

**TCG PILOT PROJECT: SEIK GYI VILLAGE**  
**COMMUNITY – BASED EARLY RECOVERY PROJECT**  
**PROJECT REPORT and LESSONS LEARNED**  
**August – November 2008**



**By ASEAN Volunteers**  
**Seik Gyi Village**  
**Tawkhayan West Village Tract**  
**Yangon Division**

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# Executive Summary

**Community – Based Early Recovery Project** was developed to help assist the recovery effort from the impact of Cyclone Nargis. The Pilot Project is an ASEAN Humanitarian Task Force (AHTF) initiated project under the **Tripartite Core Group (TCG)**, consisting of Association of Southeast Asia Nations (ASEAN), Myanmar Government and United Nations, with cooperation between various local and international NGOs and governmental bodies to jointly carry out the early recovery effort in Seik Gyi Village, Tawkhayan West Village Tract, Yangon Division.

ASEAN volunteers work within the **volunteer spirits concept** and act as the Project Management Team to implement and facilitate the Community – Based approach which aimed to be an applicable replica, using Seik Gyi village as a based, to generalize as good practice for other communities those possess high risk of being threatened by natural disaster.

The Pilot Project objectives were firstly; to restore the livelihood of Seik Gyi community through “Build Back Better” (BBB) methodology and process. The activities within this section include Cash Crop Project: betel leaf distribution and Fishery Project: boat building and distribution project. Secondly was to repair community’s micro-infrastructure which involved the renovation and reconstruction within the monastery compound and wells renovation and cleaning.

Lastly, the pilot project was aimed to share knowledge and experience with other communities (villages, townships, divisions and TCG), this was carried out through the Betel Leaf Workshop Sharing (conducted by Plant Protection Division of Ministry of Agriculture), Betel Leaf Disease Lesson Learned Document (See Appendix 1) and Disaster Risk Management Workshop (conducted by a local NGO, Mingala Myanmar) and along with the CBER Project Report and Lesson Learned Document.

The project worked closely together with the villagers and the existing core groups, to enhance capacity building and self – resilience of the community through their active participation and cooperation. The holistic picture of recovery was aimed towards the integration of the disaster risk management of the community and poverty reduction scheme.

Towards the end of the report, a Community – Based Evaluation and lesson Learned Section is hoped to provide the reader useful background resource and recommendation for the future CBERP implementation.

# **Chapter 1:**

## **Introduction**

- **Background**
- **Scope of TCG Pilot Project**
- **CBERP Objectives**
- **CBER Approach**
- **Why Seik Gyi Village?**
- **Seik Gyi Village Background**

## Background

A category 3 Cyclone Nargis had struck Myanmar on Friday night May 2<sup>nd</sup>, 2008, it has devastated over a 23,500 square meters region that had affected approximately 2.4 million people. This is also an area which produces 29 percent of the rice harvest for the country, which further adverse the self-sufficient recovery effort. Cyclone Nargis had caused a massive loss of lives, livelihoods, property, and public infrastructure throughout southern delta region.

ASEAN volunteers had surveyed the affected villages namely in Kungyangon Township, which is one of the eleven priority townships, most severely affected by the cyclone. A village named Seik Gyi within this township was identified by ASEAN Volunteers on June 27<sup>th</sup>, 2008 as a seriously damage area due to the storm, wave and flood impact. Community – Based Early Recovery Project at Seik Gyi village was then developed to set as a pilot project to help recover at the early stage; the impact of the disaster and bringing back the livelihood in parallel with the other humanitarian aids. The pilot project is aimed to be an applicable replica, using Seik Gyi village as a based, to generalize as good practice for other communities those possess high risk of being threatened by natural disaster.

## SCOPE of TCG Pilot Project: Community – Based Early Recovery Project

**Community – Based Early Recovery Project (CBERP)** has been developed and initiated to support the community based self-sufficient scheme. ASEAN project was then later integrated to be **Tripartite Core Group (TCG)**, consisting of Association of Southeast Asia Nations (ASEAN), Myanmar Government specifically the Ministry of Foreign Affairs (MOFA) and United Nations to become **“TCG Pilot Project at Seik Gyi Village: Community – Based Early Recovery Project”** facilitated by ASEAN Volunteers.

Seik Gyi ASEAN Field office work under ASEAN Humanitarian Task Force office in Yangon and work in corporation with TCG: involving Governmental Ministry of Foreign Affairs, UN and other related parties.

The Project Management Team also worked within the **volunteer spirits concept**. ASEAN volunteers worked together harmoniously, and through the process, encouraged each other the notion of exchanging of cultures, ideas and promoted working together for common benefits of the community and society. Further, the volunteers were given an opportunity to develop their skill working within humanitarian fields.

## CBERP Objective

- 1) Restore the livelihood Seik Gyi community through “Build Back Better” (BBB) methodology and process
- 2) Repair community’s micro-infrastructure
- 3) Set up a pilot project to share knowledge and experience with other communities (villages, townships, divisions and TCG)

## Approach of CBERP

**Community – Based Early Recovery** approach worked within the framework that any project to be implemented at a community should work *with* the community and give rights *ownership* through processes. The community itself should be actively involved throughout the entire processes namely; the phases of assessment, analysis, design, implementation, monitor to the evaluation phase. The community dignity is promoted and given the key role to critically develop their own processes that are most suitable to that particular community, with the corporate partnership of governmental and non-governmental bodies.

This outline is supported by the notion that the community knows best about its local organization and social structure. The community is also the “first- hand” facing challenges and therefore; knows best how to overcome these obstacles.

Further, *capacity strengthening* was enhanced through this active participation, in parallel with raising the awareness of community management and improvement towards *poverty reduction strategy*. *Risk Reduction* is another significant principle; the strategy Build Back Better (BBB) to reduce risk of disaster in the future. In summary, the approach of the project is to enhance the community to raise their capacity which would create a more *sustainable* self- resilience community in the long term.

## Why Seik Gyi?

Community – Based Early Recovery Project work at the implementation level in respectful cooperation with the existing village structure and organization. With a strong community, 7 villagers had established the Nargis Committee after the Cyclone Nargis had struck. They were those courageous representatives who made movement to seek distributions of basic needs for the rest of the villagers. Thus, with this community strength and unity, it had added as an approving reason for ASEAN Volunteers to select Seik Gyi Village to be the target village of conducting the Pilot Project, since they have high potential to set the best example for community – based early recovery and development extended or propagated to other villages.

## Seik Gyi Village Background

**Brief History** (*Information provided by monk U Thaw Bi Ta, senior monk from Seik Gyi monastery*)

“Seik Gyi” directly translates to English means “big port”, the name arrived from its location that it is placed next to the Toe River which ends up at the Ayeyarwady delta. Further, it is believed that there was a period when the area is occupied by the British and also Japanese military during WWII since the location is connected to the rivers and the sea which allows for water transportation routes for sailing.

It is believed that Seik Gyi was set up by U Sei Ya Tun, who had moved from South Pyapon around 17<sup>th</sup> century. U Sei Ya Tu was originally the founder of Seik Gyi Monastery. Thus, around Seik Gyi village is

known to having Muslim settlement as well. The evidence can be seen from the remains of an ancient mosque building in Nyaung Wine Village that is about 1 kilometer away from Seik Gyi village.

The natural environment used to be an enriching rain forest that has plenty of wild animals such as tigers and elephants. U Sei Ya Tun was one of the earliest settler and first to start farming, and then there were the other followers, which many live on the harvested rice from the paddy fields.

It is known that the main economy in Seik Gyi is generated from fishery and Betel Leaf plantation. According to the monk, there were originally three fishermen families moved to Seik Gyi around 56 years ago and started fishing, then fishery has begun ever since. As for the Betel Leaf Plantation, it is believed to have started since 80 years ago in Seik Gyi village; however grown for consuming within the local community and was not for business. During the past 15 years, Betel Leaf plantation has been more popular and has become one of the main sources of income in Seik Gyi village.

