

FOOD SECURITY IN DRY ZONE AREA:
A CASE OF MAGWAY, MYANMAR

Mr. Sai Hein

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บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
เป็นแฟ้มข้อมูลของนิสิตเจ้าของวิทยานิพนธ์ที่ส่งผ่านทางบัณฑิตวิทยาลัย

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ความมั่นคงทางอาหารในเขตพื้นที่แห้งแล้ง

ศึกษารณิมาถวย ประเทศพม่า

นาย ชาย ฮิน

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต

สาขาวิชา การพัฒนาระหว่างประเทศ

คณะรัฐศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2555

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

ชาย ฮิน: การศึกษาว่าด้วยความมั่นคงทางอาหารในเขตพื้นที่แห้งแล้ง ศึกษากรณีมาเกวย ประเทศพม่า
(FOOD SECURITY IN DRY ZONE AREA: A CASE OF MAGWAY,
MYANMAR) อ.ที่ปรึกษา: รศ.วีระ สมบูรณ์

การศึกษานี้เพื่อศึกษาความมั่นคงทางอาหารของ เมืองมาเกวย และเขตพื้นที่ใกล้เคียงที่แห้งแล้งของพม่า. เขตพื้นที่แห้งแล้งของพม่ามาจากภาคกลางของประเทศและประกอบด้วยส่วนภูมิภาคมาเกวย, มัณฑะเลย์และล่างสามของยะการ.

พื้นที่ศึกษานี้ได้รับผลกระทบของปีติดต่อกันจากภัยแห้งแล้ง. ปริมาณน้ำฝนที่ ไม่สม่ำเสมอ และ ไม่แน่นอนเกิดขึ้นอย่างต่อเนื่องในสววรรษที่ผ่านมาซึ่งนำไปสู่การขาดแคลนน้ำและภัยคุกคามอย่างต่อเนื่องเพื่อให้มีศักยภาพในการดำรงชีวิตในชนบท. พื้นที่แห้งแล้งจะรวมอยู่ในหนึ่งในพื้นที่ ที่ไม่มั่นคงทางอาหารมากที่สุดของพม่าและ หนึ่งในพื้นที่ ที่ไม่มั่นคงทางอาหารมากที่สุดในภูมิภาคเอเชียตะวันออกเฉียงใต้ เพราะผลผลิตต่ำทางการเกษตร.

การศึกษานี้เน้น มาเกวย และพื้นที่ใกล้เคียง. วิธีการวิจัยเชิงคุณภาพด้วยการสัมภาษณ์ในเชิงลึกกับชาวบ้าน. สังเกตและการสัมภาษณ์กับผู้ที่ได้รับการมีส่วนร่วมในโปรแกรมความมั่นคงทางอาหารถูกนำมาใช้ในการเก็บรวบรวมข้อมูล. การค้นพบนี้สอดคล้องกับการห้าพื้นที่ดำเนินการให้เห็นว่าไม่มีความรู้สึกของการมั่นคงทางอาหารในพื้นที่ที่ศึกษา. “การจัดการน้ำ”และ “เข้าถึงสินเชื่อ” เป็นปัจจัยที่สำคัญที่สุดที่มีอิทธิพลต่อความมั่นคงด้านอาหารของพื้นที่แห้งแล้งโดยทั่วไป. ยังคงมีจำนวนมากในสถานที่ที่ยังไม่ได้มีโปรแกรมช่วย. นอกจากนี้ การศึกษาต่อไปในเขตแห้งแล้งโดยรวมในอนาคตก็จะหนึ่งในประเด็นที่น่าสนใจ.

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Ph.D.

This paper is to study food security of Magway City and its nearby areas from Dry Zone of Myanmar. Dry Zone of Myanmar (Burma) is from very central part of the country and consists of three Regions -Magway, Mandalay and lower part of Sagaing.

The area was affected by a series of consecutive years of drought. Irregular and scarce rainfall happening continuously in last decade leads to extreme water shortages and it is under a constant threat to the viability of rural livelihoods. In general, dry zone area is included in one of the most food insecure areas of Myanmar and one of the most food insecure areas in the South East Asian region too, with the poor agricultural yields.

This paper emphasis is on Magway city and its nearby areas. Qualitative research method with in- depth interviews to the villagers, field observations, and interviews with people who have been participating in food security programme were used for the collection of data. The findings in accordance with the five programmatic action areas reveals that there is no strong sense of food security in the studied areas. The “water management” and “access to credit” areas of Dry Zone Action Plan are the most important factors influence the food security of the dry zone in general. There are a lot of locations which do not have aids programs too. It would be interesting to do further studies in the Dry Zone as a whole in the future.

Field of Study International Development Studies

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LIST OF ABBREVIATIONS

| | |
|-------|--|
| CESVI | Cooperazione e Sviluppo Onius |
| FAO | Food and Agriculture Organization |
| FSATG | Thematic Group on Food Security and Agriculture |
| GAA | German Agro Action |
| GRET | Groupe de Recherche et d'Echanges Technologiques |
| GDP | Gross Domestic Product |
| HTP | Htone Paut Taw Village |
| IFAD | International Fund for Agricultural Development |
| IMF | International Monetary Fund |
| IPNS | Integrated Plant Nutrient System |
| JICA | Japan International Cooperation Agency |
| LDC | Least Developed Country |
| MADB | Myanma Agricultural Development Bank |
| MAS | Ministry of Agriculture Service |
| MIMU | Myanmar Information Management Unit |
| MOAI | Ministry of Agriculture and Irrigation |
| MOFA | Ministry of Foreign Affairs |
| MOU | Memorandum of Understanding |
| MYK | Myanmar Kyats |
| NFMP | National Forest Master Plan |

| | |
|-------|--|
| NGO | Non Governmental Organization |
| NPAFN | National Plan of Action on Food and Nutrition |
| NTMPF | Government Draft National Medium Term Priority Framework |
| PC | Progetto Continenti |
| SALT | Sloping Agricultural Land Technology |
| SKG | San Kan Gyi Village |
| UNDP | United Nations Development Programme |
| VDC | Village Development Committee |
| WFP | World Food Programme |
| WFS | World Food Summit |

CURRENCY EQUIVALENTS (AS AT APRIL 2013)

1 US\$ = 850.00 MYK (TTB)

CHAPTER I

INTRODUCTION

The first Millennium development Goals is to eradicate extreme poverty and hunger (The United Nations [UN], 2010). In so doing, there must be food security in fighting against hunger. In general, according to Thompson's claim from his paper – Food Security and the Global context – presented at international conference on food security, East and Southeast Asia has reduced on poverty level and hunger time to time slowly in the last 20 years ending in 1997 (Thompson, 1999, p.4).

Runge, Senauer, Pardey, and Rosegrant (2003) stated that most significant periods of a decline in poverty and hunger in East and Southeast Asia were between 1969-71 and 1996-98 (p.19). It has further improved in 2005-2007 which would make the food security situation much closer to the target (UN, 2010). However whether Myanmar has performed as expected to fulfill the MDG goals is to be questioned due to the fact that there have been a lot of political instability within the country and there are regions where the humanitarian tasks have not been allowed to carry out their activities which includes giving aids to agricultural related projects as well as distribution of rice in some locations such as Kachin State and some areas where there are armed ethnic forced situated.

Moreover, there is one area in which even with the constant aids in the some places of that area, the situation is very worrying. It is the region of central dry zone in the middle of Myanmar. It has suffered by a series consecutive years of drought in recent years since 2008 (Groupe de Recherche et d'Echanges Technologiques [GRET], 2009; An Initiative of the Food Security and Agriculture Thematic Group [FSATG], 2010, p.3). There are only a few years left to achieve the agenda of MDGs by 2015 (with baseline from 1990) from now and still there are smallest farmers and landless poor from these kinds of rural areas in vulnerable situation with food insecurity.

This research paper presents the analysis of the general food security situation (and economic security) of the specific region of Magway Region on selective five

communities namely, (1) Nat-Kan Village and (2) Htone-Paut-Taw Village from Magway Township, (3) Ta-Loat-Pin Village and (4) Wa-Chan-Kar Village from Taung-Twin-Gyi Township, and (5) San-Kan-Gyi Village (which had the severe fire case recently in early 2012) from Yae-Nan-Chaung Township. Fire break out on 8th of March, 2012 which affected 330 persons from the 30% of the total households from the village, exactly affecting 69 households and 40 of them are landless families according to WFP data and San Kan Gyi village record.

All villages are from Magway District, Magway Region of Myanmar Dry Zone. The findings will be described in accordance with the Dry Zone Action plan, which is the platform of the main research.

1.1 Statement of the problem

Dry Zone of Myanmar (Burma) is from very central part of the country and consists of three Regions namely Magway Region, Mandalay Region and lower part of Sagaing Region (See figure 1) (FSATG, 2010, p.4). Dry Zone consists of hilly areas in the north and reaches to the central plains down to the south. It is a very vast semi-arid low land between two higher regions, the Shan plateau at the East, and the Rakhine Yoma (Mountain ranges) and Chin hills at the West (Nyunt, 2010, p.13).

The area was affected by a series of consecutive years of drought in the recent past. Irregular and scarce rainfall happening continuously in last decade leads to extreme water shortages and the region is under a constant threat to the viability of rural livelihoods (Food and Agriculture Organization of the United Nations [FAO], 2003). In general, dry zone area is included in one of the most food insecure areas of Myanmar for above reasons (FSATG, 2010, p.3). It can be even said as one of the most food insecure areas in the South East Asian region too, with the poor agriculture yield which could not reach to adequate levels of food consumption due to the limited access of water and severe changes of the weather condition (FSATG, 2010, p.4).

Therefore it is interesting to study on local people food security situation (and economic security) - how they live, cope and handle the food management for their

livelihood - based on the five programmatic action areas from the framework of Dry Zone Action Plan 2010 which was designed to promote the food security and income of the region through this coherent framework. Moreover, it would be intriguing to make the analysis of 2009 Dry Zone action plan itself developed by An Initiative of the Food Security and Agriculture Thematic Group too as well as of its impact on Myanmar Central Dry Zone.

1.2 Research Questions

As above said, this study is undertaken to examine the role of Dry Zone Action Plan (2010) and its contribution to the food security situation of households residing in dry zone area of Magway Region from Myanmar, specifically on five communities as above described are selected for the study. These communities have different contexts to each other as the dry zone is very vast. To complete the study, two research questions have been developed as follow.

The research questions are:

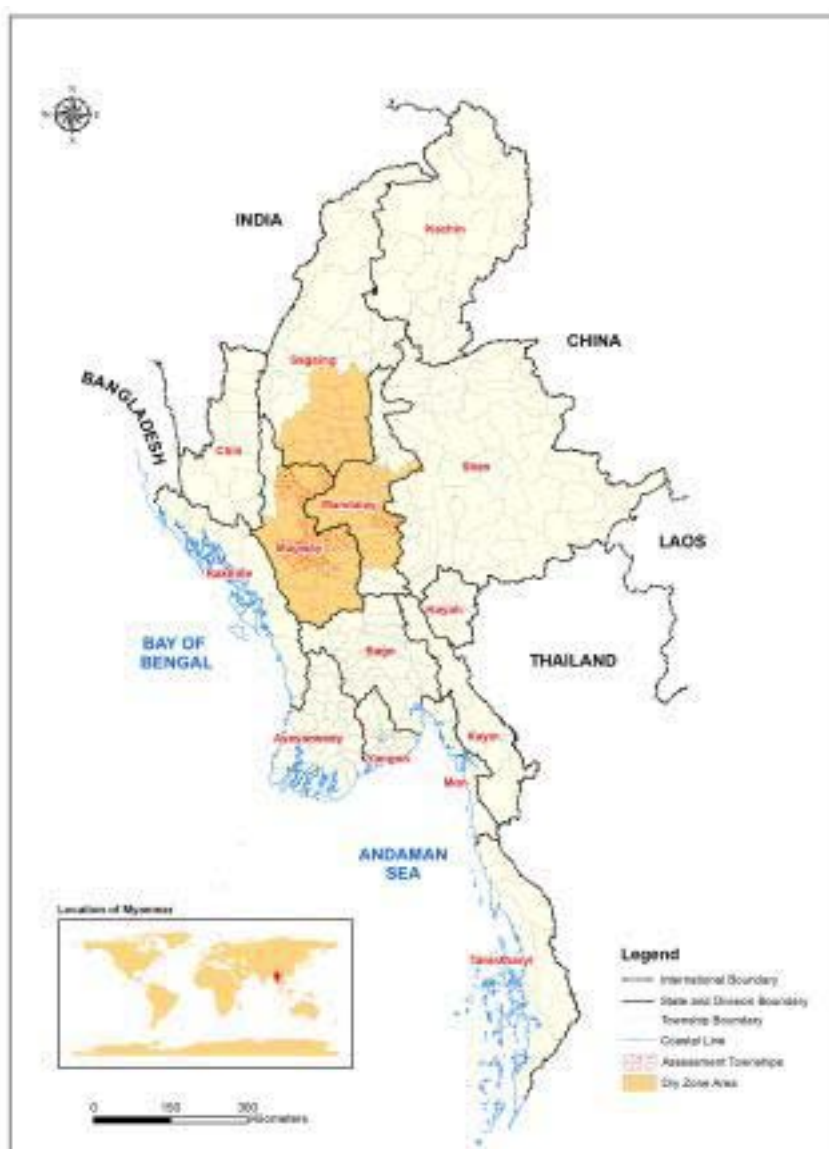
- (1) What is the role of Dry Zone Action Plan in contributing food security of the dry zone region?
- (2) How effectiveness of the aids programs in accordance with Dry Zone Action Plan for the local people in coping with food insecurity situation?

1.3 Research objectives

The research objectives can be viewed as follow.

1. To investigate the effectiveness of Dry Zone Action Plan in contributing the food security situation of the dry zone region.
2. To identify the effectiveness - of the humanitarian programs in implementing Dry Zone Action Plan, and - of the implementing agencies'

Figure (1) Dry Zone within Myanmar



Source : World Food Programme, food security assessment (2010)

1.4 Thesis Hypothesis

The Dry Zone Action plan might not be activated well yet as there is little or field level co-ordination in Myanmar in general. The Dry Zone areas might have food insecurity because of the limited number of assistant programme from aid agencies

such as lacking technical assistants in agriculture sectors, having few or no chances of access to credit, and due to severe climate change.

1.5 The Conceptual Framework

The Dry Zone Action Plan has following five areas as key challenges to be focused and to get improvement upon them in order to achieve the food security in the dry zone region. According to the Dry Zone action plan, those areas were prioritized based on how humanitarian agencies can work together in support of the national priorities. Detailed of the descriptions of those programmatic action areas can be seen as follow:

i) Dry Land Farming

Dry land farming systems are adopted in areas where rainfall and water to support crop cultivation is limited. In the Dry Zone there is limited rainfall, soil infertility, inadequate agricultural inputs as well as poor practices which have led to low agricultural productivity and income. It is important therefore to maximize available to support crop cultivation.

ii) Environmental Protection

Lack of rainfall, and erosion-prone soil conditions pose a serious constraint for agriculture in the Dry Zone. Deforestation and soil erosion have increased, coupled with repeated drought, and there are signs of desertification. Rapid deforestation in the Dry Zone is a result of over exploitation of natural forests since farming yields are constrained by frequent drought. Deforestation aggravates the poverty cycle and threatens the environmental sustainability of rural livelihoods.

iii) Access to Credit

The need for credit in the rural segment of the Dry Zone food security is substantial in term of small to medium agriculture input requirement.

iv) Water Management

The Dry Zone stands apart from the rest of Myanmar in terms of dryness and hot weather conditions. Most of the local streams and tributaries have water only immediately after the rains and the local population experiences water shortages from the middle of the dry season onwards. Therefore management of existing water is highly important.

v) Capacity Building

The Dry Zone is an area where the technical knowledge, organizational capacity, and skills among the rural population are poorly developed. Therefore, effective strategies to promote community resilience for food security in the Dry Zone must include building the capacity of individuals, communities and local Civil Society Organizations (CSOs) to help them make sustainable improvements in agricultural productivity and household incomes.

