Will be known when the PDM analysis is completed (end of January 2020)

Act 3.2: Promotion of integrated home gardening for production and consumption of nutritious food	Number of women trained on vegetable production Number of home gardens established	0% of total 6000 beneficiaries trained and their home gardens planned to established	93% of total 6000 beneficiaries trained and their home gardens planned to established (second refresher training will be held in 2020)	50% of target 50% of target	
Act 3.3: Implementation of shock–responsive Mother and Child Cash Transfer (MCCT) in target areas for disaster response	Number of women receiving cash emergency transfer Total amount of cash dispersed State level technical meetings and capacity building workshops	0 of women received cash 0 USD/MMK transferred 0 State level technical meeting, 0 consultation meeting with Stake holders and institutions 0 Capacity building training	xxx of women received cash xxx USD/MMK transferred 2 State level technical meeting, 2 consultation meeting with Stake holders and institutions 1 Capacity building training	0 % 1 State level Technical meeting on the development of monitoring indicators and triggers has been conducted	
Output (4): Timeliness and quality of food security information improved through rigorous analysis and dissemination for improved timely decision-making and activation of response mechanisms.	Improved food security information index[12]			0	
Act 4.1: Strengthen capacity of implementing partners (NGOs and MOALI) to contribute to and apply food security, disaster risk and resilience analysis.	Number of women and men trained	0 State level workshop for food security information and Early warning system 0 training for food security and disaster risk analysis	xx State level workshop for food security information and Early warning system xx training for food security and disaster risk analysis	0%	100%
Act 4.2: Support timely and regular pre- and post-harvest food security analysis and agriculture seasonal forecasting in the target areas.	Number of rounds of food security and agriculture seasonal forecast analysis	0 food security and agriculture seasonal forecast analysis 0 agriculture seasonal risk and forecast bulletins issued, incl. recommendations for adaptive agriculture practices and disaster preparedness actions	xx food security and agriculture seasonal forecast analysis	0% 0%	4 4

---

[12] The food security information index will be a basic score based on a number of priority criteria, e.g. information timeliness, regularity, completeness, in formativeness, decision making support use, and information resulting in action.

	Number of agriculture seasonal risk and forecast bulletins issued, incl. recommendations for adaptive agriculture practices and disaster preparedness actions		xx agriculture seasonal risk and forecast bulletins issued, incl. recommendations for adaptive agriculture practices and disaster preparedness actions State level technical working for EWEA stock taking Consultation workshop for development of focus based local EWEA guidelines		
Act 4.3: Support the communication and dissemination of recommendations of agriculture seasonal risk and forecast bulletins, from state to all levels, including farmers in the target areas.	Number of female and male farmers receiving forecast bulletins and seasonal recommendations	*At least # of HH benefiting under Output 1 and 2* Pamphlet and bulletin preparation for Early warning system products Distribute FIEWS products to the community (states/townships/village tracts and villages)through government departments	Will be implemented in 2020	0%	100% of target
Act 4.4[13]: Support the implementation of bi-annual state level IPC analysis exercises and vulnerability mapping, dissemination and formulation of analysis results and disaster response recommendations for informed decision-making and resource allocation.	Number of women and men trained on the IPC analysis framework Number of partners participating in IPC consensus workshops Number of IPC Analysis summary reports and maps released				
Act 4.5: Support township and village track level authorities in the use and integration of food security and resilience	Number of TS and VT disaster contingency plans with mechanisms for response (stockpile, SOP, etc.) by the	0 Township level contingency planning exercise in 4 selected townships (Planning to go village tract level)	Will be implemented in 2020	0%	100% of target

---

[13] Given the complexity and sensitivity of food security data collection, this activity activities have been canceled

	agriculture sector developed				
information and analysis, for disaster preparedness and contingency planning.					

Annex(2) RIMA questions

PDF has been attached.