### **Village Information & Demographics**

There are *288 households, 325 families and population of 1,318*, making Seik Gyi the second largest village in the Tawkhayan West Village Track. Its neighboring villages include Mayt Lay Yone, Naung Wine and Kyun Chaung Village.

GPS coordinates: N. 16°24.17.6/ E 096° 0125.2

P Code: MMR013029013

The village is located in Yangon Division, Kungyangon Township. It is approximately a 3 - hour drive in southwards direction from Yangon. The main facilities within Seik Gyi Village include the monastery, small stupa ground and a school, all of which have been destroyed at different degrees of damage by the cyclone Nargis.

The main occupation composition for this village consist of Betel Leaf grower 49%, farmers 28%, pig farm 22%, fisherman 11%, duck farm 6%, general workers 6%, tailors 6% and venders 5%, due to the fact that villagers carry out more than one occupation over different periods of time while almost all houses have their own home gardening.

# **Chapter 2:**

## **Community – Based Early Recovery Project Mechanism**

- Assessment Phase**
- Design Phase**
- Implementation Phase**
- Monitor Phase**
- Evaluation Phase**

## PROJECT ASSESSMENT AND DESIGN

*ASEAN volunteers assessment team had started surveying at Tawkhayan West Village Tract by organizing meeting with the four villages namely; Seik Gyi, Myat Lay Yon, Kyun Chaung and Ngaung Wine Village since July, 2008*

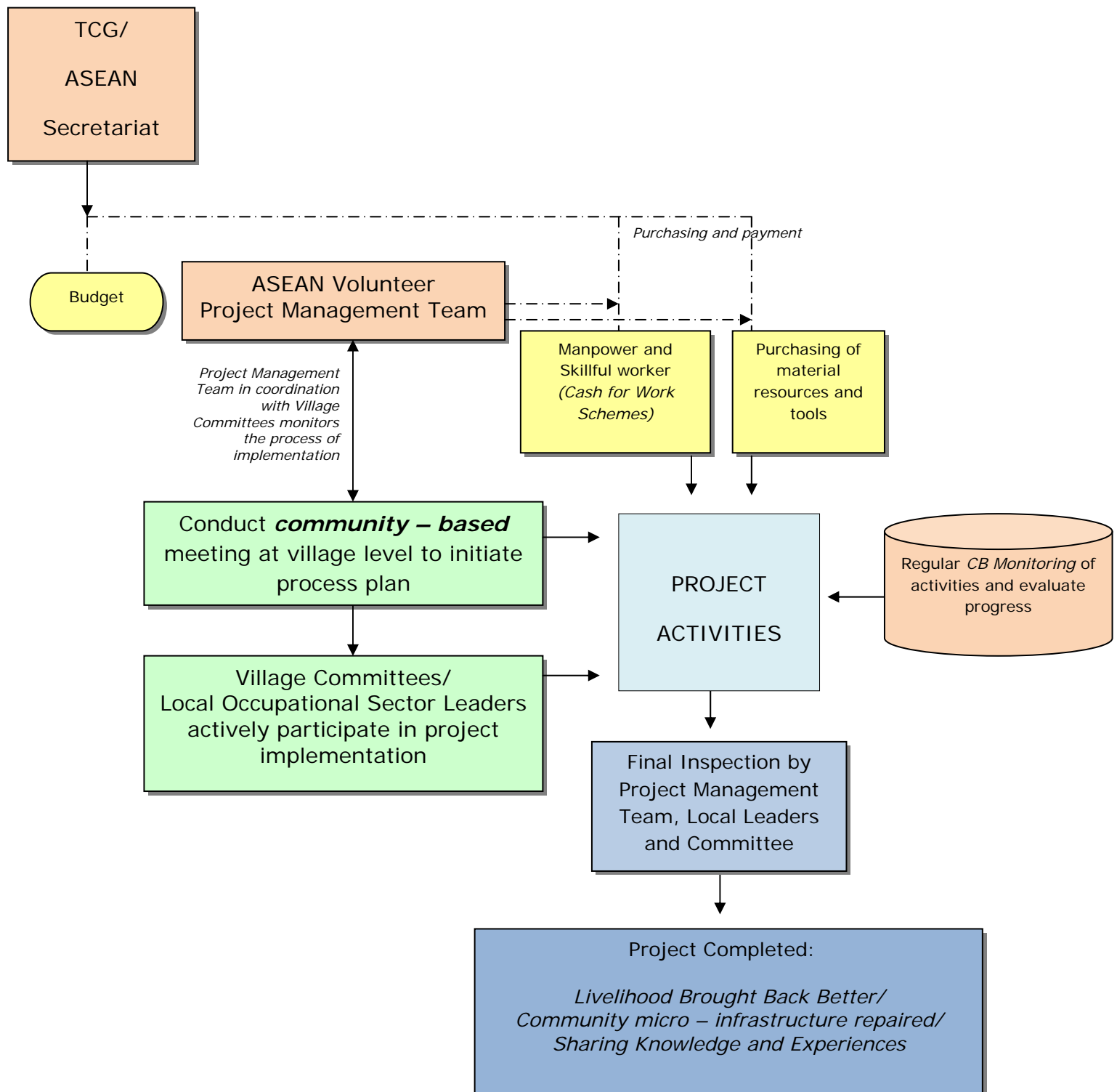
### ***Outline of Assessment Process***

- **Collection of Village Information:** gather from villagers and village committee for introduction visiting purpose and organize interview meeting of the villagers' needs at the monastery.
- **Clustered Occupational Group Meeting:** mainly farmers, fishermen, general worker and housewives were divided into groups to conduct a more in depth meeting to assess and analyze their needs.
- **Tools of Assessment:** Examples include; drawing of community maps and specific working area of each occupation, disaster calendars, harvesting calendars, drawing draft structure of the fishing boats and list of background information of resource details.
- **Identifying Need Assessment:** open opportunity for the villagers needs to be raised in depth, including basics needs and requirements for early recovery of their livelihood along with identifying what assistances have been reached or met. Encouragement of suggestions and comments of the possible trend of supporting activities to be conducted.
- **Encouragement of Groups Leader to be Established:** for strengthening the community self – management and to support feasible corporation between the governmental and non – governmental parties.

### ***Designing Process***

According to the community – based assessment from the interview surveyed along with the possible activities suggested by the village and its committee, project plan was laid out to be analyzed towards developing the project framework. Some of the factors for building up the design included; ceiling of timeframe and budget, background information of logistics system, transportation options, economic market price, resources of material location, human resource, and most importantly; the villager need assessment data.

## General Implementation Framework Diagram



The diagram shows the general framework of implementation within all the different project activities, at which, towards the finalized project implementation; one or more objectives set must be met.

## PROJECT IMPLEMENTATION

*ASEAN Management Team worked closely together with the villagers and the existing core groups, to enhance capacity building and self – resilience of the community through their active participation and cooperation.*

### ***Stakeholders Involved***

**Main Committee and Nargis Committee** is the existing core groups at the village level organization. They have the main key roles to be the representatives of the villager, facilitate between ASEAN Management Team and other villager groups. It is to be noted that above this Committee structure level, monks take a significant role in overall rules of the village.

**Local Leaders** were encouraged to be formed and by specific occupational leaders for facilitating in each project implementation in parallel with the ASEAN Team Management. Namely; the Betel Group Leaders, the Boat Building Group Leader, Wells Renovation Group Leader and Construction Group Leader to assist and self - manage the processes of project implementation.

**Local Authority and (i)NGOs Coordination Meetings** are regularly participated and discussed. The plan updates and coverage areas are informed and able to be clarified and to avoid overlap. Challenges and gaps can be discussed as well as sharing of possible resources.