According to the world food summit (1996), Food security is when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The 1996 WFS proposed a goal of reducing the hungry from 816 million in 1990-92 (the base period) to 408 million by 2015. Therefore to fight hunger and malnutrition by 2015, WFS's focus with four dimensions of Food Security:

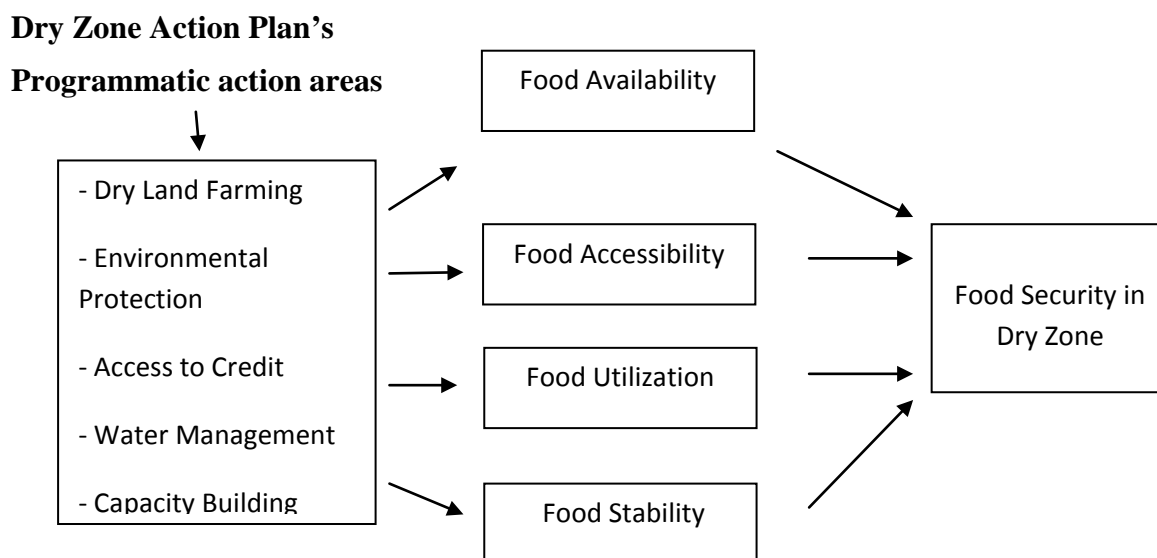
1. **Food availability:** The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).
2. **Food access:** Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).
3. **Utilization:** Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all

physiological needs are met. This brings out the importance of non-food inputs in food security.

4. **Stability:** To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climate crisis) or cyclical events (e.g. seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.

Myanmar Central Zone which is one of the most food insecure areas in the South East Asian Region. According to WFP 2005 report, Magway is the most vulnerable area in regards to food insecurity. To be able to do this study of Dry Zone Action Plan and Magway food security efficiently, the following conceptual framework is drawn in Figure 2 as follow.

Figure 2. Diagram of conceptual framework of investigating food security in Myanmar dry zone



1.6 Limitations of the Study

Little researches have been done on this kind of case study; the study of monitoring and evaluating the State led project (s) as well as the progress of the NGOs' projects in accordance with one framework or a platform (e.g., a Dry Zone Action Plan in this case which was developed with the aim to have food security related policy implementation of Myanmar and to have the improvement of food security in general). Actually, there is no food related policy developed yet in Myanmar even until now.

There is neither governmental food security office nor staff in the field to get information nor to have the discussion. Also, there is no study group watching the trend of the ongoing project(s) in regards of food security in the long run to have the significant and dramatic sustainable achievement. Since there is none food security related working group in the field (either Government nor non-governmental organization) yet in the Dry Zone area, for the study like this research paper has little or no help at all to contact and gather needy information easily. What's more is that, to learn all in less than a month in the field, the main limitation of this study would be the time frame and limited resources to get data. In addition, the vast topography of the study area and the location of the project sites in quite a far distance to each other, the cost of the field research is high and expensive for one student to conduct a study on their own too.

1.7 Methodology

1.7.1 Restatement of Purpose

This study serves two purposes. The objectives of this study is set to be able to investigate how, local from Dry Zone Myanmar adapt to the Food security/insecurity situation as well as to analyze the effectiveness of humanitarian programs and project implementations in contributing of food security of the Dry Zone Region.

1.7.2 Research Methodology and Design

Qualitative research method is used in this study. The data comes from three datasets: focus group discussion and/or follow up interviews, observations, and in-depth interviews with key informant; the people who are familiar with those participants and with the Dry Zone Action Plan in order to triangulate the data.

1.7.3 Focus group discussion and/or follow up interviews

Five question sets for the five theme of the action plan have been developed. It could be answered individually or with a focus group. This allows participants to volunteer for a follow-up interview, where a few more in-depth questions will be asked. These questions are used to probe further into the reasoning behind the participants' answers. Additionally, the participants were able to discuss their experiences of living and coping food security situation in the dry zone.

1.7.4 Observations

Throughout the field visit, the observations assists in triangulating the data collected from the survey as well as the information collected in the follow-up interviews by helping me to judge the accuracy of the participants' responses.

1.7.5 Interviews

These are the interview with the people who have been interacting with the participants and /or who know the Dry Zone Action Plan (i.e., humanitarian staff – both from Yangon headquarters and field offices) since the implementation stage.

Like field observations, these interviews assist in triangulating the data collected from the participants.

1.7.6 Data Collection

As mentioned above, the data comes from three datasets. The data from randomly choosing participants was collected during August and September 2012. The participants are:

- 11 humanitarian staff from five local/international NGOs
- 12 VDC members
- 42 villagers and 4 families out of five villages

Detailed data collection list can be seen as follow:

| Name of Village/ Organisation/ | Number of people | Mean of data collection |
|---|---|---|
| Nat Kan village | 5 pax (VDC member) 3 pax (villagers) | - Group discussion - Follow up in-depth individual interview |
| Htone Paut Taw Village | 2 pax (VDC members) 1 pax (villager) | - Group discussion - Individual interview |
| Ta Loat Pin Village | 2 pax(VDC members) 7 pax (villagers/farmers) | - Interview - Group discussion |
| Wa Chan Kar Village | 2 pax (VDC members) 2 pax (villagers) | - Group discussion - Group discussion |
| San Kan Gyi Village | 1 pax (VDC member) 29 pax (villagers – two groups) | - Interview - Group discussion |

| | | |
|--|---------------------|------------------------------|
| | 4 families (random) | - Interview |
| Pact Myanmar | 2 pax | - Interview |
| WFP | | - Interview - field visit |
| UNDP | 1 pax | - Interview |
| PC (Progetto Continenti) | 3 pax | - Interview - field visit |
| CESVI (Cooperazione e Sviluppo Onlus) | 1 pax | - Interview - field visit |

The five villages were chosen according to the 3 organisations' suggestions based on the feasibility of the project sites within logistical framework as well as to be accorded with the Dry Zone Action plan five programmatic action areas. The three organizations which have given commitment in providing the assistance to this studies are WFP (World Food Programme), PC (Progetto Continenti) and CESVI (Cooperazione e Sviluppo Onlus).

CESVI (Cooperazione e Sviluppo Onlus)

CESVI is a development organization and its strategy in Myanmar aims to improve living conditions of the population through combined actions in three sectors: health, food security and water and sanitation. Cesvi wishes to involve local authorities and aid bodies to guarantee a better chance of sustainability of the activities. The experience developed in the fight against malaria has made Cesvi a lead player in the realisation of the National Programme in the Control of Malaria in Shan State and in the Mandalay Region where it was involved in awareness, prevention and diagnosis activities in 2011. New projects linked to nutrition started in the same areas foresee

the management of natural resources and income generation with the objective of contributing to food security and alleviating poverty in vulnerable communities.

PC (Progetto Continenti)

Progetto Continenti is involved since 1989 in poverty alleviation programs in several countries, targeting its interventions to the most vulnerable groups of the population. It is a non-religious and non-political, non-profit NGO (Non Governmental Organization) for international co-operation and solidarity. Founded in May 1989, it has been acknowledged by the Italian Foreign Affairs Ministry in 1999. Progetto Continenti has achieved the necessary recognition to work with European Commission, is a member of ONLUS (Non-profit Organizations for Social Gain). It is also a founder member of the Banca Popolare Etica (Popular Ethical Bank), and is in both the Italian and the European associations for NGOs. The Association intends to operate in the name of law, justice and dignity for all the people of all continents, respecting their culture and religion. Present in East-Asia since the very beginning (Cambodia and Vietnam), Progetto Continenti started its operations in Myanmar in 2003, after signing its first Memorandum of Understanding (MoU with the Department of Health of the Ministry of Health, since then renewed three times, last of which in July 2011. Additionally, Progetto Continenti has applied for new MoU with the Ministry of Agriculture and Irrigation and now it's likely to be signed soon. Its project location is in Magway Region in Myanmar.

WFP (World Food Programme)

WFP has been present in Myanmar since 1994 and has implemented several food assistance interventions to improve nutrition, food security and livelihood access for the most vulnerable populations in remote areas throughout the country. WFP works in Rakhine, Shan, Chin and Kachin States as well as in Magway Region. WFP's vision in Myanmar is to contribute to more equitable development across the country and support national reconciliation efforts, by reducing poverty, food insecurity and undernutrition and increasing resilience amongst the most vulnerable communities.

Magway Region is composed with 25 townships. Among them, 22 townships have development projects. These 22 townships are:

- (1) Aunglan (Township code – MMR009016)
- (2) Chauk (Township code – MMR009003)
- (3) Kamma (Township code – MMR009015)
- (4) Magway (Township code – MMR009001)
- (5) Minbu (Township code – MMR009007)
- (6) Mindon (Township code – MMR009014)
- (7) Minhla (Township code – MMR009013)
- (8) Myaing (Township code – MMR009020)
- (9) Myothit (Township code – MMR009005)
- (10) Natmauk (Township code – MMR009006)
- (11) Ngape (Township code – MMR009009)
- (12) Pakokku (Township code – MMR009018)
- (13) Pauk (Township code – MMR009021)
- (14) Pwintbyu (Township code – MMR009008)
- (15) Salin (Township code – MMR009010)
- (16) Seikphyu (Township code – MMR009022)
- (17) Sidoktaya (Township code – MMR009011)
- (18) Sinbaungwe (Township code – MMR009017)
- (19) Taungdwingyi (Township code – MMR009004)
- (20) Thayet (Township code – MMR009012)
- (21) Yenangyaung (Township code – MMR009002)
- (22) Yesagyi (Township code – MMR009019)

Out of these 22 townships, five villages were chosen to conduct the research survey according to the following criteria:

- Priority village tracts selected by the organizations that co-operates with the researcher for the thesis. As the organizations need to assign the staff member(s) to accompany the researcher in the field trip and contact in advance with the in charge of the villages, the site visit location were chosen carefully according to the range of the feasible time frame for the staff member(s) during their working hours.
- Convenient places and safety of the location itself in a logistical point of view as the Dry Zone is a very vast region and hard to travel around.
- The availability of the projects which are in line with the dry zone action plan five programmatic action areas

By respecting those criteria, five villages have been chosen as follow:

(1) **Nat Kan** Village and (2) **Htone Paut Taw** Village from Magway Township, (3) **Ta Loat Pin** Village and (4) **Wa Chan Kar** Village from Taung Dwin Gyi Township, and (5) **San Kan Gyi** Village (which had the severe fire break out in early 2012) from Ye Nang Gyaung Township from Magway District Area, Magway Region of Myanmar Dry Zone. The findings will be described in accordance with the Dry Zone Action plan, which is the main focus of this study. Dry Zone Action plan has five programmatic action areas such as

1. Dry Land Farming
2. Environmental Protection
3. Access to Credit
4. Water Management
5. Capacity Building

1.7.7 Data Analysis

The data from the in-depth interviews are analyzed for patterns as well as possible explanations for the answers given on general interview and the discussion, and for learning the Dry Zone Action Plan's impact on those lives of people from the community. These interviews with the people who were in close contact (i.e, the humanitarian workers) with the participants was used as a way to triangulate the data, and was compared to see how well the data align with each other.

Lastly, all of the interviews were synthesized for possible implications for more effective preparation for updating the Dry Zone Action Plan and designing the necessary policies implementation in order to achieve the human development and human security in the dry zone region of Myanmar, i.e. food security in this particular study.

1.8 Ethical Issue

For this study, the researcher needed to discuss with the local people as well as staff from local and international non-governmental organizations. It is very important for the researcher to have the consent of the informants voluntarily in order for them to participate in the study especially in Myanmar context because if they are not happy with their involvement in the study, they could report it to the local authority and it is dangerous for not only this research but also for the prospect of the future studies by others. Even though Myanmar is flourishing towards democratization under new civilian government, the practices of the government have not been changed dramatically yet in the countryside areas and the influence of the local authority is to be paid great attention for the visitors as well as people who reside there.

Therefore, another issue would be to have the sensitivity as well as the respect the rights of the informants. By involving in the study like this, the local people and staff from the non-governmental organizations could get some attention if their

identity would reveal together with their comments. Therefore, not to disturb their lives activities and work order, their personal data is maintained with high confidentiality, anonymity and priority.

During the process, all the informants are explained thoroughly about the objectives of the study and their permission were sought for the interviews, surveys and tape recording if necessary. All the information collected have been used only for this study by the researcher as well.

1.9 Significance of Research

The Dry Zone is a very vast area and not all the humanitarian projects could cover the whole area. Most of the studies done previously are only evaluating the implemented projects. This research study the food security of Magway Dry Zone as well as the Dry Zone Action plan which is a platform for individual agencies to work on with their own intervention strategies, but with the collaborative approach.

This study will highlight the possible implementation of food security as well as the needs for the reviews of the Dry Zone Action Plan. It will also let the organizations hear the actual voice from the beneficiaries.

1.10 Organization of the study

The research paper is organized with four chapters. Chapter (1) express Introduction. Chapter (2) describes Literature Review. Chapter (3) presents A study of Food Security on Magway Region, and the last Chapter (4) is contains Discussions, Conclusions and Recommendations.

CHAPTER I I

LITERATURE REVIEW

Yakovleva, Bezrukova and Malchikov (n.a.) mentioned that the population of the world is increasing quite rapidly. The history says that it took 4 million years for the humanity to reach 2 billion, and next 46 years to add 2 billion, and it took only 22 more years to add another 2 billion. Runge et al. 2003 stated that the world is still expected to reach 8 billion people by 2025, an increase of one third from 2000. As incomes expand in developing countries, food demand will increase even more. Runge et al. 2003 also stated that Analysis shows that global hunger could be substantially reduced by 2025 and chronic hunger ended by 2050.

UNFPA 2001 claimed that population growth will be highest in the poorest countries. By 2050, today's developed countries will have 1.18 billion people and the developing countries 8.14 billion, with 1.86 billion in the very poorest developing world nations (as cited in Runge et al. 2003, p.22). It seems that far too little has been done to halve the proportion of people who suffer from hunger by 2015. According to Braun et al. (n.a.), in 2015, 600 million people in the developing world will still suffer from hunger and 900 million people will continue to live in absolute poverty.

According to FAO 2000f and World Bank 2000b, as the twenty-first century begins, it is generally estimated that more than 800 million people are chronically undernourished and food insecure and that some 1.2 billion live on the equivalent of less than a dollar per day (as cited in Runge et al. 2003, p.13). In exact, GAA (2004) described that 842 million people in the world do not have food security as we begin the new millennium (1999-2001) and 95% of the people live in developing countries. GAA also stated that the global level progress in food security is not sufficient to achieve the goal of cutting the number of hungry people in the world in half by 2015.

According to Evans 1998 and FAO 1996b as cited in Runge et al.2003, Today's supply of food, compared with the basic requirements of the world's population, is more than enough for everyone, equal to about 2,700 calories per person per day. Sen 1981 and 1999 expressed that people just lack access to food

because of inadequate income, political disadvantage, or War (as cited in Runge et al. 2003, p.15). Runge et al. 2003 also mentioned that absolute poverty causes hunger, hunger itself causes absolute poverty.

Gonzalez (2011) also said that food security is a function of poverty rather than food scarcity. Global food production has outstripped global population growth for several decades and there is currently more than enough food to eliminate world hunger. People go hungry because they are too poor to grow or purchase food. Nations are food insecure because they lack the ability to produce or purchase sufficient food to satisfy domestic nutritional needs.