Annex(3) Output tables

	Buthidaung				Maungdaw				
	Mean	SD	Min	Max	Mean	SD	Min	Max	Difference
Proximity to water source	0.0188	0.0835	0.00038	1	0.0238	0.1152	0	1	*
Proxomity to primary school	0.0230	0.0812	0	1	0.0259	0.0642	0.00015	0.333233	
Proximity to clinic	0.0105	0.0672	0	1	0.0164	0.1136	0.0001	1	
Proximity to livestock market	0.0058	0.0664	0	1	0.0007	0.0021	5.36E-05	0.013263	
Proximity to agricultural market	0.1663	0.1739	0	1	0.1901	0.1592	0.020576	1	**
Proximity to public transportation	0.0241	0.1176	0	1	0.0047	0.0127	5.72E-05	0.099871	**
Access to safe water	59.9%	0.4912	0	1	50.6%	0.5032	0	1	
Access to improved toilet facility	71.8%	0.4509	0	1	72.7%	0.4483	0	1	
Electricity in the house	57.7%	0.4951	0	1	57.1%	0.4981	0	1	

Table 4: Assets to basic service by townships

	Buthidaung								
	Male HH				Female HH				
	Mean	SD	Min	Max	Mean	SD	Min	Max	Difference
Proximity to water source	0.0202	0.0884	0.00038	1	0.0087	0.0197	0.00098	0.099982	
Proxomity to primary school	0.0196	0.0513	0	0.299895	0.0494	0.1942	0.00285	1	
Proximity to clinic	0.0110	0.0711	0	1	0.0068	0.0172	0.000529	0.08918	
Proximity to livestock market	0.0064	0.0706	0	1	0.0018	0.0027	7.14E-05	0.009929	**
Proximity to agricultural market	0.1681	0.1809	0	1	0.1529	0.1073	0.027778	0.481482	
Proximity to public transportation	0.0218	0.1039	0	1	0.0420	0.1954	5.72E-05	1	
Access to safe water	62.7%	0.4848	0	1	38.5%	0.4961	0	1	**
Access to improved toilet facility	73.6%	0.4417	0	1	57.7%	0.5038	0	1	*
Electricity in the house	57.7%	0.4953	0	1	57.7%	0.5038	0	1	

Table 5: Assets to basic service by gender

	Buthidaung				Maungdaw				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Wealth index	0.1728	0.1601	0	1	0.22	0.17	0	0.96	**
Ag assets index	0.3452	0.1578	0	1	0.27	0.13	0.17	0.66	***
Ag inputs index	0.6533	0.2681	0	1	0.65	0.24	0.24	1	
Land, Ha	2.4835	1.3475	0.1	7	2.21	1.40	0	6	
Tropical Livestock Unit	0.9840	0.8766	0	4.3	0.56	0.82	0	3.75	***

Table 6: Asset ownership by townships

	Buthidaung								Diff
	Male HH				Female HH				
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Wealth index	0.1795	0.1597	0	1	0.1212	0.1562	0	0.612228	*
Ag assets index	0.3500	0.1530	0	1	0.3081	0.1896	0.170557	0.970527	
Ag inputs index	0.6652	0.2621	0	1	0.5610	0.3003	0	1	*
Land, Ha	2.4863	1.3159	0.1	7	2.4615	1.5998	0.8	6	
Tropical Livestock Unit	1.0560	0.8765	0	4.3	0.4269	0.6601	0	2.46	***

Table 7: Asset ownerships by Male/Female head in Buthidaung

	Maungdaw								Diff
	Male HH				Female HH				
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Wealth index	0.2263	0.1680	0	0.955458	0.1258	0.1062	0	0.335095	
Ag assets index	0.2811	0.1328	0.170557	0.664574	0.2058	0.0934	0.170557	0.417565	
Ag inputs index	0.6719	0.2365	0.355468	1	0.4843	0.1490	0.241984	0.597452	**
Land, Ha	2.2314	1.3633	0	6	2.0000	1.8257	1	6	
Tropical Livestock Unit	0.6160	0.8400	0	3.75	0.0514	0.0754	0	0.2	*

Table 8: Asset ownerships by Male/Female head in Maungdaw

	Buthidaung				Maungdaw				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Amount of loan, usd	140.1222	185.9886	0	1300	196.6039	319.0932	0	1950	*
Formal transfers, usd	324.0737	436.7694	0	4986	337.5551	352.1832	0	2563	ns
Infomarl transfer, usd	2.0760	26.0075	0	390	5.2507	37.0992	0	325	ns
N. of association HH can rely	0.2247	0.5385	0	3	0.3896	0.7973	0	5	**
N. of family members HH can rely	2.3877	1.9116	0	10	1.9211	1.8957	0	10	*
Food aid, usd	25.3360	120.9798	0	1314	13.2026	49.1963	0	390	ns