### ***Implementation Outline***

- **Group Meetings at Village Level** with the community are conducted as necessary, to discuss and plan on the processes of project implementation, to ensure the steps of work for each phrase, to update the progress and challenges faced and solutions to be further proceeded.
- **Designing the Process** of each sub projects together with the community (example; initial step; local construction team designing blueprint for the monastery facilities such as walkway from entrance to main hall)
- **Identification and Mobilization of Support** for each project necessary to conduct the project (example; sources of materials, types, material quantities, number of workers or teams required and defined workshop need to initiate as necessary)
- **Assign Key Roles** to the local group to aid in project implementation within the timeframe and defined resources

## PROJECT MONITORING

ASEAN Management Team monitored the entire project sections including Project Field monitoring in parallel with the Local Leaders Team. ASEAN Team also monitored of resources, finance and quality of output.

- Regular observation of each project progress
- Situational evaluation and improvement of process when appropriate

- Quality Control was initiated especially for the Fishery Project to ensure the quality of fishing boats to maintain the same standard, which was the process brought up by the Local Nargis Committee
- Ensuring non- overlap distribution of bring back livelihood distribution types (e.g. either supported by fishery project or Betel Leaf Project to the listed household request) to each household by using community map as a tool

## PROJECT EVALUATION

*Community – Based Evaluation Plan is designed by ASEAN Management Team for the villagers to evaluate the Model Village: Community – Based Early Recovery Project since the lesson learned and evaluation from this project would be the background resource and recommendation for the future CBERP implementation.*

### **Evaluation Process Outline**

- **Created Measuring Tools:** the measurement design is done through setting the project objectives as the foundation to segregate project activities accordingly. Indicators are then produced from each objective that would lastly; determine the questions and methods that should be conducted for evaluation. This approach is to ensure that the tools used is the comparative and reliable for the project evaluation. The style of language must also be modified appropriately to be suitable for the target groups.
- **Methods of Community – Based Evaluation:** interviews and Likert Scale of 1-5 level of satisfaction was used. Clarification discussions on the points given were also enforced for a more in depth evaluation understanding and further recommendations
- **Evaluation Meeting:** differentiated groups according to various activities were asked to participate in the evaluation meeting to assess different sector of projects outcome. The facilitator makes sure that each question is understood clearly and is within the same definition scope of both Myanmar and English language as well as in the local perception.
- **Transparency:** Likert boxes were used and the result frequency of each question was written immediately after counting, in their presence.
- **Detailed Methodology, Interpretation and Results Summary can be found in Chapter 4**

# **Chapter 3:**

## **Project Details and Project Achievements**

- **Project Duration and  
Schedule**
- **SECTION A**
- **SECTION B**
- **SECTION C**
- **SECTION D**

The total duration for project activities includes a four-month total timeframe. The first three weeks will involve procuring the necessary equipment and materials from Yangon or Southern Mandalay.

The table indicates the project plan timeline compared to the actual implementation period

ACTIVITIES	DURATION	2008															
		August				September				October				November			
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b><u>Preparation Phase</u></b>																	
1. Community Mobilization	3 weeks																
<b><u>Implementation Phase</u></b>																	
1. Procurement and Distribution of Betel Leave Saplings	4 weeks																
	6 weeks																
2. Procurement of woods and Carpentry Tools for Boat building in Seik Gyi Village	6 weeks																
	3 weeks																
3. Building of Fishing Boats for Seik Gyi Village	13 weeks																
	8 weeks																
4. Procurement and Distribution of Fishing Nets for Seik Gyi Village	2 weeks																
	7 weeks																
5. Procurement of woods and Carpentry Tools for Boat building in Myat Lay Yone Village	3 weeks																
6. Building of Fishing Boats for Myat Lay Yone Village	4 weeks																
7. Procurement and Distribution of	5 weeks																



## **Section A**

### **Restoring Livelihood by Ways of Build Back Better (BBB)**

#### **1) Cash Crop Project: Betel Leaf Distribution**

## Why Betel Leaf Distribution Project?

Betel leaves plantation is one of the major livelihoods in this village for the biggest part of the population, hence, the name of Kungyangon Township means “betel leaves” at which the geography of the area is the best environment to grow the betel leaves. This cash crop is sold in the whole country. Cyclone Nargis had destroyed betel leaves plantation along with many other cash crop.

Distribution of Betel Saplings Project was then concluded from the assessment of villagers’ livelihood need that this will bring back their occupation and so recovery and sustain their vanished livelihood. A group of Betel Leaf Leader representatives was established for direct involvement and management for their betel leaf growing community, this also promotes for capacity building of the village.

## Accomplishments

The project provided 1,000 saplings for each family household at the rate of 100Ks per sapling. 159 household families have benefited from the betel leaf distribution, at which 29 have additional for replacement from the affected disease plantations. Additional of chemical for betel leaf disease was provided for each family household along with fertilizer that can support for 3 - month period, the duration before harvesting.

### Timeline

#### Betel Leaves Plantation

#### 1,000 saplings

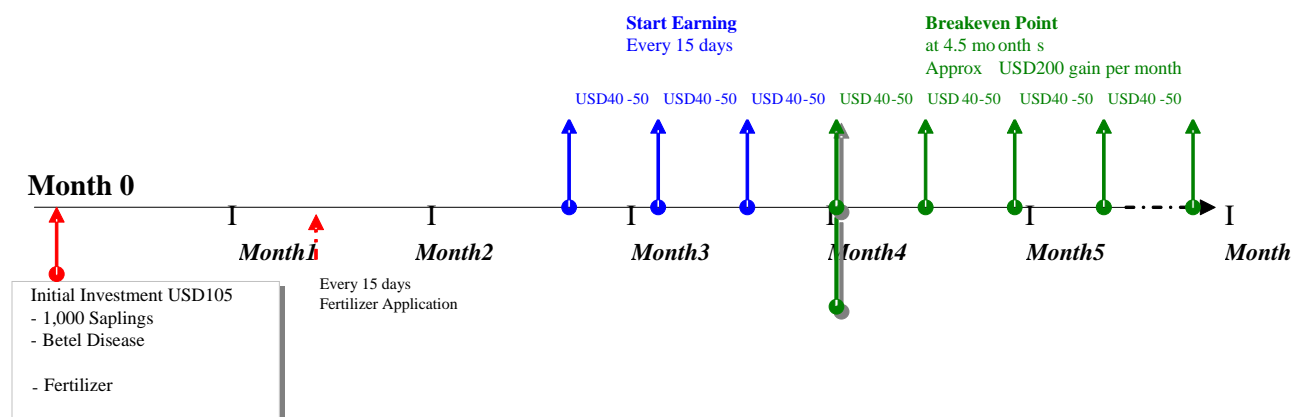


Figure of Betel Leaves Plantation Timeline) Indication of the Betel Leaf cash crop income and its breakeven point that the growers can gain and sustain their livelihood, after 3 months of successful plantation, the betel grower can earn US\$ 40- 50 every 15 days. There is a continuous market demand for betel leaves; thus, it must be noted that the prices fluctuate accordingly to the market.

## Betel Project Implementation Process

**Materials Mobilization:** Betel Leaf Sapling source came from the Ministry of Agriculture for the first distribution, thus, it was learned that the local traditional process of involvement in the initial survey and selection of the healthiest saplings contribute to a more securing health of the garden in long- term as well as for the community as a whole. The second distribution was then done by the later process description.

1,000 Saplings (100Ks per Betel Leaf sapling) are distributed to each household that is on the Betel Registration List, though it should be commented that in some cases, the Betel grower are willing to pay extra money to get the healthiest Betel saplings. The price also fluctuates according to the market and often rises when there is the higher demand for saplings.