According to Runge et al (2003), to eradicate food insecurity, it requires a larger set of changes in trade policies, the rehabilitation and renewal of commitments to multinational aid, significant reforms in natural resource management, and major new investments in agricultural science and technology . International Fund for Agricultural Development [IFAD] and FAO (2012), stated that in order to design efficient policies, decision makers and development practitioners need to improve their understanding of the factors that can facilitate or inhibit small producers' collective performance and rural institutions are a tool for social change and economic progress. It should not be forgotten. German Agro Action [GAA] (2004) highlighted that if national Governments will play a central role in facilitating these changes, it is sure that the situation will become better quicker.

GAA (2004) stated that the international and research institutions, the private sectors, the civil society and governments must all take responsibilities toward ending poverty and hunger and to have significant improvements in sustainable food security worldwide. Moreover, Runge et al. (2003) found that the broad international cooperation among rich and poor nations is essential, if the fight against hunger is to succeed (p.8).

2.1 Introduction to Myanmar and Dry Zone

2.1.1 Myanmar

The Republic of the Union of Myanmar is situated in Southeast Asia and is bordered on the north and northeast by China, on the east and southeast by Laos and Thailand, on the south by the Andaman Sea and the Bay of Bengal and on the west by Bangladesh and India. It is located between latitudes 09 32 N and 28 31 N and longitudes 92 10 E and 101 11 E (Myanmar Ministry of foreign affairs [MOFA], 2013). Estimated population of Myanmar is roughly assumed to be over 60 million by now with the growth rate based on 1983 population census¹ as well as based on 1991 Myanmar population changes and fertility survey and 2001 Fertility and Reproductive Health Survey (Central Statistical Organization, 2010; MOFA, 2013).

The country covers an area of 677,000 square kilometers (261,228 square miles) (MOFA, 2013), and it makes Myanmar the largest country in mainland Southeast Asia. Myanmar is a land of hills and valleys and is rimmed in the north, east and west by mountain ranges forming a giant horseshoe. The Government is giving priority to the forest conservation and greening of nine arid districts in central Myanmar (MOFA, 2013). Myanmar is made up of seven Regions (formerly known as Divisions) and seven States according to the recent 2008 constitution (Centre for Peace and Conflict Studies, 2010; Myanmar Ministry of Information, 2008).

The States are named after the seven largest ethnic nationality groups and they are home to those particular ethnic minorities. Regions are predominantly inhabited by the dominance ethnic group, Bamar. The administrative divisions of States and Regions are subdivided into districts, which are further subdivided into townships, wards, and village. Myanmar has undergone political structural transformation under a new civilian government which took over since 1st April 2011.

¹Myanmar's 2014 population and housing census will be conducted in March 2014. It will be the first census in 30 years since 1983.

Even after the change, since Myanmar is an agricultural base country, the development of the agricultural is still on the priority list to build a modern industrialized nation through it. According to ADB and World Bank reports cited in IMF (2011), and according to Larkin (2012), Myanmar has had GDP growth 5.5% in Fiscal Year 2011/2012 and 6% in Fiscal Year 2012/2013. The government is aiming to raise GDP growth to 7.7% a year over the next two Fiscal years (Eleven Myanmar, 2012). Regarding the contribution of agricultural sector to GDP, back in the history, it contributed 35% of GDP in 1965 and still remained unchanged with 36% in 2010 (ADB, 2012 cited in Larkin, 2012).

For the time being, the country is still with the status of least developed country (LDC) and is also one of the poorest countries in the Asia Pacific region with the lowest per capita income in ASEAN according to the United Nations MDG reports cited in Larkin, 2012 (p.37-38). According to Human Development Report 2010 cited in Larkin (2012), and according to Human Development Report 2011 by UNDP, in 2010 Myanmar ranked 132 out of 169 countries in human development, and ranked 149 out of 187 countries in 2011 with having low human development in ASEAN (Larkin, 2012; & UNDP, 2011).

However, “Myanmar is seen as the next economic frontier in Asia if, with appropriate reforms, it can turn its rich natural resources, young labor force, and proximity to some of the most dynamic economies, to its advantage” (International Monetary Fund [IMF], 2011). Moreover, Larkin (2012) highlighted that

“Myanmar is rich in natural resources. It has a long history of mining in gold, silver, copper, and gemstones since the 15th centuries. It has substantial forest resources too. It is also one of the leading producers of natural gas via pipeline in the Asia-Pacific region and the 11th largest explorer worldwide. Present Myanmar Economy is also benefiting from investment in those areas as well as from growth in tourism, construction & exports” (p.37).

2.1.2 Dry Zone

Myanmar Central Dry Zone is not like other dry areas in the world. It is not in extremely dry state, and has high dense population too (Japan International Cooperation Agency [JICA], 2010). There are big urban cities such as Mandalay city, Magway city, Sagaing city situated in the region, but most of the region is still remote. Regarding the population size, the area consists of 34% of the total population of the country (Nyunt, 2010; & Htoo, n.d.). MIMU described that “rural population living in 58 townships of the Dry Zone is about 7.23 million out of the total population 8.47 million in the dry zone” (as cited in FSATG, 2010, p.13).

Most of the people from that region are doing agriculture and farming for their livings which is the primary business for the locals with 58% of the total population. There are non farming households with 42% of the total population too and generally they are casual labors (JICA, 2011). There are two major rivers namely Ayeyarwady and Chindwin flowing through Dry Zone from North to South towards Delta (GRET, 2009).

There are also many streams across the region but they contain water only immediately after the rain. The rainy season is from May to late October with annual rainfall of about 500mm to 1,000mm and the number of rainy days is about 50 days in a year. The weather in rest of the year is very dry in general and the region is having the intense heat under the process of desertification. (Nyunt, 2010).

The temperature of Dry Zone normally ranges from minimum of 10 C in the cooler month to maximum of about 40 C in the hottest month(s) which is in March and April (GRET, 2009; Nyunt, 2010). According to the Food security rapid assessment survey in the central dry zone of Myanmar, “Dry spells (droughts) usually take place in this region during the monsoon period due to monsoon break and in the ending part of monsoon season mainly due to extension of sub tropical high in the Northwest Pacific” (GRET, 2009, p.14). And the dry spell normally lasts for about 30 days or a few weeks in certain years (GRET, 2009; Nyunt, 2010).

GRET 2009 report noted that the dry spells (droughts) occurred in 1957-58, 1971-73, 1979, 1982-83, 1986-89, 1991-94, 1998 and 2008-09 (p.15). FSATG 2010 report as well mentioned that the dry zone has suffered three consecutive years of drought (p.3) and researcher's gained information is also that 2012 was also a drought year. According to GRET 2009 report, 1998 was having the longest drought in record (p.15). However Nyunt (2010) contradicted that:

“The worse drought that hit the area was during 1979 and 1980. The second worse drought that hit lower Sagaing and Mandalay was during 1982 and 1983 and the third worse drought hit the whole area of the Dry Zone during 1993 and 1994 (p.14).”

No matter how difference is the data, it cannot be denied that this climate change with erratic rainfall in the region and with high intensity in some years creates the difficulties in livelihoods of the local people and their human security. It also poses significant threats to the food production which is the main business of the region (Cribb, 2010, cited in Gonzalez, 2011).

WFP study found that an average household in the dry zone earned between 15,000 kyats to 25,000 kyats (kyats is Myanmar currency) which is equivalent to \$15 to \$25 more or less per week. Out of the survey, 89% of the sample households have declared that food as the primary source of expenditure, followed by farm inputs in first priority expenditure list. The other areas such as health care, education and so on are said to be secondary source of expenditures sadly (as cited in FSATG, 2010, p.10).

The agriculture sector faces higher production cost under unfavorable weather condition with a number of constraints including limited access to affordable quality inputs, access to effective technology transfer, access to inadequate financial services & credit, access to land & natural resources, and access to markets.

Moreover, with the decline of agriculture business, the causal labors who depend on agri-business could not find much employments and cannot earn enough daily wages for the minimum daily requirement of rice, pulses and oil for their family. In short, this is a problem of not just food, but loss of income due to poverty as a

consequence of severe climate change (World Food Programme Myanmar [WFP], 2005).

Nyunt (2010) expressed that to combat with this harsh climate change, in order to prevent desertification and drought in the future, and in order to promote the rural livelihood, Myanmar Government has implemented some projects in the recent past. Amongst them, “Green project for the Dry Zone” is significant and most effective conducted by the Dry Zone Greening Department (p.14).

According to the Ministry of Forestry cited in Nyunt (2010), the dry zone greening department is entrusted with the following objectives and major tasks:

- (1) To green the central dry zone of Myanmar
- (2) To promote and conserve the environment as a whole, and land and water resources in particular
- (3) To provide the basic needs of forest products to the rural people
- (4) To enhance the socioeconomic development of rural people on a sustainable basis
- (5) To raise people’s awareness of the value and beneficial effects of forest and trees
- (6) To enhance knowledge and promote participation of public on environmental conservation and sustainable development
- (7) To improve micro-climate conditions of the environment so as to support sustainable productivity of agriculture
- (8) To prevent desertification

The major tasks to be implemented by the Dry Zone Greening Department have been set as follows:

- Establishment of forest plantation for arresting the desert-like formation and local supply,
- Protection and rehabilitation of remaining natural forests
- Introduction and promotion of the utilization of wood fuel substitutes and
- Management and development of water resources

To implement these four main tasks, a comprehensive 30-year master plan was laid down which was divided into six phases each lasting five years. Apart from this

National Forest Master Plan (NFMP) for the conservation of forest resource over 30-year period project, there is another important project called “the Greening of Arid Areas in Central Myanmar” which aims to green and rehabilitate the Dry Zone through a number of measures, including establishing forest and bamboo plantations for local supply and greening, conserving remaining natural forests, promoting fuel wood substitution and developing other energy supplies such as solar and biomass (FSATG, 2010, p.7)

Beside these main tasks, the Dry Zone Greening Department is undertaking special programmes such as greening of Shwe Bon Taung, located in Chauk Township of Magway Division, and Bago Yoma Greening Projects (Nyunt, 2010, p.12). The Ministry of Agriculture and Irrigation has also adopted five methods to provide water for crop production and to supply sufficient water from all available water resources. It is simply to develop water resources by construction of small dams and ponds, digging of artisan wells, pumping of water from rivers, creeks and streams at the village level (GRET, 2009, p.18-19).

Central Dry Zone is a very vast area and to make development in the Central Dry Zone is a very challenging task indeed. This vast situation of Central Dry Zone would need different intervention in different locations based on the specific area characteristics too. There are so many government bodies and non government international and local organizations working in the dry zone already. However, improvement is seen not very dramatic so far even though the situation tends to be better a little only. (Figure 3 can be seen for the location of NGOs and how many of them situated in each township.)

Amongst those projects, one significant project is by UNDP/FAO, entitled "Environmentally Sustainable Food Security and Micro-income Opportunities in the Dry Zone" and implemented in the three townships of the Dry Zone namely, Chaung-U, Magway and Kyaukpadaung townships with community participation (Htoo, n.d.). There should be more projects like this with international cooperation in the future in the Dry Zone Region.

2.2 Myanmar Food Security Policy and Dry Zone Action Plan

2.2.1 Myanmar Food Security Policy

Myanmar has not developed a food security policy yet. However, Thwin (2001) stated that Myanmar has a policy of promoting food and nutrition security at the national level. The National Plan of Action for Food and nutrition was formulated in 1994 and adopted in 1995, accorded priority to household food and nutrition security in accord with the commitment made at the international conference on Nutrition 1992 (S.34). In so doing, Ministry of Health collaborated with relevant ministries involved in food production, food distribution, education, information and development affairs to update existing NPAFN.

To continue the inter-sectoral approach to improve food and nutrition situation in Myanmar, the workshop for updating the national plan of action on Food and Nutrition (NPAFN) has held on 8-5 March 2005. In the workshop mid-level officials from various ministries, representatives from NGOs, INGOs and UN agencies critically reviewed the implementation status of the NPAFN 2005, and set a framework for the NPAFN beyond 2005. NPAFN for years (2006-2010) was updated and distributed to related ministries during 2007 (Health in Myanmar, 2008). Updating for years (2011-15) and multi-stake holders workshop will be held on 5 Mar, 2013 at Naypyitaw (A.Thwin, Personal communication, February 20, 2013).

There is also the National Medium-Term Priority Framework (NMTPF) which were developed at the same time as Dry Zone Action Plan. According to FSATG meeting on 2nd February 2011, NMTPF covers the period for 2010 to 2014 expounds medium-term priorities of Myanmar's government for external assistance. The NMTPF lays out basic guiding principles for increasing synergistic efforts among development partners: the Government of Myanmar and international communities, in pursuance for achieving national development targets and MDGs 1 and 7.

The Ministry of National Planning and Economic Development took the lead in the preparation of the NMTPF in close and intensive consultations with relevant

key line Ministries and Departments, UN Agencies, and other development partners, and with the technical support from FAO. The main objective of NMTPF is to develop common grounds of understanding for developmental and technical cooperation among stakeholders and to maximize the catalytic functions of FAO in achieving the national millennium development goals of Myanmar (p.1).

The development organizations have sought to know whether or not NMTPF will be a policy document (FSATG meeting in September, 2010), because in the absence of a clear policy documents, this was difficult for development organizations for driving food security although there is a overall government policy to produce sufficient food for feeding the nation (FSATG meeting in June, 2010).

Apart from these, there is no other specific food security strategy or policy formulated in Myanmar yet as above said even though Myanmar joined ASEAN Food Security Information System since 2003 and ASEAN countries have acceded to the agreement on the ASEAN food security reserve according to the report of the regional high-level round table mentioned in Aye (2010). Therefore, present time with new political situation should be a wake-up time to implement one while there are a lot of international attention and aids are coming in.

According to Marsden (2010), in first week of January 2010, The British government's new food strategy entitled Food 2030. It is viewed as a quite unique strategy in both its policy scope and spatial scale, reintroducing national and international food security-defined as having enough food, in the right place, at the right time. Myanmar should practice and learn from this kind of strategy in the future.

2.2.2 Dry Zone Action Plan

Dry Zone Action Plan which is the platform of this research study was developed by Food Security and Agriculture Thematic Group [FSATG] and Food Security Working Group [FSWG] to support the Government in its efforts to improve food security and income in the Dry Zone through a coherent framework. It outlines the key challenges five programmatic action areas and indicates where the assistance

community can bring capacity and expertise to support the Government response outlined in the National Medium Term Priority Framework [NMTPF] (FSATG, 2010, p.3). It is a framework that was conceived during a meeting of Food Security and Agriculture Thematic Group in August 2009, following an initiative by the FSWG – a 53 member working group focusing on the trends and emerging patterns on food security, drought and rainfall in the dry zone region. The group initially held a series of workshops leading to joint FSWG and FSATG groups' workshop in March 2010. 50 participants from 20-30 UN/INGO & LNGOs attended that Dry Zone coordination workshop (FSATG meeting minutes dated 13th September 2010).

These series of workshops eventually resulted into the development of a matrix in-line with the priorities identified by Prof Stiglitz, Nobel Prize-winning economist, during the Second Development Forum, a dialogue held in December 2009 between the United Nations Economic and Social Commission for Asia and the Pacific [ESCAP] and the Government of Myanmar, which addressed a number of development challenges relating to the agrarian economy in Myanmar and the Dry Zone was an area of particular focus during that forum (FSATG, p.4).

During the March 2010 Dry Zone coordination workshop, the 10 area of challenges that emanated from the seven discussion points of the Stiglitz Analysis had been reviewed and were being pursued according to the Government Draft National Medium Term Priority Framework (NMTPF). Key areas identified during that time were: Access to credit, Water Management, Land degradation/related awareness raising practices, and different types of Dry land farming/drought tolerant practices/seed including Capacity building as cross cutting issue, as such FSATG's plan will be based on these key areas later (FSATG meeting minutes dated 17th March 2010). The action plan was targeted to be published/released by FSATG meeting in May 2010 (FSATG meeting minutes dated 28th April 2010).

In May 2010 FSATG meeting, the Chair (Chris Kaye, WFP) presented the action plan format for the central Dry Zone. The format followed the logic of the workshop outcomes and its purpose was to give the humanitarian assistance to community with one coherent voice in dealing with the government. The Action Plan,

is aimed to enable the humanitarian community to hold structural discussion with the government once it is drafted and adopted.