Table 9: Social Safety Net by townships

	Buthidaung								
	Male HH				Female HH				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Amount of loan, usd	139.8632	192.6220	0	1300	142.1250	126.0114	0	390	ns
Formal transfers, usd	329.1910	444.7646	0	4986	284.5127	374.4004	0	1786	ns
Infomarl transfer, usd	2.3445	27.6349	0	390	0.0001	0.0004	0	0	ns
N. of association HH can rely	0.1990	0.5002	0	2	0.4231	0.7575	0	3	**
N. of family members HH can rely	2.4925	1.9548	0	10	1.5769	1.3015	0	4	**
Food aid, usd	23.0834	121.1785	0	1314	42.7500	120.3350	0	488	ns

Table 10: Social safety net by Male/Female head in Buthidaung

	Maungdaw								
	Male HH				Female HH				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Amount of loan, usd	211.3429	330.6719	0	1950	49.2144	66.2720	0	163	ns
Formal transfers, usd	348.1168	359.6483	0	2563	231.9387	263.2112	0	783	ns
Infomarl transfer, usd	5.7757	38.8960	0	325	0.0001	0.0002	0	0	ns
N. of association HH can rely	0.4143	0.8252	0	5	0.1429	0.3780	0	1	ns
N. of family members HH can rely	2.0145	1.9516	0	10	1.0000	0.8165	0	2	ns
Food aid, usd	14.5229	51.4427	0	390	0.0005	0.0012	0	0	ns

Table 11:Social safety net by Male/Female head in Maungdaw

	Buthidaung				Maungdaw				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
HH reads & writes	44.49%	0.4981	0	1	59.74%	0.4936	0	1	**
HH years of school	4.0264	4.0647	0	15	4.0909	3.5843	0	11	ns
Highest years in the house	6.7506	4.5743	0	41	6.2705	3.3874	0	11	ns
Higher level in working age	4.8559	3.1437	0	15	3.3837	2.8351	0	10	***
Crop diversity	1.7401	0.5224	0	4	2.0260	0.8268	0	5	***
N. of IGA	1.9339	0.7103	1	4	2.1818	0.8542	0	4	**
Percentge of working age members	38.99%	0.2799	0	1	29.28%	0.3010	0	1	**

Table 12: Adaptive Capacity by townships

	Buthidaung								
	Male HH				Female HH				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
HH reads & writes	47.76%	0.5007	0	1	19.23%	0.4019	0	1	***
HH years of school	4.3184	4.0839	0	15	1.7692	3.1535	0	11	***
Highest years in the house	6.9025	4.6016	0	41	5.5769	4.2589	0	13	ns
Higher level in working age	5.0298	3.1233	0	15	3.5115	3.0295	0	10	**
Crop diversity	1.7562	0.5052	1	4	1.6154	0.6373	0	3	ns
N. of IGA	1.9353	0.7217	1	4	1.9231	0.6276	1	3	ns
Percentge of working age members	37.14%	0.2679	0	1	53.37%	0.3311	0	1	***

Table 13:Adaptive Capacity by Male/Female head in Buthidaung

	Maungdaw								
	Male HH				Female HH				Diff
	Mean	SD	Min	Max	Mean	SD	Min	Max	
HH reads & writes	65.71%	0.4781	0	1	0.00%	0.0000	0	0	***
HH years of school	4.2571	3.6700	0	11	2.4286	2.0702	0	5	ns
Highest years in the house	6.3261	3.4604	0	11	5.7143	2.6904	3	10	ns
Higher level in working age	3.5364	2.8541	0	10	1.8571	2.2678	0	5	ns
Crop diversity	2.0286	0.7416	0	5	2.0000	1.5275	0	5	ns
N. of IGA	2.3000	0.7867	1	4	1.0000	0.5774	0	2	***
Percentge of working age members	29.68%	0.2983	0	1	25.24%	0.3495	0	1	ns

Table 14: Adaptive Capacity by Male/Female head in Maungdaw

Annex(4) Conflict Sensitivity Programme Clinic

PDF has been attached