### Process of Distribution:

- Documentation of registration is necessary to ensure transparency and to crosscheck for an overlap of assistants allocation, the details recorded include; name of receivers, fathers' name, National Registration Card Number (NRC No.), description and quantity of distributed items and signatures
- Temporary holding of NRC No. is a process introduce by the local committee which helps to ensure single distribution per one household until the distribution process complete. This process was conducted during the second distribution of Betel Leaf saplings when the process of procurement of resource was done by the local villager team directly.
- Advance money was given to the local Betel Leaders who represent for their group members to purchase the saplings while the local committee holds the NRC until they came back with the saplings purchased
- Chemical to prevent Betel Leaf disease is given together when returning NRC and at the same time; emphasize 'How To' about the chemical application and awareness using the information board
- Random monitoring of the Betel gardens was conducted shortly after and follow up with emphasizing that the Betel grower to use the chemical to reduce the susceptibility of the young saplings which the environment were fairly contaminated with Betel disease from the first distribution

### Challenges and Overcome

There have been appearances of two (2) diseases among the seventy (70) saplings distributed during the first distribution to the targeted families since 9 August 2008. These diseases are locally named "Daung Mee Quet" (*Phytophthora parasitica*) and "See Son" (*Xanthomonas betlicola*). The **Lesson Learned Document** was produced from problem faced due to the Betel Leaf Disease spread and it is aim to aid those agencies interested in seeking background information of the Betel Leaf plantation, distribution process and disease awareness.

## **Section A**

### **2) Fishery Project:**

#### **Boat Building and Distribution Project**

Fishing is respectively, a ‘popular’ work to make a living in Seik Gyi Village, since it is located at the delta region. The name “Seik Gyi” means ‘big port’ at which there is a common port by the river bank where, fishermen from various villages gather to make temporary residence during the blooming season of fishery (November – February) to fish and get their highest income of the year. The income earned can be up to about US\$ 170 per month during the peak season, with variation according to fishermen skills and the fishery market. Thus, support of fishery recovery sector is necessary to assist in their upturn of valuable assets to carry on their lives.

### ***Accomplishments***

*The project supported 34 fishing boats along with providing drift nets to replenish their lost of physical assets for their occupation at Seik Gyi Village*

*The extended project also supported the built of additional 29 fishing boats and 31 drift nets to the fishermen of Myat Lay Yon Village*

(Please See APPENDIX 2 on fishermen interviews from Seik Gyi and Myat Lay Yone Village)

### **Fishery Project Implementation Process**

**Source of Materials:** The wood material resources are commonly found in the village natural environment, locally named “Rockdammar” this tree is a common tree that each household try to grow in their gardens for their future resources, thus, the raw materials for the boats building are from the local resource and so further support the local economy of the community.

The drift nets (500,000Ks) are highly expensive compare respectively to the cost of 19ft fishing boat (350,000Ks), thus it is the most significant tools for fishery occupation. Ordering of drift nets was from outside of Kungyangon Township. One set of drift net consist of five net pieces, ropes, lead balls and buoyancy balls.

In some cases, it should be also commented that the fishermen themselves, may contribute of their personal money to the boat build to get a bigger size boat that is suitable to his fishing location and skill. This is sometime out of the monitoring system and intervenes with the lucky draw process, thus when the issue is caught up and that the involved parties agree, this process should be supported since it clearly met the specific needs of the fishermen.

**Boat Building Process:** Boat Builder Teams were established to support **cash for work schemes** and promoting the local carpenters to use their well crafted skills to make quality boats which also drive towards a stronger community. This local carpenter skill is especially well crafted and suitable design that matches with their usage of function, since there are many styles of boat specific for each type of water characteristics. The general size of the boat is 19ft long and a bigger size is 24ft in length.

### **Boat and Fishing Nets Distribution Process:**

- Boat Registration is necessary for the clearly distribution process, the method was done by ways of permanently number coding the boats and lucky- draw for the ownership to each boat and often add excitement to the people.
- Fishing nets distribution is done by ways of documentation recodes of significant details and signatures with prior quality checking process

### **Challenges and Overcome**

***Distribution Efforts:*** Seik Gyi village have received drift nets that consist of five (5) net pieces per one net set while, Myat Lay Yone village received one net set consisting of three (3) net pieces per one set, this was due to the limited budget, thus, as the conclusion from the community – based discussion; reduction of the number of net pieces was agreed since it is fair that all fishermen received equally support at the level that was just adequate to carry on their occupation. This solution was also significant that the assist aid did not turn into or had the potential that it would create internal conflicts within the community, community – based arrival of solution was thus, very significant.

***Quality Control Mechanism:*** Fishery project in the neighboring village, Myat Lay Yone, carried out a considerable different management process, despite the two villages are next to each other and the process learned from the pilot project had assisted in the application of process implementation. The divergence is due to the fact that the village organization structure is more heterogeneous in nature compare to Seik Gyi Village, further; there was internal variance existed among the committees.

With this, the carpenter teams were more various and consequently, crafted of very different boats style and quality. Quality Control Representative consisting of one Village Committee, Fishermen Committee and fisherman of long practice of fishery was voted by the village to ensure that each of the different boats produced from different carpenter teams were the maximum quality that it could be for its own uniqueness. This QC representative is a process lesson learned from the Seik Gyi model village.

## **Section B**

### **Repairing Community Micro - Infrastructure**

- 1) Renovation and  
Reconstruction  
within the  
Monastery Ground**
- 2) Wells Renovation  
Project**

## **1) RENOVATION AND RECONSTRUCTION OF RELIGIOUS INFRASTRUCTURES**

### **Why Renovation within the monastery ground Project?**

Seik Gyi Village is entirely a Buddhist community, thus the monastery is the essential core for the villagers' religious spirits and social union. Renovation within the monastery ground was initiated to bring back the community livelihood unity and spirits after some infrastructures were severely destroyed by the Cyclone Nargis.

### ***Accomplishment***

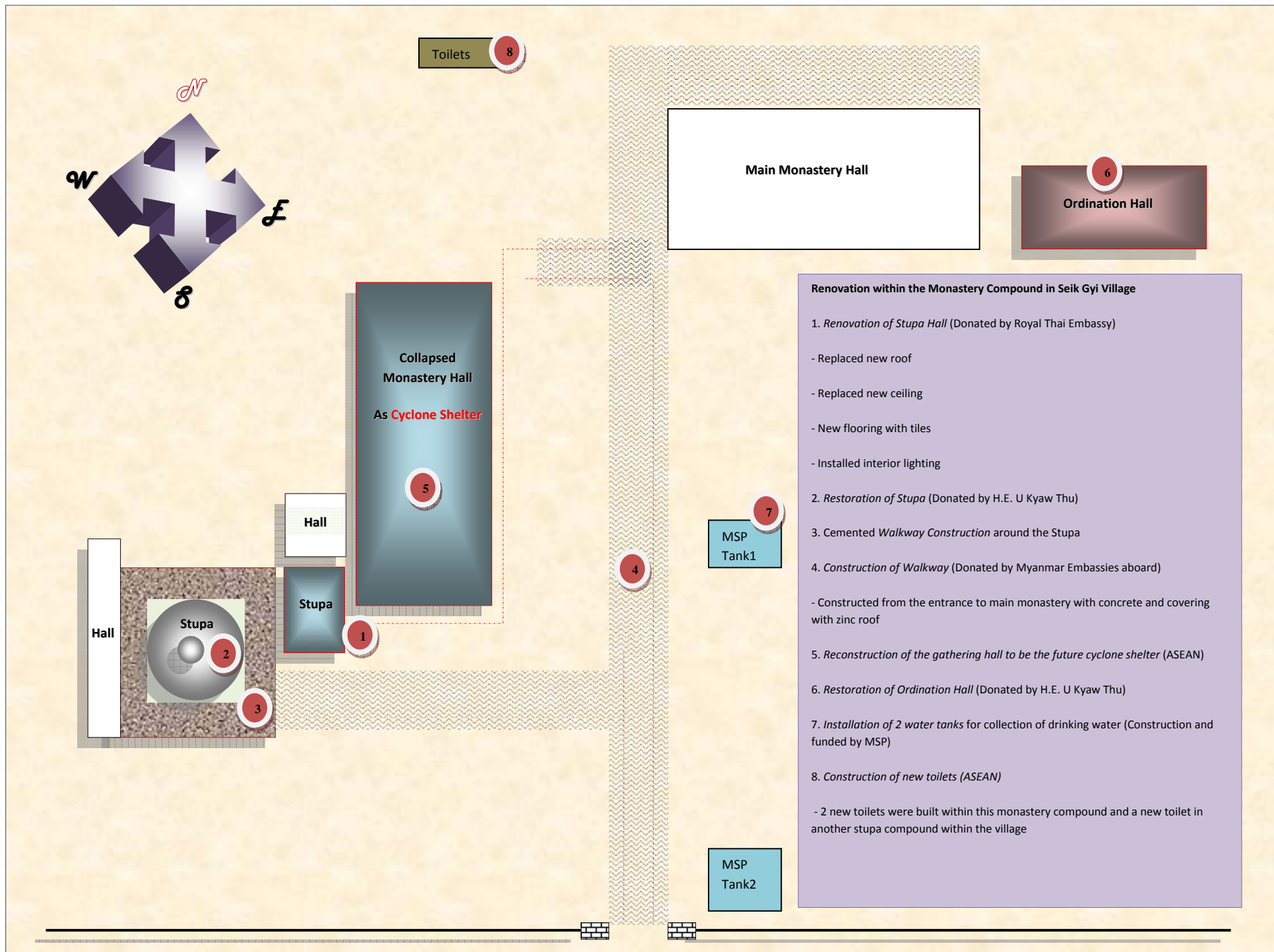
*Monastery walkway entrance and Stupa Hall were reconstructed (donation supported by Royal Thai Embassy), the Stupa was renovated with additional of the new crowns, walkway around the stupa was newly constructed and renovation of Ordination Hall (donation supported by H.E. U Kyaw Thu).*