Five programmatic action areas were finally agreed to be drafted by one organization each as follow, one area by one assigned organisation. A first complete draft of the action plan was aimed to be reviewed in June FSATG meeting (FSATG meeting minutes dated 26th May 2010).

| Areas | Responsible Organisations |
|--------------------------|----------------------------------|
| Dry Land Farming | FAO |
| Environmental Protection | CARE Myanmar |
| Access to Credit | UNDP |
| Water Management | Save the Children |
| Capacity Building | Nargis Action Group |

To get back to the framework, the overall aim of it is not only to demonstrate a common understanding and coordinated approach from the assistance community, vital in engaging government, serves as reference point whilst individual agencies engage with government, but also to demonstrate what the organizations know & not know.

The framework besides is designed to help in enhancing collaborative efforts with the government of Myanmar at the policy level and to provide opportunities for joint programming and technical capacity support at the central and local level and at the same time to promote working with Ministry of Agriculture Service (MAS) together with the farmers at the field level (FSATG meeting minutes dated 13th September 2010).

During the process of shaping the framework, according to the Ministry of National Planning and Economic Development, the draft NMTPF mentioned above was also still under discussion. It was noted that all FSATG aspects of food security;

food access, food availability and food utilization, are in line with the draft NMTPF. FAO is to facilitate meeting and dialogue with government department and wider meetings were suggested to be organized by FAO to discuss broad policy issues. Moreover, FAO was to introduce the Action Plan to the Ministry of Agriculture and Irrigation [MOAI] (FSATG meeting minutes dated 21st June 2010).

The Action Plan was agreed by the MOAI minister by the effort of FAO and released in July 2010 (FSATG meeting minutes dated 18th August 2010). During FASTG October meeting, WFP informed that they had a joint Food Security Survey and the framework was agreed to be updated with the findings from the assessment (FSATG meeting minutes dated 27th October 2010). WFP presented key findings of the assessment for the Dry Zone in FSATG November 2010 meeting (FSATG meeting minutes dated 24th November 2010).

According to FSATG meeting on 3rd February 2011, it was agreed that WFP would update the plan with the results of the last assessment, and would circulate the document for further changes (if any) from other partners. It was also agreed to wait for the results of the consultation of the lift partners, and then to discuss the next steps. WFP also indicated that it would be also good to compile 2011 plans for the Dry Zone of the different organizations (FSATG meeting minutes dated 3rd February 2011).

According to FSATG meeting minutes in April 2011, WFP updated the document and circulated to all members. The group discussed the JICA report “The Development Programme in the Cenral Dry Zone of the Union of Myanmar”. The report contains useful and updated information on the Dry Zone, and it would be good to use it to update the framework. It has also been suggested to invite a representative from JICA o make a short presentation on the report (FSATG meeting minutes dated 28th April 2011).

According to FSATG meeting minutes in June 2011, Minoru Yoshida, Project Formulation Adviser in agriculture/livestock/fisheries sector, JICA presented the Development Study on Sustainable Agricultural and Rural Development for Poverty Reduction Programme in the Central Dry Zone in FSATG meeting. The framework was considered to include relevant information from the JICA report, the other study

on irrigation and from other available reports on the Dry Zone. WFP is decided to take charge in circulating the document (FSATG meeting minutes dated 20th June 2011). However the updated framework since 2011 has not been circulated yet.

To update the Dry Zone Action Plan, the agencies who are working in line with this Dry Zone Action Plan would need to review on this present Dry Zone Action Plan and their programs effectiveness on four dimensions of Food Security; Food availability, Food access, utilization and Stability on their project sited areas as well as the impact on the dry zone as a whole.

2.3 Magway Region and its food security

2.3.1 Magway Region

2.3.1.1 Historical Background

Magway has quite a significant historical record in Myanmar. According to N.Aung (2011), fossils of the early primates over 40 million years old were excavated in the Pontaung and Ponya areas in Magway Region, leading the government to proclaim that Myanmar as “the birthplace of humanity in the world”. Moreover, there are ruins of “Beikthano” and “Pyu” cities, about 2000 years old, is located in Taungdwingyi Township. What’s more is that, Man-sat-taw-yar Pagoda in Magway region is the holy place for Myanmar as it is believed to have Buddha’s footprint. It has many other famous pagodas, Min-Bu mud volcano too. The strike of 1938 Chauk oil field started from Magway to make the significant political history as well (p.3).

2.2.1.2 Topography and population

Magway Region (formerly known as Magway Division) is located in the central part of Myanmar and falls in the central Dry Zone. It is situated 1,385 feet

above sea water and lies between north latitude 18 15 and 22 43 and between east longitude 93 52 and 95 51 approximately. Magway can be reached by rail transport, road transport and air transport from other parts of Myanmar (N.Aung, 2011, p.3-4). Nyunt (2010) stated that Magway shares a common boundary with Sagaing Region to its north, Mandalay Region to its east, Bago Region to its south and Rakhine State and Chin State to its west.

Nyunt (2010) carried on describing Magway Region as the largest of Myanmar seven regions, with an area of 17,305 sq miles and approximately 5.5million population are living in this region (p.19). In contrast with that, according to Aye (2010), Magway Division population is 4,200,000. Aye mentioned that over 95% of the people are Bamar, with very small numbers of minorities such as Chin, Rakhine, Kayin, Shan live there. Approximately 98% of the population is Buddhist (p.21).

However, Myanmar statistical year book (various issues) tells us that Magway region has a population of 5,564,236 and its population density is about 322 persons per square mile in 2010 (as cited in N.Aung, 2011, p.4). Magway Region includes (5) districts namely Magway, Minbu, Thayet, Pakokku and Gangaw, (25) townships, (163) quarters and (1541) village tracts (Nyunt, 2010, p.19). The capacity is Magway with a population of 350,000 (Z.M.Aung, 2008).

N.Aung (2011) stated that Magway Region has a large population. In Magway region, not only rural but also urban population is increasing every year. Most of the people are residing in rural area and about 10 % are residing in urban area. Generally, female population is more than male as the Union Data. During twenty-one years, population rises about 1853 millions in Magway Region.

2.3.1.3 Land features

According to N.Aung (2011) and Z.M.Aung (2008), Ayeyarwaddy River has formed large stretches of plains along its course in the region. Its other regions are mountainous. Southern part is flanked by the Rakhine yoma (Rakhine mountain ranges) on the west and Bago yoma (Bago mountain ranges) on the east, both of he

ranges are relatively high from 1200 to over 3000 meters. Over 3000 feet high Ponnya range runs from north to south in the north west sector. Minbu and Taungswingyi plains are the largest in the region, where a number of creeks including Yaw, Salin, Mone, and Mann are flowing.

The whole central plain is made up of sedimentary and rocks deposits. Much of the lands are shrubs and bushes, and small trees. However, the western and eastern hills are covered by open low level rain forests. Most of the agricultural land is found in and around Magway and Pakokku in the northern districts where the streams Chin hills provide water almost all the year. Irrigation systems are used extensively especially in the middle area of the region due to the low rain falls (Z.M.Aung, 2008, p.4).

2.3.1.4 Economy and Products

According to Aye (2010), in Magway Region, there are both irrigated and upland areas. It is the supplier of cooking oil as sesame and groundnut crops thrive in this area. Magway division produces a large quantity of edible oil as well as petroleum, hence gaining a reputation as the “oil pot of Myanmar”. Other crops grown are rice, millet, maize, sunflower, beans and pulses, tobacco, toddy, chili, onion, and potato. Famous products of Magway Region include Thanaka (*Limonia acidissima*) and Phangar (*Chebulic myorobalan*) fruit. Magway has almost no tourist industry (p.21-22).

According to Z.M.Aung (2008), Magway has two industrial zones and comprising large, medium and small scale industries. Altogether there are more than 300 industries operating in the region. The majority is only small and medium scale, which is 291 in number. There are other state owned industries in this region which includes, cement, cigarettes, fertilizer, Virginia and sugar factories, etc. Cotton weaving, and tobacco, iron and bronze products are also produced but only as handmade family businesses (p.6).

2.3.1.5 Climate

According to N.Aung (2011), Magway possesses a hot climate which has high temperature. The maximum temperature is 43.3 degree Celsius and the minimum temperature is 12.8 degree Celsius. The average rainfall is about 23 inches and the highest rainfall is usually in July (p.4). Z.M.Aung (2008) explained the hottest months are from March to June and hot season usually starts in February (p.4).

The broad valley of Magway stores water from the rain and flows into rivers and streams from both western and eastern hills, mainly flowing into the Ayeyarwaddy River. Some streams are small and have almost no water in the dry season, but in the rainy season, the water from hilly sides flow quickly into these streams. But they soon become dry again, thus water does not exist long in these streams.

2.3.2 Magway food security

According to Aye (2010 : 24-25), there are ten indicators to classify the vulnerability, and indicators to classify food security into nine-cluster. Those nine cluster are - (1) which is the most vulnerable and (9) which is the least vulnerable. Amongst Magway Region, Magway district falls into cluster (1), Pakokku district falls into cluster (2), Minbu District and Thayet District fall into cluster (4). It shows that Magway region as vulnerable and food insecure area.

WFP Nutrition Survey report (2005) and WFP Food Security Assessment in Magway Region (2009) indicated that high dependency rate, chronic disease, and poor sanitation status, poor health and sanitation practices are seen to play a major role in Magway, interacting with low food availability and access (as cited in Aye, 2010, p.25). FSATG (2010) described in Dry Zone Action Plan that the WFP Food Security Profile, November 2008 states that 71% of the sample from Magway was either moderately (with 39%) and/or severely (with 32%) food insecure.

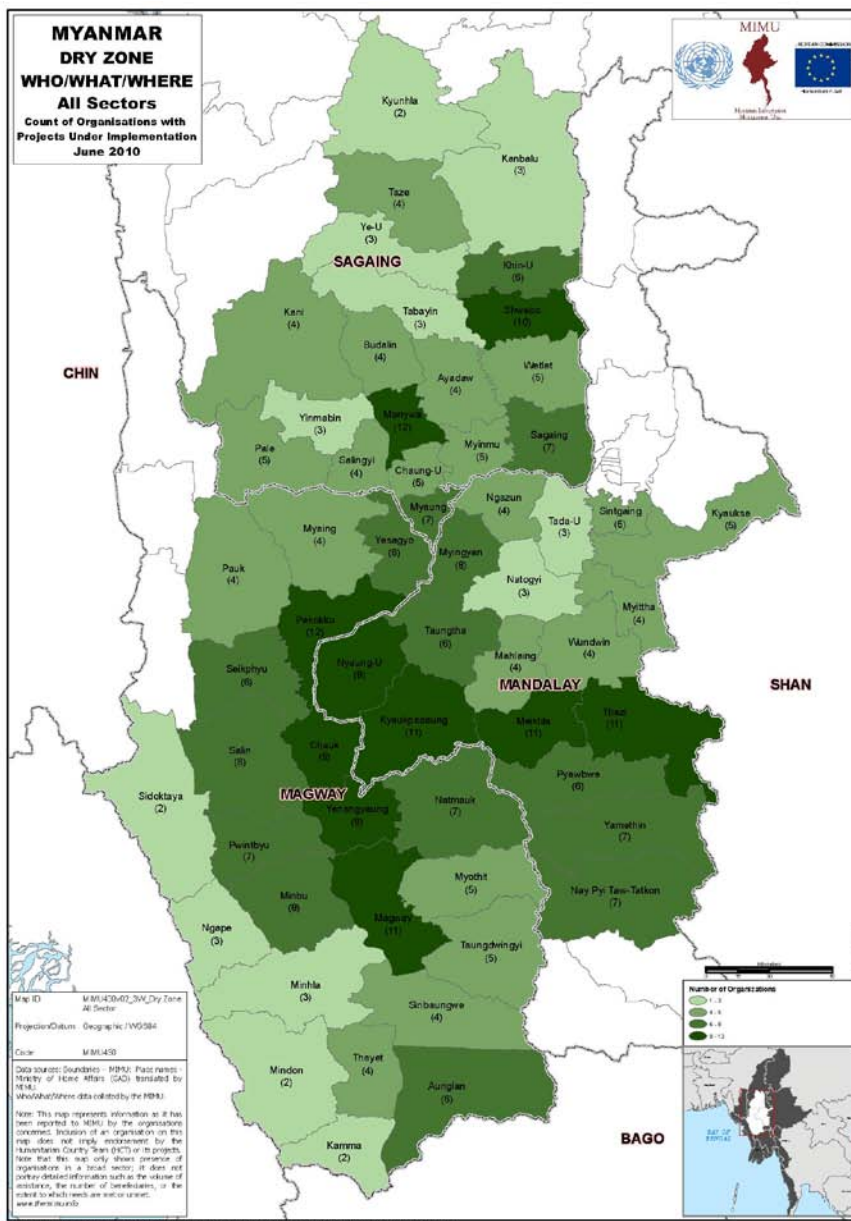
Moreover, The WFP food security assessment, December 2009 shows that food consumption of approximately 65% of the sample from Magway Region can be classified as 'Inadequate' either 21% poor consumption or 44% borderline consumption and only 35% as 'Adequate'. This is more or less a similar situation and that both surveys identify 21%-32% are being the most vulnerable (Aye, 2010, p.25).

2.4 Research Gap

FSATG's Dry Zone Action Plan highlighted that Dry Zone is a vulnerable area of Myanmar where the fragile ecosystem has had adverse on food security. Access afforded to the assistance community to make assessment in the Dry Zone is not geographically uniform, and therefore the data is not comprehensive (p.8). As mentioned above, Dry Zone is a very vast region and the concentration of the humanitarian organizations in the region is untargeted by leaving out some areas untouched. Most of the studies are undertaken on the monitoring and evaluation follow up of the projected sites areas of humanitarian organizations.

Therefore, most studies focus is on the ongoing projects implemented by international and local NGOs and its impacts, not on a whole region. That makes the research gap and not being able to study the actual situation of the whole dry zone as well as the impacts of the state led program.

Figure (3) Myanmar Dry Zone – Presence of Development Agencies



Source : MIMU (2010)

CHAPTER III

A STUDY OF FOOD SECURITY ON MAGWAY REGION

3.1 Food security on Nat Kan Village from Magway Township

3.1.1 Introduction to Nat Kan Village

Nat Kan Village is from Magway Township. It is approximately 5 miles away from Magway city. This village is introduced to the researcher by CESVI (Cooperazione e Sviluppo Onius) INGO. There are approximately 270 households with population of 1,252 villagers residing in Nat Kan according to their year 2012 village official record book. Amongst them, two third of the villagers are landless and they work as casual labors (Nat Kan Village Record, 2012).

Nat Kan Village has just networked with CESVI in 2012 and it is now in its implementation stage to work together with CESVI for water management and dry land farming development. The detail cooperation and procedures are still under the discussion in between the VDC (village development committee) and the CESVI organization.

In Nat-Kan Village, paddy is not grown due to the unfavorable soil type as well as due to uncertain and erratic rainfall. Groundnuts and sesame are grown widely and mainly with mix cropping system. In addition to that, with crop rotations system, some peas such as green gram, cow pea, and pigeon pea are grown. As for the casual labors, they work for the farm in the village or they go to the nearby cities for working on daily basic in various kind of tasks they get offered.

Nat-Kan is very close to the capital city “Magway” from Magway Division. The transportation system can be regarded as in a good condition too. Moreover, there are more than 5 groups of both local and international NGOs working on the development of the village for the time being that the village is not included in most vulnerable situation, but having the average situation to date. However, both farmers

(especially small scale/ land poor farmers) and land less poor are still struggling for the food security all year long even with the average living standard status in Dry Zone area. They could not earn enough for their food security still.

3.1.2 Observations of Nat Kan

The group discussion for the study was done between the researcher and the Village Development Committee (VDC) of 5 people, and follow up in-depth individual interview to the three villagers have been done by the researcher in Nat-Kan.

According to the VDC, the production of the crops in recent years is with quite an average amount. The production has been unstable due to the bad weather condition. By this they mean the yield is different from each farm plot, even the size of the farm and the crops grown are similar. The successfulness of the crops very much depends on the ploughing and harrowing time, access to water, the weather after that and the inputs they could use. Whatever the yield result is, it is rarely enough for the food security of the farmers just with what they got from their farms. The statement from the village can be seen as follow:

“The crops we produce annually are not enough for our annual budget for the household. So that, we need to borrow money with much interests. That is why we farmers are still struggling. In the village, it is very rare to have heavy rain twice in a month time. Just one time raining (heavily enough for irrigation) in two months. It has been like that for 3 to 4 years. We depend on the rain (*meaning getting access to irrigation water by the rain*) and all we can do is to wait for it. So we wish to have latest technology, better system to improve our farming (*meaning to have drought resistant farming method*). By comparing and learning those high technology from western countries such as America, we would like to apply them which are suitable for our location.”
(one VDC member, 23rd August, 2012)

The village has just started the co-operation with CESVI to learn the dry land farming technique. The demonstration plot is being watched by the whole village at the time of the survey. They also say that:

“We want technology and irrigation water. They are the main things we need. Next thing we need is of course money (the capital). Lacking money, we need to borrow them with high interest rate. This is the reason why we could not get the achievement out of our hard work (literally saying the sweat came out from our forehead which reaches to toes became a waste). ” (one VDC member, 23rd August, 2012)

“We Farmers need money most, followed by the latest technology and irrigation water management system. We are the most vulnerable and poorest low level status people from our country. Why our country has this amount of such poor people is because of lacking these three resources (lack of loan money system, lack of technology, lack of distribution of water management system). Now that all we grow over 90% are with loan money. The expenditure of input normally cost MYK 100,000 for one acre. For up land (Ya Land) farmers like us, only MYK 100,000 from the State can be borrowed which is not enough at all to buy even for inputs. Government should reconsider it. Not just for farmers, but also for the landless poor, the animal breeding plan or small nursery plantation plan should be supported with reasonable loan amount.” (one respondent, 23rd August, 2012)

They explained about the loan system from the government that the loan from the Myanmar Agricultural Development Bank (MADB) is limited to the farmers like them (upland farmers/Ya Land farmers). Only MYK 100,000 regardless of the size of the land they own is eligible for them which is not even enough for their inputs. Therefore they wish for the new loan plan which is submitted to the parliament for the time being to decide. However the plan is believed not to be launched in the near future.

At the end, the villagers told the researcher that they wish that this research will let the whole world know the actual situation of their village and their region and hope that it would lead to the improvement of their village.

3.1.3 Discussion of Findings

In Nat Kan, the food security situation expressed by the VDC and the individual interviewees is inadequate within the framework of Dry Zone Action plan five areas. Detail can be seen as follow.

3.1.3.1 Dry Land Farming

For Dry Land Farming, the village has just started launching sample plot with CESVI to compare with their traditional farming in preserving the farm lands in sustainable manner with high yields result. So far, the village has been practicing traditional farming method. The whole village is excited to see the result out of the sample plot in order to compare with their farms. Therefore no such particular development yet in Dry Land Farming area still after the Dry Zone Action Plan has been released after July 2010.

3.1.3.2 Environmental Protection

The village does not have any environmental management programme yet even though the village does not have any shady trees or plants around the village, but only some bushes. There should be some greening program or forest tree nursery around the area where water source is available.

3.1.3.3 Access to Credit

For “the access to credit” area, the self help group loan program under Pact-Myanmar is informed to be running over 5 years. When the researcher requested to interview the group or some group members, the VDC said they are not available at the moment and the team leader is sick. Therefore, no data from income generation group is collected from the village. However, according to the VDC, food security of both farmers and landless people is inadequate and most of them are indebted with

minimum 5% to maximum 20% loan interest per month. So far, taking loan from another source to return the previous loan becomes the strategy for them to cope with the situation. Therefore, the successfulness and usefulness of the self help income generation group is in question too.

3.1.3.4 Water Management

The area of “water management” seems failed to be working in previous years in accordance with the Dry Zone Action plan in Nat Kan. For the Water Management, the village is having difficulties in not just aggregation water but also in drinking water too. The only one public tube well in the village lasts for only two months during summer. The village has submitted a proposal to CESVI for implementing some more tube wells in their village. For the time being a generator is being run for 24/7 that attached to the tube well to get the water from underground water source which is the only way for the village to get the water for all purposes.

3.1.3.5 Capacity Building

Regarding Capacity Building, some crops and livestock training, income generation self help group training are occasionally conducted which are useful to some extent. Capacity building is the only area Dry Zone Action Plan seems successful in achieving in the targeted area to some extent.

However, those trainings alone could not assist the food security situation of the household of the participants in the long run. The main problem is that in getting financial aids to apply that knowledge. For example, for the landless poor or casual labor, they still need the access to credit to buy some seeds for the home gardening or buying some livestock after the training to apply the gained knowledge. There is no reasonable credit system yet that all villagers could reach. Without following by aftermath livestock projects or agriculture project, the successfulness of those capacity building trainings are in questions.

Therefore, as a conclusion out of Nat Kan village study is that even though quite a lot of number of the originations are supporting the village, the impact of the framework of Dry Zone Action Plan's programmatic action areas are not very achievable except the capacity building area which appears to be successful a little.

Most of the villagers are lack of access to reasonable credit system yet which they expressed as one of the main drawbacks of their livelihood development. Another two most important needy areas required to work on for their villages development are said to be the water management system and technical assistance to the irrigation.

3.2 Food security on Htone Paut Taw Village from Magway Township

3.2.1 Introduction to Htone Paut Taw Village

Htone Paut Taw Village is 2 miles away from Nat Kan Village (*previously discussed village*). This village is also introduced by CESVI INGO. In this Htone Paut Taw village, there are also quite a number of NGOs (including CESVI and others are Food and Agriculture Organisation, United Nations Development Program and Pact Myanmar) working on the village development quite for a long time. This Htone Paut Taw village has similar situation as Nat Kan in almost all aspects except in one area which is their famous program of access to credit area as having the most successful self-help group income generating project for over 10 years in the region (to be exact in 11 years in a row).

The village is just around 7 miles away from Magway city, but the roads to the village are not in the good condition at all. For their village the main road to their village is a small creek which does not have water in non-raining season. Nevertheless, since it is close to the capital city, the overall situation of the village is not included in the worse category. As above said, Htone Paut Taw Village has the more or less similar situation as Nat Kan Village with one fourth of the villagers are working primarily on farming, i.e according to the village record, 25% of the

population are working on irrigation and 75% on other areas (Htone Paut Taw Village Record, 2012).

The main crops are groundnut and sesame grown with mix cropping system and the other crops are pulses and beans, mainly green gram are grown. Details of other 75% careers are as follow: poultry farming 14%, casual labor 29%, migrate labor 21%, vendor 5%, cloths sewing 4%, and repairing machinery 2%. However, the villagers could not earn enough for their food secure situation yet.

3.2.2 Observation of Htone Paut Taw Village

The study started with the group discussion with 2 persons from Village Development Committee as well as the individual interview with another villager (the head of income generation group) has been done. Due to the availability of the interviewees and their willingness from this village, not a lot of interviewees could participate in the discussion. Another reason is that the research study time is their busy period and most of the villagers are not available to be interviewed.

During the discussion, the researcher is told that the water management system is the neediest area to focus on in their village development as the villagers are even having difficulties in getting drinking water. However, they know that they are in the quite above average situation of the Dry Zone region. They generally accept that there are more unfortunate villages with little or no aids provided by the humanitarian organizations in the Magway District.

As for their village, the priorities go to (1) water management system, (2) access to market and (3) getting latest technology on the irrigation, environmental management and general capacity building. Those are the most welcomed areas to work on for the development of their village. The statements can be seen as follow too:

“The market is not stable at all. We do not know why too. For example, one basket of one product sold today is , let’s say, MYK 3,000 and later it becomes MYK 2,000 next day or even on the same day for no reason even with the

same quality of the product. There is no fixed standard for buying & selling the crops too. Therefore the farmers are at disadvantage and got confused. For the landless people, if the farm business is stable, they can get jobs within their own village comfortably. If they can find works regularly, they are alright. But due to the unstable condition everywhere, they need to move to and from as migrate labors as a result. Capacity Building Trainings are good in general to build up people's capacity. And empower the skills. Just that it is very time consuming as participants cannot work in the training time and training provides food only for the attendees. But attendees have their family to feed and that is why most do not want to attend. However, we are eager to know what is learnt from the trainings and hear it back from friends who have attended. Generally they are good to know. ” (one VDC member, 24th August, 2012)

The open discussion with VDC from this village came up with some interesting points for the environmental protection too. They say:

“The improvement in environmental management is very important. We have very bad and unpredictable weather now. There should be effective prevention and cure strategy to cover what was damaged in the past. The deforestation is huge. There have been a lot of trees cut down by us. But not even a single tree planted by us yet. We must find the possible and sustainable refill way to stop this process sustainably and practically. For example, there was some greening project going on at some locations and now all the trees are not maintained to be alive and some are dead. Also, some methods introduced to us are not very practical sometimes such as using “A1” stove (“fuel wood saving” cooking stove which just need one stick of wood) or solar energy saving stove, etc which takes so much time to cook for the villagers. So we do not want to use those stoves and just cut the wood for quicker cooking way. Now we have some fire wood plantations. However we are lack in environmental knowledge still. Awareness raising should be more available to upgrade the sustainable development of the communities. ” (one VDC member, 24th August, 2012)

This village expresses the the fact they do not understand the working way of the humanitarian organizations as follow:

“There are a lot of areas that NGOs could work on in Dry Zone for the community development. Why are they not working for them? There are a lot of villages with very vulnerable situations than us too. Why NGO do not go there? Do NGOs want to work in the areas they could enter easily only? Moreover, NGOs have so many restrictions and steps. When they say they will give us something, for example agreed seeds or money, it takes very long time for us to get those from them which is not convenient for us to work. When they say they work for us, they do not actually think for us which is really strange. Irrigation could not waste time to get seeds, to plant which has to be done in timely manner according to the weather. So what happened is that we borrow the money in the end from money lenders to do our business in time and on time which is a key problem for us not to get out from the debt cycle. To make the matter worse, the market is also unstable.” (one respondent, 24th August, 2012)

However, the interview result about the dry land farming method seems positive mainly for being satisfied in getting some trainings on how to develop a seed bank in the village and in receiving some farming trainings such as soil conservation management, soil fertility management and fertilizer and pesticides application and community based compost production. By practicing these knowledge, the outcome has been raised if the weather is stable. For example the chick pea production has been raised from 60 baskets to 80 baskets in general from their upland. Nevertheless, the market is unstable and the farmers do not know why. If the market is stable, the farmers could predict that how much profits they could make by using some certain amount of inputs to their farms. Right now, they are reluctant to spend a lot of capital on buying inputs just in case the market rate goes down when they sell the products.

For the discussion upon water management system, it is said that the water quality from the pond in the village is poor. The village has to fetch the rain water for the drinking water which lasts upmost a week after one time raining. When the rain water runs out, villagers have to buy from commercial tube well with very high price

of 50 gallon for MYK 250 whereas it costs only MYK 100 in Nat Kan Village. Public tube well to be established is being proposed to some NGOs and still not decided yet.

The pond water above said is used for irrigation, livestock farming and home gardening. But there is no technology to make improvement to the water used yet and the amount of water which is available now is not enough for the whole village. It is said that if the village is to get access of enough good quality water, the productions rate could be improved. Still the water management in the village seems not very successful in the range of Dry Zone Action Plan.

The most successful area in this village out of five programmatic action areas from the Dry Zone Action Plan is the access to credit self help group. It has been undergoing since 2002 with 60 women with the amount of MYK 150,000. Now the members doubled to 120 villagers and the fund has been raised to around MYK 3,000,000. It was initiated by Pact Myanmar NGO. The terms and conditions are same as every self help group to meet once a month and the budget clearance is to be made in every three month.

The interesting new rule from this village is that for the people who attend the meeting regularly get MYK 5,000 extra loan which seems to work very well in practice. PACT Myanmar transferred the project to the village already 8 years after the program launching time. The team is very famous to be successful in the region and they could contribute to the development of the village such as in school building, monastery renovation, children nutrition feeding, donation of school furniture to the village primary school and road construction, etc. However the team leader said that the loan amount is limited and loan sizes are inadequate for the total food security of the team members still. She also highlighted that the survey and research are needed about Dry Zone area by people who know thoroughly about the actual conditions on the ground to have the future drastic changes and dramatic development.

At the end of the discussion, the villagers pointed out one thing as a guideline of this research related to the framework of Dry Zone Action Plan. The interviewees mentioned that it is a good idea to have this kind of platform where the development organization could focus on important targeted areas. Therefore, it should be revised occasionally to fit with the updated situation and if village representative(s) could

participate in the revisions of the framework in the future, the framework could be more practical. It is important that the beneficiaries' voices are heard in order to help them because only the villagers themselves know what is needed on actual ground situation.

They carried on saying that this Dry Zone action plan should be developed into National Level framework and framework developer should educate about this framework to the community level in order to have a cluster approach. There are more villages which are more vulnerable than this Htone Paut Taw Village and there must be some plans included in the framework to reach those needy areas as well.

3.2.3 Discussion of Findings

3.2.3.1 Dry Land Farming

Within the framework of Dry Zone Action Plan five programmatic Action Areas, the dry land farming area has a progress of improvement by receiving some trainings in soil conservation area, pest control, compost production to have the sustainable agriculture in the long run. Getting knowledge is vital for the crop production which depends on the rain only and to the rain fed dry land itself as well. This sector appears to have gained knowledge which should be followed by the reasonable and reachable credit system that would drive the full sector development in dry land farming. Therefore, it could be said that there could be food security by the dry land farming area out of Dry Zone Action plan five areas. However, the impact is not measurable yet.

3.2.3.2 Environmental Protection

The VDC members from this Htone Paut Taw Village are fully aware of the environmental protection needs. If the appropriate sustainable and continuous program or credit system to support this kind of VDC, it is likely that the location should be less damaged in environmental context and becomes improved in the

future. Therefore it is very important for the aids organizations to find out the strength of the community and their interests in order to support the most likely to be successful program in the local context depending on the local interests in time. However, this village still seems not getting very much attention on the development work of environmental protection. Therefore, it can be said that there could be food security by the environmental protection area from Dry Zone Action Plan five areas in the future.

3.2.3.3 Access to Credit

The income generation program is as above said the most successful area in this village. In general, it could be said that there is a food security by access to credit area from Dry Zone Action Plan. It is really a pioneer practice of the village to have some persuasive bonus loan to the meeting attendees to attract more members to stay with the loan group which should be shared to the other villages. In the long run, the members doubled whereas in other villages most members or old members describe their wish to withdraw from the group.

This kind of ideal loan group should be recorded and learnt by the implementation organization to spread the procedures amongst practitioners. If needed, the individual household survey should be carried out to analysis the food security of members' households and to understand the needs and constraints to sustain the achievement and to copy the practices. Also there should be counter survey of why there is still commercial loan programme in the village where there is a successful self help group. It should be interesting to learn that why the strategy of the villagers is still getting loan with a lot of interests in order to solve the first debt.

3.2.3.4 Water Management

Out of the survey and discussion, the water management system in this village which is just 7 mile away from the capital city is very worrying. There is not food security by the water management area in the village in accordance with the Dry Zone Action Plan. The village totally depends on the rain for both irrigation and drinking

water. Moreover, the water quality of the village pond is bad which could lead to the bad irrigation and animal disease problem. If the village like this close in the distance with the capital city is in need of the water, the development works in the area should be revised more to reach to the region as a whole, not just in some selected areas in order to have the more effective programs in the region. For the time being, the village does not have a choice but to buy water from the vendors.

3.2.3.5 Capacity Building

The capacity building program could be said a bit successful in this village as villagers are happy about getting trainings despite the fact that not a lot of people do not want to attend. Moreover, same as in Nat Kan, the financial aid should be followed to put those knowledge into practices. It is good that some of the dry land farming trainings could be used in their farms and the income generation group encourages some small household business in some extent. However the village as a whole, the impact of the training program is small as per the interviewees perspectives and their food security situation which is still inadequate in accordance with the Dry Zone Action Plan.

General discussion

The researcher's point of view is that the village like Htone Paut Taw with very active VDC and with one successful practices, i.e. the income generation group in this case, should be regarded as a role model village or demonstration village and other four areas of programs should be given full assistance to see if the village could alleviate the food insecurity. The VDC is very eager in environmental management protection and the willingness of the villagers on the capacity building is huge too. The water crisis in the village is also a necessary area to be emphasized. In short, this kind of village should be discussed among the aids organizations to work on together to have the speedy impact of development work as well as to have the sample village in the region.

3.3 Food security on Ta Loat Pin Village from Taung Dwin Gyi Township

3.3.1 Introduction to Ta Loat Pin Village

This Ta Loat Pin Village is introduced to the researcher by PC-Myanmar (Progetto Continenti – Myanmar). This village is more vulnerable than the first two villages studied previously. The village suffers the drought in year 2012. It is in the Taung Twin Gyi Township, Taung Twin Gyi District, Magway Division with 280 households and it has population of 1,200 villagers, 65% of them are working on farming and the rest of 35% are from non-farming area (Ta Loat Pin Village Record, 2012).