*The stronger construction of collapsed gathering hall will also act as the evacuation shelter for the future, if unfortunate natural disaster may strike again, an ongoing process supported by ASEAN Coop Fund)*

*Three toilets were newly built within the monastery compound in Seik Gyi Village and three toilets built in Kyun Chaung Village.*

*Two MSP drinking water tanks were constructed within the monastery compound as well.*

*See the map of the monastery below of the renovation and construction layout.*



## **Renovation Implementation Process**

**Source of Materials:** Most of the construction materials were brought in Kungyangon Township, though there is sometimes limitation in choices and quality, parts of the materials for example; tiles were brought from Yangon. Transportation of these supplies is highly costly and sometimes higher than the actual resource cost; due to the distance and poor road conditions. Thus, the specification of construction must also meet the satisfaction of the donor.

## **Implementation of Renovation Process**

- Community – based designing by the Construction Leader Team is the first step for the plan of design to fit the cultural art design and local skills.
- Cash for Work Scheme was used for hiring workers and generate more income to the community and help to revive the sense of unity and Build Back Better for the community together.

## **Challenges and Overcome**

The fast pace of ordering materials makes the management fairly difficult when the system is not strongly in place, the system supported must act promptly to assist the urgent needs and delivery of materials as well as monitor of resource closely.

## **2) WELLS RENOVATION PROJECT**

### **Why Wells Renovation Project?**

There are 33 wells within the village including 4 in Seik Gyi monastery, some of which were broken and not safe for consumption, along with sea water over filled in after cyclone. The project was aimed at raising the safety and sanitation level for the better livelihood of the village.

### ***Accomplishments***

*33 community wells have been renovated by building up the brick reaching to the standard height and being plastered for safety and raising the sanitation level for better utilization of the community. Further, MSP Limited had constructed two water reservoir units of store of rain water for the monastery and the villagers to consume drinking water.*

**Implementation Process** involved establishing Local Well Renovation Group Leaders and generated cash for work schemes.

## **Section C**

# **Sharing Knowledge and Experience with Other Communities from the Pilot Project**

## **SECTION C: Sharing knowledge and experience with other communities from the pilot project**

### ***Betel Leaf WORKSHOP conducted by Plant Protection Division of Ministry of Agriculture***

Coordination of Betel Leaf Disease Awareness and Prevention workshop was needed to raise awareness about the disease and chemical application. The workshop introduced and explained the knowledge about the understanding of each disease, as well as demonstrated the proper way of chemical application by spraying method through VDO watching. The workshop was conducted for Tawkhayan West Village Tract: Seik Gyi, Myat Lay Yone, Ngnang Wine and Kyun Chaung Villages, with great participation of over 400 villagers involved all together for the two rounds of presentation.

### ***Betel Leaf Lesson Learned Document***

The document information is based on the training and suggestion instructions received during the workshop as well as local wisdom from the long experience growers. The document is intended for any interested agencies seeking for background information on Betel Leaf plantation, specific disease to Betel Leaf and chemical application and awareness

### ***Disaster Risk Management Workshop implemented by Mingalar Myanmar***

Since, the region is still a prone area to the natural hazards; the disaster risk management of the community was seen as necessary. Invitation of Mingalar Myanmar to conduct the DRM at village level to the four villages was carried out to raise a higher awareness and preparedness of the community.

Activities included the seminar training, group discussions and environmental survey of the village resources and vulnerable fraction of the community. The villagers then were promoted to draw their community map and what they saw from the survey at which, integrated understanding is enhance in this process.

An initial preparedness plan and core groups of given key responsibility was established as well. Further, a sustainable disaster risk reduction was enhanced through the promotion of mangrove plantation through the participation of the whole community. In addition, a poor family of the four villages were given 25 ducks each supported by Mingalar Myanmar, in the exchanging condition that they would be key responsibility to replant of more mangrove in the aim to generated the natural buffer to resist the future natural disaster like the cyclone.

### ***TCG Pilot Project in Seik Gyi Village: Community – Based Early Recovery Project Report***

This document is the significant part of the share knowledge and experience from the model village. The report includes the concept, its mechanism, community – based Project management , evaluation and lesson learned during the process of the pilot project, which aims to be the source of information background for any parties of actors to implement elsewhere.

## **Section D**

# **Network Connection and Benefit Generated**

## SECTION D: Network Connection and Benefit Generated

The project has been worked with various organizations to implement various activities at Seik Gyi Village, namely;

- **Tripartite Core Group (TCG)**
- **Coordinating Office for ASEAN Humanitarian Task Force (AFTH)**
- **Myanmar Engineering Society (MES)** for architectural support and design of monastery facilities reconstruction and Stupa renovation
- **UNHCR** for distribution of kitchen equipments, mosquito nets, soap, Jerry can, feminine sanitation kits
- **Royal Thai Embassy** for clothes, sewing machine, drinking water, food and donation for the renovation of Stupa hall
- **Ministry of Agriculture and Irrigation** for donating books on agriculture
- **Care Myanmar** for supporting the pumps for wells cleaning during rainy season
- **MSP Limited** for building of 2 water drinking reservoir tanks
- **ASIA WORLD** for the reconstruction of the collapsed monastery hall that had been destroyed by the cyclone at which, it building is aimed to be build back better to be the evacuation shelter for preparedness of the future
- **Ministry of Agriculture: Plant Protection Division** for technical assistant and workshop on Betel Leaf Disease and prevention
- **UNICEF** for distribution of school kits, recreation kits, furniture, sharing pump resource to clean the wells and reconstruction of Kyun Chaung Primary School
- **Myanmar Red Cross** for sharing of pump resource to clean the wells in Seik Gyi Village during late rainy season
- **Mingalar Myanmar** for Community – Based Disaster Risk Management training at village level to raise awareness and understanding of disaster hazards and facilitate in generating community – based initial preparedness plan at Seik Gyi, Myat Lay Yone, Ngaung Wine and Kyun Chaung Village
- **Women of ASEAN in Yangon (WAY)** for donation for supporting fishermen with 2 boats to Kyun Chaung Village
- **Ministry of Foreign Affairs (MOFA), Deputy Minister U Kyaw Thu and Myanmar Embassies aboard** for donation of construction of Stupa Walkway, Stupa and Ordination Hall renovation. Also, distributing 95 towels and 205 pairs of socks to the elderly and the monks especially