Taung Twin Gyi city which is 7 miles (30 minutes drive) away from this village is quite a big city in the region. However there are not a lot of organizations working in the Taung Twin Gyi district as most of the humanitarian organisations are resided in Magway. The village is around 45 miles (appx 2 hours drive) away from Magway the capital city. In Ta Loat Pin village, there has been Pact Myanmar working on the access to credits area of the village, and PC-Myanmar (Progetto Continenti – Myanmar) which helps them in building tube wells for their paddy farming, which is the main career as a whole village.

The village grows paddy (rice) mainly and some sesame too. VDC said that over 50% of the villagers are working on farms and no detail data is recorded. The researcher visited to this village just for the information of water management and observation of tube well in the field. It takes more than 4 hours to go there from Magway where the researcher camped and it takes a few hours to visit the field which is very time consuming and the transportation is very difficult and costly. Walking in the field on feet is the only available travel way during the visit to the village.

As in other two villages, their main concern area is also on the water management as they could not get enough water for their farm yet which could affect for the crop cultivation and their food security. Access to credit, heavy machinery, and technical knowledge transfer are the other concern areas of the villagers. After the group discussion with the farmers, the follow up interview with head of the village

development committee and the tube well observation were done in that village by the researcher with the help of PC staff. Apart from choosing the site visit location and contacting the VDC, transportation and logistics arrangement are organized by the researcher.

3.3.2 Observation of Ta Loat Pin Village

The researcher went to the village first to meet with the Village Development Committee introduced by PC and the VDC brought him to the field where there is a nearest tube well located. Two people from VDC, seven farmers and two staff from PC accompanied the researcher. In the field, there are 12 tube wells in total in Ta Loat Pin village implemented by PC which covers for 3,263 acres of paddy fields (low land) in this village. Actually one tube well covers only 7 acres and the village is in need of many more tube well as they are in vulnerable situation of having drought.

The tube well with one engine provides 5,000 gallon of water per hour. Therefore tube well is not a primary source of water for the fields. The village still depends on the rain too. The village recently built a small weir dam on the nearby creek which is connected to the field with the channel. They say:

“These tube wells are good. But we could not depend totally on them as they are very expensive to use. We could not afford for the fuel oil cost for the engine machine. So we just use it for the emergencies situation such as at the first irrigation time and last period of spreading water on the field, etc. It has been two years we have had the tube wells. But we could not say there are some drastic changes than before as it doesn't cover a lot of our daily irrigation work. We need better irrigation water management system. For the time being, the field we grow is not enough even for our household food security yet. We want to grow more if water is available.” (one VDC member, 27th August, 2012)

“Money for our irrigation comes from Government, Pact Myanmar and commercial loans which is more in a range. The loan interest we need to pay

back is huge and all our hard works is not paid off to us, but to the commercial money lenders. The market makes the matter worse as it is unstable. We could never sell with good price. We really want to get the water and low interest loan as well as the stable market. So that we do not need to sell the crops and products in a hurry to pay back debt and can wait for getting good price. If not, what we are doing now are just a waste.” (one VDC member, 27th August, 2012)

Even though the field visit there is just to learn the water management system due to the limited time, the researcher inquired upon the other programmatic action areas from the Dry Zone Action Plan for the discussion. The villagers replied that:

“Regarding the environmental protection, only forestry department came to give us some talk. No other organizations came to us yet upon giving training or for implementing some environmental projects. For the Access to credit area, as we have Pact Myanmar working on our village for 7 years, we have self help income generation group around with 60 people. As we are not in the group, we do not know much about that. Water management is as you can see, we have been working with PC for over 2 years and thanks to that we could cover some emergencies water when we need it urgently especially when it is not raining. But, as we said, it is not just simply enough for the irrigation.” (respondents from open discussion, 27th August, 2012)

“Regarding capacity building training, some irrigation trainings and health related trainings, PC has provided them to us. That’s all. Those are useful as we could get a lot of knowledge. We want more technology building trainings to catch up with the updates and to have the improvement. For us farmers, we never become rich. When we ask our parents if someone became rich by farming, the answer is none. All farmers work so hard for the rest of their life and they die from out of energy. They could not even live full life spam due to the tiredness. We are clever, we just need technology. And of course machines too. ” (one respondent, 27th August, 2012)

Another farmer said that:

“If we farmers can work fully in all seasons, the casual labors need not to worry for getting jobs full time. If we have water all year long together with up to date technology, we could grow all year long and there will be full of jobs. Now that we could not grow as much as we want and other sectors that depend on us do not get jobs as well. If only we could get water as well as some machines, things could be better we are sure.” (one respondent, 27th August, 2012)

3.3.3 Discussion of Findings

3.3.3.1 Dry Land Farming and Capacity Building

There have been capacity building trainings in dry land farming, which could not be followed by some possible credit system to apply the knowledge. Therefore there is no food security yet by the impact of Dry Land Farming area and by Capacity Building area in accordance with the Dry Zone Action Plan.

3.3.3.2 Environmental Protection

The visit to the village is primarily for learning water management system. However, the interview indicates that Environmental management is still poor and there is lack of any project or program or training in this village on Environmental awareness. Therefore, there is also no food security by the environmental protection area in accord with the Dry Zone Action Plan.

3.3.3.3 Access to Credit

As in other villages, this village also has the income generation group. But farmers are still getting loan from outside which is the main way to get their capital expenditure. Hence, there is also no food security achievement attained yet by the access to credit area in accordance with the Dry Zone Action Plan.

3.3.3.4 Water Management

The water management system from Ta Loat Pin village covered by PC seems to work well. It reinforces the farmers' work in emergencies situations even though the amount of the tube well does not cover the whole irrigation area due to the limited budget of the organization to establish enough wells. Therefore, still it is not enough for the whole village irrigation system. However, it could be said that there is little food security by the water management area in accordance with the Dry Zone Action plan.

3.4 Food security on Wa Chan Kar Village from Taung Dwin Gyi Township

3.4.1 Introduction to Wa Chan Kar Village

Wa Chan Kar is also in Taung-Twin-Kyi Township and is 8 miles (forty five minutes drive) away from Taung Twin Gyi city and around 43 miles (approximately one hour and forty five minutes drive) away from Magway the capital city. There are around 1,400 villagers with 170 households. Over 60% of the villagers are working on farms, mainly on paddy farming (low land farming) and the other 40% are casual labors (Wa Chan Kar Village Record, 2012). PC introduced Wa Chan Kar to the researcher for learning more water management system and for learning seed banks management system initiated by PC for dry land farming area development.

3.4.2 Observation of Wa Chan Kar Village

In the village, Pact Myanmar works for the access to credit area. PC is the second organization, which works on the water management development and dry land farming development of the village. However, the water amount is still not enough for the whole irrigation area of the village and the village is not food secure in general.

The group discussion with village development committee (of 2 persons) and villagers (2 persons) is done at the same time. They express their concerns in their need in having the double the amount of tube wells in the future from PC, and much more accessible credit system. Even though Pact Myanmar is also working in the village for giving loans, the amount the villagers could get from the credit system is not enough for them to cover their works regardless of farming business or non-farming business they are in. As well as the interest paying back times is quite unmanageable for them and not very helpful for them according to what they said. These are the two areas of their particular concerns.

The head of the VDC described about the food security of their village as follow:

“The type of the soil we have is not very good. It is sandy. Therefore the irrigation is good for mainly in the raining system. During the summer, even with the tube well, there is never enough water to irrigate. To make the matter worse, we could not run the engine machine for getting water all the time as the fuel oil is expensive. Even in the raining season, the amount of the tube wells we have is not simply enough. We would like to have the double of the amount in the future. However as you know, we villagers do not know how to ask for aids assistance. We just have to sit and wait until some miracle happens by itself. Now we are like hungry people with empty stomach, whatever we are given, we have to take them, we could not complain back anything. If we do not get any help, we just have to stand and look at our works just like this. These years our food security is terrible and inadequate.”
(The head of the VDC, 28th August, 2012)

The VDC mentioned that:

“We get some loans from the Government, Pact Myanmar and mainly from outside commercial money lenders with very high interest rate from 6% to 20% per month. Due to endless debt and interests paying back activities, we could never break out our poverty and food insecurity circle. We could never restart our lives anew. Some are beneficial if they circulate the money such as doing business and opening the shops. But in general, a lot of us do not know

how to do business. Therefore, those interest returning time and interests are killing most of the loan takers. For example, with Pact Myanmar we need to give interest at every two weeks and we could not pay. So we borrow money from money lenders and the interest rates from outside money lenders are high and at last we never get benefits from our works. ” (one VDC member, 28th August, 2012)

Regarding the water management system, the VDC explained like this:

“It has been three years that we have been provided tube wells. But the amount of them is not just enough, plus it is really difficult for us not being able to use them in summer. During the raining season, of course they are somewhat useful for water shortage time without rain as it stores some water from the previous rain. We actually used to have a canal in the very long past. It would be great if we could reconstruct it back or to have a new canal connected to our farms. However who could come and do this for us? Even this tube wells, we didn’t ask for it, just that PC came to us and said they could help us. We were in disbelief that they would help us for free in the beginning. We are not in a position to contact to the helpers as you never know whether they would like to help us or not. It is up to them to initiate by themselves.” (one VDC member, 28th August, 2012)

Regarding the dry land farming and capacity building trainings, the VDC stated that rather than capacity building training, they prefer specifically the technology and knowledge sharing more. Now that they have the knowledge of “60 days” or “90 days” grown paddy seeds which are better than “over 100 days” grown normal seeds. How to use the inputs are good to know for them too. Rather than these kinds of very practical knowledge, the other trainings are not very useful for them yet as per their point of view.

They said “We go and listen and leave them (those hearings from the seminar/workshop/talk) since we turn our back from the training room, it is like listening to the Abbot’s speech. We nod and nod while listening and when we left the monastery we leave those hearings at the monastery and never

practice. Because, to practice, money is needed and we do not even have enough to pay our debt". (one respondent, 28th August, 2012)

3.4.3 Discussion of Findings

3.4.3.1 Dry Land Farming

The Dry Land Farming Area improvement in Wa Chan Kar is initiated by PC particularly in having seed bank in the village. The head of the village is articulate enough to explain the detail how the seed bank is formed. Normally it is very difficult to communicate with the very simple rural people who do not have higher education and enough general knowledge to document/explain their difficulties, their data and their information. Since they reside in the remote village, they just simply do not have enough conversation skill to express how things work in their life and details of the data too.

However luckily, different from most of other villages, this head of Wa Chan Kar Village as well as VDC members from this Htone Paut Taw Village are outstandingly having enough knowledge to document the village data somehow detail and good at expression of their situation which makes the researcher to learn the situation better.

The head of the village who is also a VDC member explained that they have 9 groups with 5 villagers in those sub groups for seed bank. Individual member received MYK 20,000 from the seed bank (MYK 20,000 worth seeds) with the interest rate of 6% for six months. This would make the total money MYK 26,000 to return after six month (for the seed bank to receive back from one farmer). This practice has been started since 2009 with the initial 100 baskets of rice initiated by PC. Now it has aggrandized into around 275 baskets in 2012 for the seed bank program (Wa Chan Kar Village Seed Bank Program Record, 2012).

However the number of the villagers who are in the seed bank program is only 43 persons. There are 369 households in the village from which one-fourth of them are farmers household. That means there are approximately 90 households in the

village and the seed bank could only cover just the half of the farmers households. The situation is still in need of the both in distribution amount in the seed bank group and in reaching to the whole village as a whole.

Apart from the seed bank activities, there is no other activity engaged for dry land farming area except some capacity building training which is not very useable for this village according to the VDC's explanation. They explain that the farmers do not even get back the seeds for next year after one harvest and that knowledge learnt from the training are not applicable yet. The only useful knowledge which is applicable is the environmental knowledge not to cut firewood a lot. Therefore, the capacity building area in accordance with the dry zone action plan to measure the impact on the development of the food security is not very significant in this Wa Chan Kar Village yet.

Also the successfulness of the seed bank is not very remarkable yet too as the villagers still need to borrow some seeds at the start of the planting season with the interest rate of one basket to pay back in borrowing 2 baskets of seeds. This just makes them worn out after the harvest time with no profit left to their benefit. Therefore it leads them to take loan from all available resources, which includes from PACT Myanmar and mainly from money lenders. However, not a lot of people could pay back that money in time both the loan and the interest that they normally end up selling their properties.

In short, there is just little food security achieved by the Dry Land Farming area, but no food security at all by the impact of environmental protection and capacity building yet in this village in accordance with the Dry Zone Action Plan.

3.4.3.2 Access to Credit

The recent devastating popular news relating to the access to credit sector in the village is that the family sold their house with MYK 400,000 to pay back their agriculture loan debt MYK 250,000 to PACT Myanmar and they now live in their farm, so that the two daughters of the family who were in the college needed to drop out from day University studies. Therefore, the access to credit for their food security

sector is not very reachable for them to their benefit yet in this village and this example might show that the success of the loan program could not just be measured by how the fund is revolving and increasing time to time only. There must be a survey of how useful it is to the community in reality. There is no food security yet by this access to credit area in this village in accordance with the Dry Zone Action Plan in short.

3.4.3.3 Water Management

The water management system implemented in this village seems to be most successful in the village amongst the five sectors of programmatic action areas from the dry zone action plan. It could be said that there is some food security by the impact of water management in this village in accordance with the Dry Zone Action Plan. The village is quite happy on getting the irrigation water from those 22 tube wells. It could be used for 10 – 15 acres even though it was designed to be for 28 - 30 acres of paddy fields (low land) in this village.

However these tube wells are usable only when there is a rain. Normally it costs over MYK 10,000 for fuel oil which is filled to run the engine and the engine needs three and half gallons of fuel oil. It is still expensive for the farmers. Therefore, same as in Ta Loat Pin village, the tube wells are used only in the emergencies situation such as at the first irrigation time and last period to spread water on the field, etc.

One tube well provides 5,000 gallons of water per hour and it has been three years in this Wa Chan Kar Village having those wells. The quality of the water is still in the good condition that some fields around those tube wells never stop farming during these years and there are even more irrigation fields in surrounding areas in recent years around. However same as in other villages, those tube wells could not provide enough irrigation water to the whole farming system of the village and the village expects PC to provide the double amount of wells to be set up in the near future.

As per their comments, the farmers could not do anything and they just do not know where to ask for help and how to deal with the difficulties if there is no aid at all for them. Therefore, they hope for more aids program to come and the want irrigation water most as they could irrigate more if there is water and casual labor could get some jobs and the situation will become better than now. If the market is to be stable without the fluctuation of the prices, it would be the best for them.

3.5 Food security on San Kan Gyi Village from Ye Nang Gyaung Township

3.5.1 Introduction to San Kan Gyi Village

San Kan Gyi (which had the severe fire case in early 2012 in February) from Yae Nan Chaung Township from Magway District is the most vulnerable village encountered by the researcher during the field research of this thesis study. It is 18 miles (two hours drive) away from Yae Nan Chuang City and has very bad road condition. There are 811 villagers with 186 households in San Kan Gyi Village with 10% of the villagers are working on up land farming (Ya) and they grow seasonal crops such as sesame, pulses and beans, pigeon pea, mung (pe-naut) rather than paddy. The rest 90% are land less casual labors (San Kan Gyi Village Record, 2012).

The crops planted in this village have not had successful yield this year due to the severe rainfall patterns. After the fire, humanitarian organizations co-operate in implementation of the projects in this village with a cluster approach for emergencies recovery state. However it doesn't seem very helpful to lighten the situation of the unfortunate condition of the village yet due to the very bad weather condition in the rest of the year 2012.

Due to the fire case, the data upon the village has been recollected in this village and the village itself now has some organizations helping its recovery process to make it fast. WFP (United Nations World Food Program), which is one of the leading organizations in helping the village and has given assistance to this vulnerable San Kan Gyi village, introduced this village to the researcher for learning

the food for work greening projects for non-fire victims and cash for work weeding projects for fire victims.

San Kan Gyi is the last village out of five chosen villages to conduct the research and surveys. During the field visit, the researcher has a chance to do the open discussion (focus group discussion) as well as individual interviews (with four random families) with the help of VDC. Out of the survey, the most significant remark found from this village is that PACT Myanmar's access to credit system is very unfavorable by the villagers even though they (the villagers) wish for having the access to credit system with reasonable interest, especially with 2% interest rate. The water management system is also their primary concern.