Participate in the Township Meeting and Coordination Meetings for clarifying the project details and coverage area to avoid of overlapping and possible cooperation of resources to meet the relief and early recovery needs. Main organizations in connection are as follows;

- **OCHA**
- **Triangle**
- **Save the Children**
- **Care Myanmar**
- **IDE**
- **UNICEF**
- **UNICEF: Child Protection**
- **Myanmar Red Cross**

## **Chapter 4**

# **Community – Based Evaluation**

# Evaluation

*Community – Based Evaluation Plan was conducted to assess and evaluate the Pilot Project: Community – Based Early Recovery Project results and successes, since the evaluation and lessons learned from this project would be the background resource and recommendation for the future CBERP implementation.*

## Methodology

The community – based (CB) evaluation was conducted by the facilitators that must run the process thoroughly and ensuring the definitions of the evaluation questions are understood in the same scope for the local villagers and for the Evaluation Team. The questions asked would lead to answering if the indicators are met and at what level, in other words; **the CB evaluation shall answer whether if this Pilot Project using the Community – Based Early Recovery Approach, has truly met the villagers needs and have brought back better livelihood to their lives.**

## Measure Instrument

- **Interview** with the project stakeholders such as the Main Village Committee and the Nargis Committee, fishermen and Betel growers
- **Group Discussion** is promoted to open an equal opportunity for opinions to be raised and feedbacks from the beneficiaries to each of the questionnaire questions. Challenges or problems are also able to be discussed equally.
- **Likert's Scale Questionnaire:** evaluation of the villagers; level of satisfaction scaling 1 – 5

(Please See APPENDIX 3 for the detail table of evaluation instrumental process)

Likert' s Scale	Interpretation Scale	Meaning
Level 1	0.0 – 1.9	Community is satisfied/ agreed or has possibility towards positive trend in the lowest level
Level 2	2.0 - 2.9	Community is satisfied/ agreed or has possibility towards positive trend in a low level
Level 3	3.0 – 3.9	Community is satisfied/ agreed or has possibility towards positive trend in a medium level
Level 4	4.0 – 4.49	Community is satisfied/ agreed or has possibility towards positive trend in a high level
Level 5	4.5 – 5.0	Community is satisfied/ agreed or has possibility towards positive trend in the highest level

## Evaluation Result Summary Table

(Please See APPENDIX 4 for detail table of evaluation results)

Indicator	Level of Satisfaction
<b>Activities A: - Distribute Betel Leaf Sapling and Chemical to Prevent Betel Leaf Disease</b> <b>- Set up the Betel Leaf Disease and Chemical Awareness for Betel Leaf Grower</b>	

Betel growers feel more secure about their financial situation.	3.3
Project helps them to recover quicker (compare to if there is ASEAN project at the village).	4.9
<p><i>Villagers have knowledge about betel disease</i></p> <ul style="list-style-type: none"> <li>- The villagers think that The Betel Leaf Workshop is useful for them.</li> <li>- The villager think the lessons learned from the Betel leaf workshop is able to help them to solve potential Betel Leaf disease.</li> <li>- The villagers know how to prevent and mitigate Betel Leaf disease including preparation for soil before plantation.</li> </ul>	<p>4.95</p> <p>4.66</p> <p>3.13</p>
<b>Activities B : Support Building of Fishing Boats and Distribute Fishing Nets</b>	

They have boat and nets those are suitable with their traditional fishery style.	5
The villagers think that the boats and nets provided are able to generate income to support their livelihood in the long term.	5
The villagers feel that their standard of livelihood is increase and feel more secure.	5

Indicator	Level of Satisfaction
<b>Activities C: Community Well Renovation and Toilet Construction in Monastery Ground</b>	
The villagers have a safer and hygiene well for their usage	5
The sanitation standard of the toilet is raised higher than before	5
<b>Activities D: Existing Local Core Group Corporate with ASEAN (Nargis Committee and Main Committee) to Generate a Community Based Early Recovery Project.</b>	

<p><i>Local core group have ownership to the project process to co - operate with ASEAN to generate Community Based Project</i></p> <ul style="list-style-type: none"> <li>- The local core group feels that they were given adequate opportunity to assessment process.</li> <li>- The local core group feels that they were given adequate opportunity to design process.</li> <li>- The local core group feels that they were given adequate opportunity to implementation process.</li> <li>- The local core group feels that they were given adequate opportunity to evaluation process.</li> </ul>	<p>4.81</p> <p>4.81</p> <p>4.81</p> <p>4.81</p>
<p><b>Activities E: Sharing Betel Leaf Knowledge with Other Community</b></p>	

<p>1. The other 3 villages have gained new knowledge about disease and awareness of chemical to prevent Betel disease</p> <ul style="list-style-type: none"> <li>- They think that the Betel leaf workshop is useful for them.</li> <li>- They think that the lesson learned from the Betel leaf workshop is able to help them to solve potential Betel Leaf disease.</li> <li>- They know how to prevent and mitigate Betel Leaf disease including preparation for soil before plantation.</li> </ul>	<p>5</p> <p>5</p> <p>4.27</p>
Indicator	Level of Satisfaction
<b>Activities F: Practice of Project Implementation using Community Based Approach</b>	
1. Community Based Project theory and practice serves the villagers needs.	5

## CBERP Evaluation Results

### *Restoring Livelihood by Ways of Build Back Better (BBB)*

*“This workshop is useful for us, we can apply the new technique with our traditional style of betel gardening”* quoted from Betel Grower feedback from the Betel Leaf Workshop by Plant Protection Division

#### **Evaluation Results A:**

- **Betel Leaf Saplings and Chemical Distribution**
- **Betel Leaf Workshop to Raise Awareness and Understanding about Betel Disease and Chemical Application**

The Betel Leaf grower agreed at the highest level, that the project has help them to recover quicker (LSt = 4.9), a message from the Betel grower said *“After Nargis hit Siek Gyi we do not know what to do, we all do not have money to buy betel leaf saplings and we loss hope to get back to be betel leaf grower. I think we might not start it again if we not get support from ASEAN volunteer team”*

Though, they still feel moderately secure about their financial situation concerning the income from the Betel business (LSt = 3.3). According to the group discussion, 75% suggests that their gardens are healthy in condition, thus the concern lies with the unsure security of the disease which can impact on their harvest income. Further, another biggest threat is that the market price for Betel Leaf will declined when there are ready to sell the product.

As for the knowledge evaluation outcome of the Betel Workshop, it indicates that the participated villagers highly agreed on the usefulness of the workshop (LSt = 4.95) and very much agree that the knowledge learned is able to help them to solve the potential Betel Leaf disease that may occur in the future (LSt = 4.66). Thus the villagers moderately understand the process of ‘How To’ on disease prevention and mitigation for example; soil preparation prior to planting the saplings (LSt = 3.13). This indicator could be from the reason that the workshop introduction method is not suitably for the villagers learning nature. They may learn much better with more understanding through doing which one of the grower also mention *“I need the technician to teach us more in action on how to do it, if they do not demonstration to us, we do not understand”*.

## **Evaluation Results B: Support Building and Distribution of Fishing Boats and Drift Nets**

*“While we build each boat, the owner will work with a carpenter and a fisherman to build boat together, so each boat not only generate income to the fisherman who own the boat but the carpenter, wood seller and the other fisherman who help build the boat”* Quoted from the fishing group discussion on Cash for Work Benefits.

The fishermen from Seik Gyi Village hold the highest level of satisfaction that the distributed boats and nets are suitable with their traditional fishery style which will be able to generate income to support their livelihood in the long term as well as, highly feel that their standard of livelihood is increase with higher sense of security (LSt = 5, 5, 5)

The boat and nets quality would last approximately 5 years; this is considered for the fishermen as long – term period to sustain their living. Further, some cases mention that without these occupational assets provided: *“we might have to borrow money from the rich people and also we have to pay a lot of interest, if we do so, we cannot earn enough money to do anything and yes of course; we cannot have a good standard of living”*.

## **Repairing Community Micro - Infrastructure**

*“We feel happy and secure because after the cyclone nearly all wells were collapsed. Common wells were also not easy to renovate. We couldn’t afford to fix it, ASEAN then came and renovated it and after pumping up the water, so we can use it again”* message from group discussion of Project Evaluation.

## **Evaluation Results C: Well Renovation and toilet Construction in the Monastery Ground**

The villagers feel at the highest level of satisfaction that renovated wells are safer and more hygiene for their usage and the newly built toilet; sanitation standard are raise higher than before (LSt = 5, 5)

## **Group Discussion: Walkway and Stupa Hall Renovation**

The religious is very important for their faith. They feel happy and satisfied since, they could not have renovated the Stupa by themselves because they have lost every valuable belonging from cyclone, so they cannot donate money to build the monastery. The support in the monastery renovation is useful and beneficial for them to carry out religious activities and for future cyclone shelter.

## *Set Up Model Village to Share Knowledge and Experience on Community – Based Early Recovery Project with Other Communities*

### **Evaluation Results C: Sharing Betel Leaf Knowledge with Other Community**

Betel Workshop was conducted by Plant Protection Division of Agriculture Ministry where knowledge was shared with the neighboring villages: Myat Lay Yone, Ngaung Wine and Kyun Chaung

The result indicates that the Betel Leaf Workshop is most useful for them and the lesson learned is able to help them solve potential Betel Leaf disease at the highest level (Lst = 5,5). While the “know how” to prevent and mitigate the disease for example of soil preparation of soil before plantation is at the medium level.

This can be supported by the comment from the group discussion suggesting that there needs more intensive and suitable workshop about the preventive methods for Betel Leaf disease. Recommendation is that the workshop shall involve action in the Betel Garden context and giving demonstration with active participation.

### **Evaluation Results D: Existing Core Group Cooperate with ASEAN to generate CBERP**

*“I am satisfied because I can help and take participate in every part of this project”*

The Likert’s Scale results indicates that the local core group (Nargis Committee and Main Committee) feel that they have ownership to the processes, in other words; they were given adequate opportunity of involvement in the assessment, design, implementation and evaluation processes at respectively the highest level (LSt = 4.81, 4.81, 4.81, 4.81). These findings then signify that this Pilot Project has been truly carried out in a community – based manner; in approach principle and practice.

### **Group Discussion Comments**

#### *ASSESSMENT*

*“I heard the news about TCG from radio and at that time some people from TCG came here for assessment. I tried my best to help them because there are 3 organizations under TCG and I believed that they can help our village effectively”*

#### *DESIGN*

*“I liked to be involved in the meeting with the volunteers about the project designing because they discussed about the community’s need “*

*“I was satisfied that the design of the project was suitable for the villagers’ need and they discussed with the monk, main committee and the village committee”*

## IMPLEMENTATION

*"I got the good opportunity to involve in this project and I am satisfied that we could implement the village's main need"*

## MONITOR

*"I try my best to manage in the monitoring process of the project and I am satisfied and I think that this project is really successful"*

### **Evaluation Results E: Practice on Project Implementation using Community – Based Approach**

The evaluation finding indicates at the highest level that the community – based project theory and practice serves the villagers need (LSt = 5)

*"This community based project is really serve community need and I think this project is really successful project although I think it doesn't cover all the family in this village but our project had done well so far"*

*"This project is really useful and successful because the Nargis committee and ASEAN volunteer can cooperate well in this project to make an effort to serve community need"*

## Conclusion

The evaluation results suggest that the overall outcome of the project in respectively at high satisfaction for the villagers which implies that the Community – Based Early Recovery Project has been successful in recovering the livelihood through build back better, repairing of community's infrastructure and most importantly; generating the model village to share knowledge and experience for other communities or through other actors which intend to use this approach of early recovery project to be further implemented.

Thus, not only the community has recovered in terms of physical livelihood but clearly from the group discussions and interviews, it implies that their spirits and hopes in live are brought back and able to continue their lives for themselves, their families and their children.

# **Chapter 5**

## **Lessons Learned and Recommendations**

*Challenges and solution that ASEAN Management Team attempt to overcome, together with the lesson learned and recommendation are suggested below segregating to each project process phases.*

### **Assessment Phase**

<b>Challenges</b>	<b>Solution to overcome</b>	<b>Lesson learned and Recommendation</b>
Accurate information is difficult to come about	Crosschecking and consulting with various sources of information	Assess the reliability of resource for precise information.  A monk is respectively one of the highest reliable sources of information.
Unclear and Unknown organization effect trustworthy and confident level for the villagers to give the information	Introduction of organization and staff are necessary as well as giving contact information and passionately upgrade the progress to the villagers	Preparing the organization information and clarify the reason of collecting the data.  Respectfully aware the impact of the assessment process to the people, if the project is unlikely to happen.  Feedback all the progress to the villagers is essential.
The expectation of the villagers to the organization	Emphasize the aim of organization	Preparing and understanding for the unexpected situation.  The villagers' needs that are not included in the aim of organization should not be neglected.

## Designing Phase

Challenges	Solution to overcome	Lesson learned and Recommendation
To decide which livelihood activities should be supported with the limited budget	Using the background factor of the market economy demand and considering the aid assistant that is given or plan to be provided to each occupation sector in supporting the decision making	In depth study of multi- factors of livelihood that already exist in that particular community.
Community needs cannot be met to cover all the sector of livelihood	Contacting for partnership to cover the gaps of livelihood needs	Connection and sharing information to avoid overlap and possibility of sharing resources are significant to meet to community livelihood

## Implementation Phase

Challenges	Solution to overcome	Lesson learn and Recommendation
The difference about working culture	Mindful of cross cultural difference and promote skill development	Open mind and respectfully adapt to the different culture
The method of giving knowledge through the Betel Leaf workshop is not suitable to their nature of learning	Given the resource of contacting information for further assistant of knowledge and provided permanent resource of information  e.g. Information board.	Evaluate the workshop and improve with the adapted understanding background.
The difficulty about gathering for meeting at village level	Compromise on the suitable time for their daily routine	Learning and understand of the nature of their routine life and be aware not to influence the traditional way of life
The differences of the village structure organization greatly influence the management approach	Analyzing and understanding the village structure organization, to adapt for the most suitable method and strategy of management	Well cooperation and communication, in good relationship with the local leaders is critical for a harmonious management result

Continuous expectation and request of the villagers' needs	Crosscheck to get the most reliable information and analyze of possible assistant solutions. Thus, the respondent must maintain consistency and never promise something that cannot deliver.	Maintain neutral mindset, and aware that sometime the late and unexpected request; could possibly be from the most vulnerable group of needs.
Internal conflict exists among the villages and we may not be fully aware of	Must not get to involve and let the community solve the problem internally.	Shall be aware and be very careful that the assistance could create problems to the community.
<p>Traditional believe and practice may influence the framework of project design</p> <p>E.g. Cash for work scheme of workers from multiple villages working together at the monastery can't be fulfill since there is an issue about the village dignity.</p>	<p>Understand and accept the local traditions and adapted suitably with the project implementation plans</p> <p>Establish cash for work scheme for villagers of the benefit community</p>	Be aware and open mind about the village traditional social issue that may exist in the village and among the villages.