3.5.2 Observation of San Kan Gyi Village

The open group discussion was done with two groups (one after another) in San Kan Gyi Village. One is with the fire victims households and another is with non-fire victims group. Later on, the researcher had a chance to interview the family members from four random households who were willing to talk to the researcher for the interviews through the request of the VDC. Amongst the fire victim groups, there are 46 households (out of 85 farmer households in total from the whole village) with the possession of land and the rest are land poor casual labors.

After the fire outbreak, there was a coordination meeting amongst humanitarian organizations to give aids to the victims. As a result, WFP arranged the cash for work program for weeding for the farms of the fire victims, so that the ones with farms receive the cash and those can be used for employing casual labor under cash for work program. Some of the farmers, they even go to other farms (of the fire victims') to work as the causal labors too especially if the acres/sizes of their land is small.

In this village, there is no water management program implemented by the aid organizations. PC which focuses is more on implementing tube wells program in other villages does not work in this village. However PC gives the assistance in

distribution of 65 baskets of short term groundnut (with the rate of MYK 33,340 for one basket to return to PC at crop production time). However, the crops planted in this village including PC's ground nuts plantation have not had successful yield this year due to the severe rainfall patterns.

Nevertheless, with the assistance of the humanitarian organization, the lives of the fire victims have become better off. They are very thankful especially to the WFP cash for work program as they could buy needy things as they wish with that money they earned from weeding jobs. They expressed that the rate of the weeding charges are good and very helpful for their daily life survival with MYK 500 per one section. They work two sections per day normally, i.e, morning and evening sections, without afternoon section. On the busy day, they get employed three sections and could get MYK 1,500.

The duration of one section depends on the work amount and how friendly there is in between the workers and the farm owner. If the familiarity with the farm owner is strong, the workers provide longer time, so that there is no fixed and standard duration for one weeding section. This is the brief highlight of current situations from San Kan Gyi at the time of study.

“The cash for work program is really good. We could buy rice, oil, and other necessary things in cooking as well as it could be used in farming too. That is why we like the cash for work program so much”. (one respondent, 31st August, 2012)

“We do not do farming this year (2012) as the rain is not good and we just have a small acre of land which is very very far away the village. So that it would be a bother for us to manage it without a decent rain and we will have to look for money for buying inputs, have to borrow cows and other needy stuff. So we decided not to do. Our family does blacksmith at home. But since I am a girl, I am no use at home and when there was a greening project, I went to work. I do not remember how much I got. But it was indeed very helpful. If there had not been a greening project, I might have gone to other nearby city to look for a job.” (one respondent, 31st August, 2012)

For environmental protection part, the WFP designed the greening project by planting the trees outside of the village area where there is no farm, but available free spacious place for the trees plantation. This project is just for the non fire victim households and it is also designed to be a cash for work program. At the time of the researcher's field visit, the trees were not grown very tall yet and the percentage of the dead trees rate is still high due to the severe weather with scarcity of rainfall, i.e, one third of the plants grown were dead already during the rainy season of 2012 which is around 500 plants out of 1500 plants. It is assumed to restart the greening project in next year rainy season to replace the dead plants.

The comments for the greening program were as follow:

“It is good to have the greening project. But it would be better to grow the plant according to the weather. Now is like here it come the plants, grow, grow, grow without waiting for the suitable weather (the rain) and then they (trees) die later which is a waste.” (one respondent, 31st August, 2012)

“The greening project is good. We could have the fire woods in the future. Meanwhile we can get shades and green scenery and it might bring the rain back too.” (one respondent, 31st August, 2012)

“From the greening project, we can learn a lot of knowledge on how to plant a tree properly such as how deep it should be for one hole in the ground. That is one inch deep down from what we learnt, and how far it should be between each plant which is seven inches. These are good to know.” (one respondent, 31st August, 2012)

Regarding the access to credit area, it seems that the village is struggling just as previous four villages described before. To make the matter worse, the fire case occurred in the earlier 2012 in this village. Even though there are some cash for work program for both fire victims and non-fire victims, it does not help the situation of food insecurity. The villagers still need to borrow money from the money lenders and PACT Myanmar.

With Pact Myanmar, the villagers are struggling at every two weeks to return the interests which they dislike a lot. Normally they take agriculture loan and

livestock loan. They mention that the loan from Pact Myanmar makes them unable to breath with miserable feeling to suffer mentally. They need to look for another loan to return the interest from first loan. It makes them have more debt and it seems like a unbreakable debt circle that they are in. They could not eat or drink anything before the interest returning time every two weeks.

With the money lenders, the debt is needed to return with high interest rate only after the certain period of time which normally occurs to be at the some seasonal crop production times. The high interest makes the villagers get worn out finally at the debt paying back time even though they do not need to worry in the mean time. What they would like to have is the certain period of time frame for returning the debt or interest which they agree to return without failure. They prefer the interest rate to be 2% if possible which is the government interest rate. They say:

“Only for the people who know how to buy and sell things are alright with the Pact Myanmar loan. But for most of us, we do not have these business skills. So we need to eat from those borrowed money which makes us unable to return too. Then we try to borrow again from another source to return these debts which make us have more debt.” (one respondent, 31st August, 2012)

“As for me, I bought a pig with livestock loan from Pact Myanmar. Not soon after that the pig died. But I did not give up. I bought another one. It died to my horror too. I needed to give my ring at stake to the money lender to give me some money (MYK 30,000) to return the interest to the Pact Myanmar. So I needed to give the interest to the money lender not to lose my ring which makes total MYK 90,000 for me in the end to spend on that pig breeding debt returning matter. It makes me spend more money than the amount of borrowed money from the Pact Myanmar. Not good for me. Just one thing, at that time, I did not need to eat a lot and rice consumed is reduced due to the worries I had.” (one respondent, 31st August, 2012)

“We requested to the Pact Myanmar to collect all the interests together with the main debt in the end because we do not have enough money to buy inputs meanwhile if we have to work on returning interest at every two weeks. But

our request was in vain. It (the interest money) must be returned at every 14 days which makes our life restless.” (one respondent, 31st August, 2012)

“I quit from Pact Myanmar income generation group. I used to borrow the agriculture loan. In one year, all the crops I planted were unsuccessful and we struggled a lot to return the money as the interest has to be returned at every 14 days and it makes us doubling with the debts (meaning they take loan from other money lending source to return the Pact Myanmar’s interest). What I want is that to give us loan at the beginning of the rainy season and let us return at the Month of “Ta Saung Mone” (late October and early November). Now it is two times in once a month that we need to look for money and we do not have any incoming source that it is very difficult for us to manage this loan.” (one respondent, 31st August, 2012)

“It has been five years that I have been in the Pact Myanmar incoming generation self help group. During that time, I have become thinner and thinner due to the stress I have got from giving back the interests. It is very difficult to return. I will not get the loan anymore from Pact Myanmar group (meaning she will quit from the group). It would be great if we could get the loan with around 2% interest in the future and to return all of them only at the end of one certain period.” (one respondent, 31st August, 2012)

“The agriculture loan from the Pact Myanmar has given us a lot of trouble. In reality, only when we take the loan, we get into the problems. From Pact Myanmar, we took 2 lakhs (MYK 200,000) this year (2012) with interest MYK 5,000 to return at every 14 days. To do so, we need to borrow money from money lenders with 10% interest rate. We need MYK 10,000 every month. Actually, we would like to return all money with one go at the end of the year. But we could not make a deal and need to swallow our bitterness due to our promises that we would agree to return so. We could not betray. Most of us are like this in this miserable circle, which has to end for the improvement of our lives. Now we have only two baskets of sesame and do not know what to do. We dare not sell it. But we do not have money to plant them for next round of crop growing either. It would be great to have

agriculture loan available from the government.” (one respondent, 31st August, 2012)

For the capacity building, there was any training before the fire case. After that only in 2012, there was a training for how to grow the trees for greening project in which non fire victim households participate under the cash for work program. At the time of the field research, there was a training for basic agriculture techniques arranged by the government (the ministry of Agriculture) which is the very first training for the village as a whole in the history. The WFP agrees to give the agriculture trainings in the future too.

3.5.3 Discussion of Findings

In this San Kan Gyi village, the development process has been increased because of getting emergencies aids after the fire case in the earlier 2012 February. There were no any humanitarian aids received by the village before the fire case except Pack Myanmar self help groups. The village is situated in the very remote and inner side of inland area in Yae Nan Chaung Township and the transportation is very difficult to go to the village. But after the fire case, the emergencies aids have reached to the village, mainly to the fire victim households. The non fire victims described the concern of aftermath effects of those aids such as hard to find weeding labors as the weeding rates becomes as standard MYK 500 per one section. Before it was not fixed as MYK 500 and was negotiable. However they are glad that there have been so many assistances to fire victim households as they could not help much to fire victims within their village. Nevertheless, they would like to get the assistance as well.

3.5.3.1 Dry Land Farming

For dry land farming development in this village, the technical assistance to the village as a whole has just started in mid year 2012 only and there will be more to receive in the future. The assistance to weeding tasks by WFP is actually for the non

fire victim group for post emergency situation that it could not be counted as assisting to the village's dry land farming development.

It could be said that this village dry land farming area has not been very developed yet. There is only little food security in general by the impact of this area Dry Land Farming in accordance with the Dry Zone Action Plan. The village has been amongst one of the forgotten and invisible villages to get the aids from the humanitarian organizations until the fire caused the village to attract the attention.

3.5.3.2 Environmental Protection

There is a greening project just started in the rainy season of 2012 arranged by WFP. Actually this program is also the impact of the fire case not to have left out the non fire victim households while the real victims got various kinds of aids. However it helped preventing migrant labors problems in summer 2012 as a lot of causal labors got daily jobs to plant the trees just in their village. This kind of program helped them having the food security while the project was on going.

Another environmental management program is that having the firewood plantation with the government arrangement. It helps the villagers not to spend extra money on buying firewood or cut the random trees to use it as firewood. It saves both villagers' money and the environment, and especially saves deforestation too. These kinds of program should be maintained continuously with long term practices to drive the new policy. In short, there is little food security by environmental management area in this village in accordance with the Dry Zone Action Plan.

3.5.3.3 Access to Credit

Just like in other villages, the Access to credit area is one of the main hinders for San Kan Gyi village development and food security situation. The government loan is never enough for the farmers. Both farming and non farming business need to rely on either the Pact Myanmar loan or on commercial money lenders. It makes them have debt over debt in the end which is unfavorable by the villagers. The villagers

describe the likes of getting loan with 2% interest rate and to return the interest only after one certain period of time with one go rather than giving at every 2 weeks period.

Regarding the Pact Myanmar income generation self help group, there are three groups with twenty five members each in one group. Between those twenty five persons, five persons sub groups have been divided to form a small group. It is likely that the number of the membership will be reduced in the future as per the interview results. Most of the interviewers mentioned their wish to withdraw from the group or some already quit. This kind of very disapproving program should be revised in order to help effectively to the target groups.

It seems that the beneficiaries tried to make a deal of the repayment method to the Pact Myanmar and failed to convince. The villagers clearly stated their difficult situations and if the program is designed to support them in the name of humanitarian aids, it should be reviewed seriously from now on as the villagers are having double debts for returning the borrowed money. With the help of access to credit area, the food security of this village is in doubt if it is successful. For the time being, in short, there is no food security at all by the impact of access to credit area in this village in accordance with the Dry Zone Action Plan.

3.5.3.4 Water Management

In San Kan Kyi village, there is no water management program launched yet. There is a plan to provide some dam to the nearby villages by the government. However San Kan Gyi is not included yet. The water shortage for agriculture farming, livestock farming and household usage is indeed in worrying state for this village. To make the matter worse, in 2012, there has been a fire case in the village and the drought is occurred. The food security situation is not strengthened by the water management system of the village, but it becomes worse due to the lack of water sources in the village. This water management indicator to measure the food security of San Kan Gyi could not be applied too. In short, there is no food security by the

impact of water management area in this village in accordance with the Dry Zone Action Plan.

3.5.3.5 Capacity Building

As above said, the capacity building areas was not developed yet in this San Kan Gyi village. Only starting in mid year of 2012, there was one agriculture training and a few will be coming soon in the future. Therefore, there is no food security yet in this village by the impact of capacity building area in accordance with the Dry Zone Action Plan.

In conclusion, since the framework for action for the Central Dry Zone, Myanmar (Dry Zone action plan) was released a few years ago in July 2010, even though San Kan Gyi is situated in Magway Region of Dry Zone area specifically in the Ye Nang Gyaung Township, it shows that the food security situation of this village has not been improved yet through normal humanitarian program. Only by the emergencies aids programs, the village has got a few support.

Another interesting fact learnt from this San Kan Gyi village is that if the organizations are to cooperate in particular one village to design the cluster approach to give assistance to the village, it would make the improvement better. It can be seen from this village example of PC giving seeds, WFP providing weeding charges and Pact Myanmar lending loans can be connected. If the weather could be better in the future or the water should be available and the loan could be reasonable for the farmers, the crop production of the village could become better. The causal labor could get the employments just within the village.

CHAPTER IV

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

4.1 Discussion

The findings indicate that there is no strong sense of food security in the studied areas in accordance with Dry Zone Action Plan even though the situation tends to be slightly better than in the past with a presence of a few aids projects which have been implemented in some locations that allows some extent of food accessibility through some food for work activities, cash for work activities, and through some capacity building trainings from this new knowledge is gained how to earn more incomes, etc.

Amongst five programmatic action areas, the “water management” and “access to credit” areas of Dry Zone Action Plan are the most important factors influence the food security of the dry zone in general. This directly affect the four dimensions of food security in the short run. Throughout this study, most of the candidates who are farmers mentioned that for their food security they need to work hard on their farm business and for that, they need water and the access to credits in the first place. However, there is no decent and promising system that they could rely on getting these two sources.

Without water management, they could not simply just grow any crops and it would not even be possible if there is no capital for farming business. As detailed mentioning of farmers indicates in village by village discussion, the humanitarian programs are there in some areas, however even with the presence of those projects, the projects could not cover the whole project site areas due to limited budget that the four dimensions of food security has never achieved in the history for one area.

Another programmatic areas which are not included in the Dry Zone action plan yet, but which are as important as the above mentioned two factors for the local

people are the access to market for the farmers with the standard fixed prices and creating job opportunity for the casual labors. The market is manipulated by the middle men or it has rapidly changing (unstable) market prices that the farmers never reap what they sow. Normally, farmers tend to sell their products with lower prices than their input expenses. By this there is no stability and food availability for their own households out of their work and even from their own crops grown. The poor knowledge of food storage and severe weather condition hinder them in utilization of food too.

It is even worse for the landless labor. They depend of the casual works from farm business and if the farm works are not granted due to the above facts which stops farmers from their business, these casual labor and their family suffers along the process. Even some farmers are part time casual labors to other people's farm business in the region depending on the land size on which they could not plow a lot and earn enough for their incomes or the low capital they could get access for their plantation around that year, so that they need extra income. For those kind of people, there must be stable job opportunities created by the local government, central government, or even by the international humanitarian programs, via such as cash for work, cash for training, etc with some long term policy implementation for their stable employment.

These two areas are amongst the direct impact of food insecurity for the people in the region and they are considered to be put in the programmatic areas. The present Dry Zone Action plan focuses on the five particular programmatic areas as follow:

1. Dry Land Farming
2. Environmental Protection
3. Access to Credit
4. Water Management
5. Capacity Building

Another interesting topic of discussion is that the collaboration of the organizations and their low awareness of the Dry Zone Action Plan. The each and every individual agency - working in the Dry Zone areas – go along with their own intervention strategies, assuming each will be consistent with the national priorities and the Dry Zone action plan framework. However, it is surprising to find out that the most of the field staff from the United Nations agencies, and International and Local NGOs - which were included in discussion of creating this framework in earlier stage in order to serve the Dry Zone through one platform to be aligned with the current Framework, so as to be consistent in programming - do not know much about the Dry Zone action plan. It shows that, even after developing of one framework, organizations have shared to their staff only their own action plan and work on it more and have not paid much attention to the Dry Zone Action Plan.

Even though it is actually quite reasonable to stick to one's organizational action plan in the first place to have the successful regional development, there must be close co-operation and have the cluster approach to liaise with each other within one known framework at every possible chance amongst all the stakeholders, i.e, mainly the government, the local business owners whose work are highly connected to development of the region, the aids organization and the beneficiaries. Therefore the Dry Zone Action Plan should be promoted and highlighted to the field staff and regional offices of the very Dry Zone area to have a cluster approach.

If there is no performance like a cluster approach, that would lead to the failure of the long term sustainable development of the region as there is no particular changes yet in five programmatic action areas from the Dry Zone action plan which is theoretically perfect and too good to be true to practice alone by each stakeholder's approach individually. There would never be food availability, food accessibility, food utilization and food stability with individual approach of organizations and with outdated programmatic areas to approach the food security without hearing form the actual ground situation.

The action plan was developed since August 2009 by the TGFSA (Thematic Group on Food Security and Agriculture in Myanmar) meetings in order to help the

new government in formulating policy regarding food security and to have one framework for Dry Zone area on which all international and Local NGOs to work together with collaboration. It was hoped to strengthen the support to the Dry Zone.

The framework was released in July 2010 and so far it does not have any significant progress in reviewing, and updating yet. It also needs more sharing and also coordination with each other within the NGOs which participated in the developing the framework as well as amongst the organizations which work in the Dry Zone Area (regardless the fact that whether they participated in developing Dry Zone Action Plan or not) in order to maintain the better framework. Right now, it can be said that the effectiveness of the aids programs from five programmatic action areas of Dry Zone Action Plan is very low in fulfilling food security situation of the region, which is why the collaboration would be necessary to make the progress accelerated and framework should be applied as one known common platform to do the joint work in the future.

According to the meeting minutes of the FSATG (Food Security and Agriculture Thematic Group) (17th March 2010), the group did mention about the blames that dry zone aids organizations got for not being able to reach the whole region due to the number of reasons such as:

“impeded access to some areas, even if organizations/ agencies have some information on the needs in rural communities still they have to wait longer to secure Memorandum of Understanding (MoU), also it is not possible to intervene elsewhere (i.e. northern part of the Dry Zone) unless invited by the government. FSATG will advocate for unimpeded access to ensure deliver services in other areas (pg.2)”.

As mentioned above, the local people indeed felt marginalization of some areas for concentrating at the centre leaving other parts untargeted within the Dry Zone. As this research focus is only on Magway Division, where most of the United Nations Organizations, International and Local Non-governmental Organizations have regional head offices under the name of Dry Zone area main offices, it should be easy for aids organization to reach the whole Magway Region.

One strong evidence of this is that Pact Myanmar have already reached to the whole entire region of Magway already. During the interview with the Pact Myanmar staff, they mentioned that they exist in all the villages of Magway. That means there may not be restrictions in reaching to all the villages in Magway region. Therefore, by all means the concentration should be more spreading and reinforced with the cluster approach in the accessible region.

4.2 Conclusion

As a conclusion, the findings by five programmatic action areas can be seen as follow.

4.2.1 Dry Land Farming

The Dry Land Farming system should be supported with long term strategies and plans in Magway region. These days, the erratic rainfall has been going on in the region and it becomes worse. More advanced technologies and cultivation method should be tested and applied to have the sustainable agriculture out of this unfortunate condition. Not just the mentioned sloping agricultural land technology (SALT), rapid compost production, Integrated Plant Nutrient System (IPNS) and vermin culture from the action plan, but also some conservation agriculture method should be introduced which could store the moisture in the ground without ploughing and harrowing much. It can reduce the erosion of soil and can reduce emission of global warming gases and regeneration of depleted soil nutrients too (Su, 2011).

The farmers from Magway say that they would like to receive latest high technology in improving their land management. Presently, only a few farmers from limited region are getting some workshops and training on some technology to maintain their farms in better condition. More farmers should participate in region wide trainings and more advanced and appropriate technology should be introduce.

(i.e, Dry Zone situation varies from one area to another). So that most appropriate method can be chosen.

Another finding which might help the farmers and at the same time assist the high yield might be promoting the seed banks system in the villages. Farmers these days prefer the short term productive seeds than long term ones. If the seeds provide better yield and if they can be drought tolerated, it would help the farmers to have the double cropping in a short time.

However, to achieve agriculture productivity and moreover to benefit from agriculture, it will require suitable seeds and other agricultural technologies matched to the local agro climatic, labor and market needs of small scale farmer (Braun, Swaminathan, and Rosegrant, n.a). Because, new varieties usually only yield well under good conditions with fertile soils, and traditional varieties of crops enable the farmer to produce some food whatever the conditions. Technologies must be environmentally friendly which must come from both conventional and newer scientific approaches too (Carter, 2001). In so doing, the coordinated effort of partners in humanitarian sectors and government would be needed for long term.

4.2.2 Environmental Protection

In a harsh environment, with the lowest recorded rainfall in the whole country, the Central Dry Zone is particularly vulnerable to variable weather. Farmers often have to re-plant more than once before the rains are sufficient for crops to start growing. The aridity has increased the salinity of the soil, reducing its fertility and subsequent potential. The environment in these area is unfavorable for sustaining growing populations and their business, especially agriculture business (Khin, 2009). Sustainable development implies economic growth together with the protection of environmental quality, each reinforcing the other (Nyunt, 2010).

Myanmar Government has raised efforts on preventing land degradation and combating desertification in dry zone. Government also encouraged the greening projects in Dry Zone by trees plantation, conservation of natural forests, providing

improved cooking stove, fuel briquettes and utilization of agricultural residues as well as water access and irrigation. However, the range of those works and the amount of work done is simply not enough to cover the whole area yet.

Out of this study, even in the area where there is the aids task in this environmental area, the environmental protection acts and knowledge are still poor as well as the programs are not very impactful yet. There is still fire wood cutting going on in the region, the tree plantation are not very successful, the agricultural production is associated with enormous damage to the environmental in large parts of this area due to the lack of alternatives. The environmental protection has a long way to go.

4.2.3 Access to Credit

This area discussion will be described same as in almost all the other studies, reports and researches. The small producers face higher production costs, transaction costs in imperfect markets, inadequate financial services, and worse of all, farmers are forced to sell their products with very low prices which means paying more for inputs than receiving from the sale of their products . This is still going on in the Dry Zone and the loan from the government and the credit system provided by the humanitarian organizations nor self-help group is not helping the situation at all.

There should be a policy implantation for this very area urgently to be able to give enough amount of loan. The humanitarian organizations should review their way of working and system to adapt with the rapidly changing environment of Dry Zone and the vulnerable people. For the time being, access to credit is one of the most significant constraints to enhance the food and economic security of the region.

4.2.4 Water Management

Another one of the most significant constraints in this region is the water management. Actually this is the neediest area for the region regardless of farming or non farming development according to this study. The local mentioned access to

credit, access to market and water management as the top constraints for them. Even amongst those three, they point out water as the most difficult thing for them to manage as this is out of their control to get and they just have to wait for the rain to get the water for both irrigation and domestic usage.

Khin (2009) stated that water is an acute problem in the Central Dry Zone. From January to May, the drier months, water becomes scarce and most village ponds dry up. Villagers move to river beds in search of water and food, leaving behind the weaker family members and become migratory workers. They may be absent for up to five months, often adopt high-risk behavior and bring back infectious diseases such as TB, Malaria, HIV/AIDS to remote villages where little medical help is available. For those who do not leave the village during water scarcity could suffer incidences of water-borne diseases primarily in children due to not having clean water source. No need to mention the trouble for livestock and farm due to the scarcity of water too.

PC Myanmar seems to work on irrigation water management projects. However as mentioned above, even in the project area, the amount of water which could be pumped out from the ground is not enough for this area. Moreover, PC could not reach to the whole Dry Zone yet. There are some renovation pond projects occasionally by some of the humanitarian organizations. However, the region as a whole is still under lack of access to enough water sources. There should be a national sustainable water management programme with long term perspective plans and strategies. Construction of new dams, lake, reservoir, artesian wells and river water pumping station would help the local people in their livelihood too.

4.2.5 Capacity Building

Capacity Building is undeniably needed to empower the civic society. However the question is if it meets the needs of the society. The training without practices following it is a waste of time, effort and money for both parties, trainers and trainees. To have the practices, some income generation activities and macro finance scheme should be followed to enable to apply the skill received in the training

and to set up the small business/shop for expanding their livelihood opportunity. Life skill training such as health and hygiene education, nutrition education and food utilization should be provide to the whole area to improve the quality of life of the region too (Aye, 2010).

According to the follow up interviews with humanitarian workers from Dry Zone regardless of their position express the uncertainty in the usefulness of the capacity building trainings launched in the Dry Zone due to lack of access to financial support afterwards. Out of the interviews and focus group discussion from the villagers also point out this very fact too even though some of the training methods are useable. To strengthen in building the capacity of the community, the needs analysis should be taken in advance and should provide the most requested training areas.

4.2.6 Access to Market (suggested new programmatic area)

This area would never be able to shaped and available for the grassroots level farmers below poverty line with lack of proper education and poor economy background unless government or some international/national organizations step in and assist reform process. So that farmers could propose reasonable prices of their crops with stability, and by this way they would not get exploited. To have the sustainable access to market in the long run, there should be farmers association in village level and region wide to network and to set terms and conditions to offer their products at best and to voice out their difficulties systematically. The private sectors and all stakeholders should involve in this process and take some responsibility towards ending poverty trap and should encourage this interdependence for more rewarding cooperation amongst all sectors.

4.2.7 Access to employment (suggested new programmatic area)

This area is suggested to focus in updating the Dry Zone Action Plan as this is mentioned a lot by the interviewed villagers that they do not have stable income sources once the farm business (their own or others) to earn the income. As a result, there is a high local migration or international migration of labors which actually could not improve the situation either. Therefore, if the international institutions, the private sectors and governments create some employment opportunities in this rich resource land, the food security (at least the food accessibility and food stability parts) could be achieved right away. Through the more stable income opportunities, the living and education should become better along the process. By this the better food utilization method to learn and wider the food availability be achieved time to time.

General Conclusion

To visualize the suggested two areas by the various assistances, I would like to present the following framework for better understanding of my discussion.

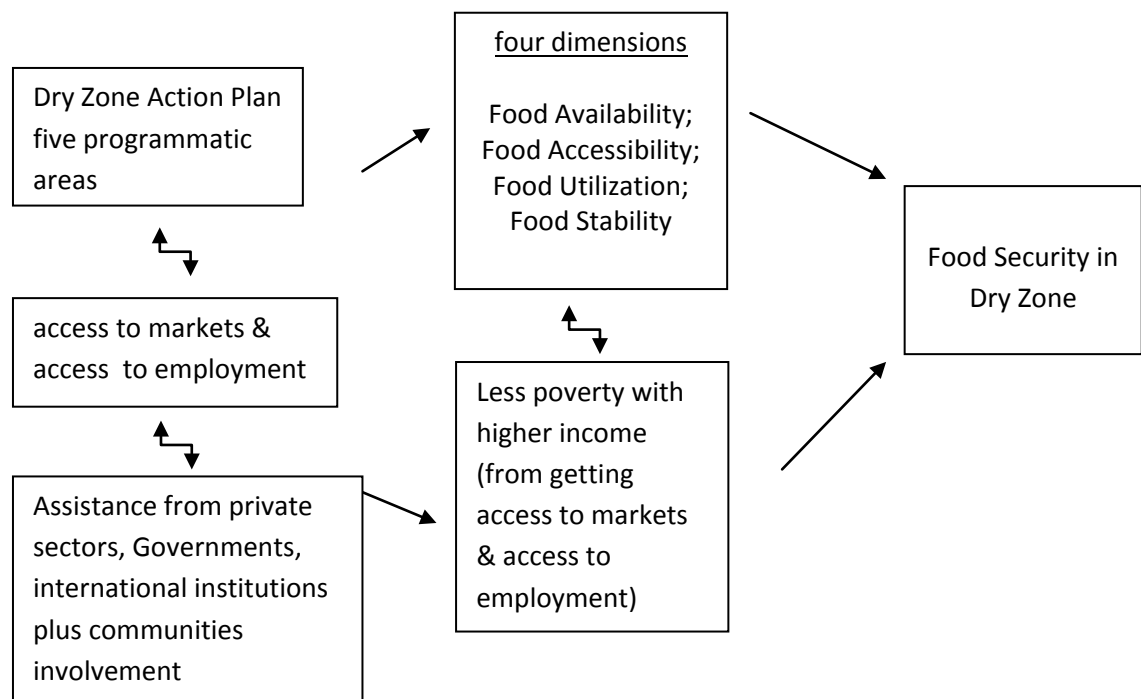


Figure 4. Diagram of suggested flowchart to achieve food security in Myanmar dry zone

4.3 Recommendations

- (1) The Dry Zone action plan should be reviewed and updated as it has been a several years after developing the present one. The field level staff should participate in the meeting or workshop for hearing hands on experience from them and for getting to know the possibility of advocating one policy. The community should be invited as they might want to contribute much to their region too.
- (2) The concerns of water management, access to credit, access to the market and job opportunity are highly described by almost everyone who are interviewed as key factors which could contribute to their food security. These areas should be emphasized more specifically with technical expertise in the long run as the beneficiaries' need on those particular areas is high.
- (3) The greening projects which is combating with the desertification should include the international partnership and various stakeholders to strengthen it and to provide more benefits on environments and infrastructure development
- (4) Humanitarian organizations should encourage the small-scale producers to develop local organization or institution or network for producers and to have the access to market better and to have a common place to exchange the information. Moreover, through this group, procedures should be enabled in engaging in policy making by presenting their voices
- (5) There is no such thing as one single cause or one single solution to improving the food security. To be able to help the situation and design the efficient polices, the thorough understanding of the current factors is needed.
- (6) There should be co-operating and coordinating in between the State, Local business, humanitarian organizations and the local people (the beneficiaries) with regular meeting or with the collaborative project plans implemented together by the NGOs with cluster approach in a new form of collaboration. So that there would not be any duplication projects or left out project site area. Moreover, the understanding of the wants, needs and constraints could be understood more.

(7) A critical step to implement effective food security is to develop a food security plan. The Government needs policy reforms and priorities to build the region's development

Food security needs long term commitment and integrated efforts of all stakeholders. Comprehensive plans are key factors in implementing sustainable food security and rural development.

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APPENDIX

APPENDIX A

QUESTIONS FOR GROUP DISCUSSIONS AND INTERVIEW WITH LOCAL PEOPLE/COMMUNITY STAFF

A. General

1. Has the food situation in your family improved compare with previous years?
2. Do you think your family food situation will improve in the future?
3. Do you get any food aid from others (Gov, NGOs, UNs)
4. Do you have enough food to eat for the whole year?

B. Dry land farming and Agriculture questions

1. What do people plant/grow in their land?
2. What is the quality of soil that they plant/grow?
3. What is the yield gap compare with the previous method?
4. How do you conserve your farm land?
5. Does the food produce from your farm land enough for your family?
6. What is the challenge and difficulties you have faced in dry land farming?

C. Questions for environment protection

1. Are there any difficulties in giving environmental education and extension to local people? Who accept and why?
2. What are the challenges for environment conservation?

3. How do you implement **integrated soil conservation and water harvesting (SCWH)** programs?
4. Do local people understand the conserve and cutting tree issues?
5. Explain the improvement during these years about plantation?
6. What do you need to promote to overcome the difficulties for environment protection?
7. What is the reason for deforestation?
8. Suggestion you want to give?
9. What is your future plan?

D. Access to credit

1. How can you access to the credit for you farming?
2. What are the challenges for getting access to the credit?
3. Is there any improvement in your family after you get loan for your farming?

E. Water Management

1. How and where can you get water for your cultivation?
2. Is the water enough for the cultivation the whole year?
3. What would you do with the available water beside cultivation?
4. Is there any irrigation system? (who build, how and where)
5. What is the improvement in the areas after the building of irrigation system?
6. What is the challenges and difficulties in building the irrigation system in the area?

F. Capacity building

1. What kind of capacity building have you given?
2. What is the improvement?
3. What is the challenge?

G. Wrap up

1. Is there anything you would like us to know?

BIOGRAPHY

Sai Hein was born and raised in golden triangle region of Myanmar. He is graduated from University of Computer Studies, Yangon in Myanmar with a bachelor degree in Computer Science. Currently he is studying Master degree in International Development Studies, Faculty of Political Science of Chulalongkorn University. Before attending this Master degree, he worked at the United Nations World Food Programme.