## Monitoring Phase

<b>Challenges</b>	<b>Solutions to Overcome</b>	<b>Lesson Learned and Recommendation</b>
Different of measurement unit system	Study the local measurement unit	Be aware of different system and keep up with the local knowledge.
Inconsistent use of measurement among the process sectors	Seek assistant from the local expert for unit conversion	Take initiative effort for making consistent measurement unit system from the beginning and throughout different sectors if possible

## **Acknowledgements**

ASEAN volunteers show gratitude here to the donors to make this project possible; the Tripatite Core Group: ASEAN Humanitarian Task Force, Myanmar Government; Ministry of Foreign Affairs respectively H.E. Minister U Kyaw Thu and United Nations. Also, we give much gratefulness to the AHTF to allow the opportunity for this volunteering program. The coordinators and director in ASEAN Yangon based office and volunteers in Seik Gyi based office, further; thank you for all the technical support and co – operational organizations for working towards the recovery of the livelihood as our common goal.

## **APPENDIX 1**

### **TCG Pilot Project in Seik Gyi Village**

#### **Community – Based Early Recovery Project**

#### **BETEL LEAF DISTRIBUTION PROJECT: PAST EXPERIENCE LEARNED**

##### **Introduction**

Tripartite Core Group (TCG) have embarked on the Community – Based Early Recovery Project based at Seik Gyi village as the pilot model village aiming to help bring back the livelihood of the community affected by Cyclone Nargis, along with meeting their basic needs. The project is process by ways of Build Back Better, repairing community micro- infrastructure and create a model to provide information for further duplication of the project to interested townships or agencies.

Along with many project activity segments, Betel Leaf Distribution is one of the early recovery plans to bring back the villagers livelihood income, since Betel leaves plantation was one of the major market cash crop in Kungyangon Township. The project aims to provide 1,000 betel leaf saplings to 159 household families in Seik Gyi village.

##### **The Past Process and Problem Faced**

The past process involved ordering betel saplings from The Extension Division of Myanmar Agriculture Service, Yangon Division. 1,000 saplings was given to each 70 households that are experienced Betel leaf growers before the cyclone event and who report on the list of betel distribution that their land are ready for plantation. The villagers took the saplings and planted immediate thereafter.

After only 3 days, Leaf Spot disease, locally called “Daung Mee Quet” (*Phytophthora parasitica*) first appeared and affected several betel gardens. Another disease later emerged; Bacterial Leaf Spot or locally called “See Son” (*Xanthomonas betlicola*) and became the dominant disease together with “Daung Mee Quet”.

4 weeks following the distribution date, the diseases have spread and affected 60 betel gardens out of total 70, 30 of those gardens are totally destroyed and dead saplings have been removed. 30 affected gardens have been given chemical treatment and remaining 10 gardens are in good condition.

The disease is believed to could have come from the original saplings and/or lived in the existing soil as well as air. Either way, they are able to quickly spread and adverse by the weather condition both from rain and wind, which are favorable factors for the fungi and bacteria to multiply. It is then recommend that Betel plantation should not be process during rainy season.

## **Impact from the Betel Disease**

The impact from the disease involve not only the loss of potential income from selling betel leaves but also loss of investment to the bamboo 'fence' that the Betel growers prepare for the plant growth support. The affected gardens should not reuse those bamboo sticks again and recommended for those contaminated bamboo to be burned.

The affected Betel gardens especially for those dead saplings that have been totally removed from the ground should not be used to grow betel saplings for approximately one year, according to the villagers' local wisdom. It better growing of other crops meanwhile for six months then the same garden is safe to their mind, to grow Betel leaf again. Thus, the rotate crop in substitution should not include pepper since these two diseases are specific disease that attack plants of Pepper family.

## **Workshop Lesson Learned and Available Solutions**

Since the outbreak of Betel disease, officers from Kungyangon Township of Agriculture Ministry and specialists were invited to assist in finding solutions to the problem. Thus, Plant Protection Division of Myanmar Agriculture Service, Yangon Division have kindly visited at Seik Gyi village and inspected the affected Betel gardens and carried out intensive workshop introducing and explaining the knowledge about the each understanding of each diseases, as well as demonstrated the proper way of chemical application by spraying method through VDO watching. The document and the following information is based on the training and given instructions received during the workshop.

## **Background**

Ideal Condition for Betel vine

- High land and healthy non – saline soil
- Slightly shaded
- Growing temperature range between 10° – 40° C
- Annual rainfall range between 78 – 175 inches
- Moist ground but not waterlogged
- Best time for watering the plant is in the morning and not in the evening
- Annual fertilizer application: after 60 days, 105 days and 150 days
- Garden measurement: 2 – 3ft between rows of plantation  
8 – 10 inches between bamboo columns

## **Before Distribution of Betel Saplings**

*Available Processes of Selecting of Betel Saplings:*

**RANDOM LABORATORY CHECK:** An optional process before ordering the betel saplings include random check of disease, which can be sent to the Plant Protection Division for examine in the laboratory since the disease cannot be inspected by visual eye. There is an expense to this process.

**LOCAL SELECTION:** Villagers and Betel Leader group from the village had initiated representative group for choosing the betel sapling from the source that they originally choose from. This process involving

long- experience Betel growers to go survey at the sellers' betel garden and observe for several days before buying. The local procedure will help significantly to screen for the healthiest saplings and avoid weak and potentially disease affected saplings. Usually 3 representatives will arrange for their 10 household groups, when distributing big amount and creating many groups seeking the best saplings in the market; competition exists and saplings cost incline.

### *Preparation of Soil*

Before plantation of Betel saplings, disease leaves or any debris in the ground should be removed from the ground and burn away. The soil of the betel garden area can be combined with straw and can be burned at least 3 times before plantation; this process can demolish the living bacteria or fungi on the soil surface.

### **Plantation and Maintenance Process**

#### *Available Preparation of Sapling Plantation Process*

The new saplings can be treated into the fungicide suspension for better resistance before planting into the soil. This can be conducted by dipping from the roots 3 nodes upwards for about 1-2 minutes in the fungicide suspension:

- 10 – 20 grams of Copper / 1 gallon of water
- (or) 1% Bordeaux Mixture

#### *When Disease Symptom Emerge*

Each Betel plant grower should daily observe their gardens and take care of their betel plantation. If disease appearance is spotted, those particular affected leaves must be removed and burn away. Chemical application must then be spray depending on first; the identification of disease, is it bacterial cause or fungi origin. It is significant to use the right fungicide and also to apply soon after removing the affected leaves from the plant, since the broken part will acts like an open wound at which is more susceptible for the disease to attack.

#### *Identification of Disease*

**Leaf Spot / “Daung Mee Quet”**



**Bacterial Leaf Spot / “See Son”**



**Caused by fungus (*Phytophthora parasitica*)**

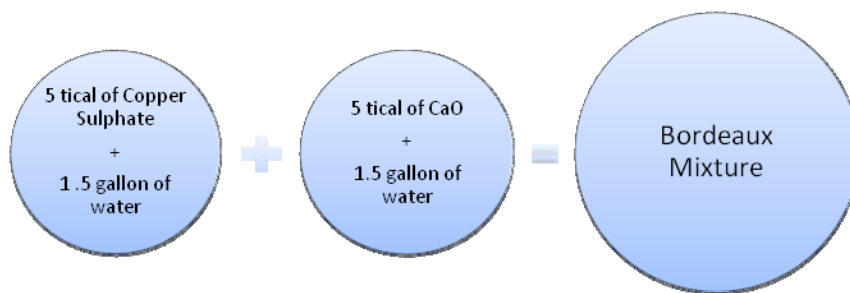
**Casued by bacteria (*Xanthomonas betlicola*)**

Leaf Spot and Bacterial Leaf Spot are the two common disease to Betel Leaf plantation, other diseases include Black Stem Disease locally named “Yo Me Sit Piyout”, caused by fungi.

*Recommended Chemical Application for Preventing Betel Leaf Diseases*

Disease Caused by Fungi	Disease Caused by Bacteria
<p><b>For Spraying;</b> use 2:2:50 Bordeaux mixture (1gl/ 12 ft garden row) (or) Spray mixture of 10 – 20g copper/ 1gl water</p> <p><b>For the open wound from picked out the affected leaves;</b> spray copper 10 – 20g with water (or) 10cc capsumin (or) 1% Bordeaux Mixture</p> <p><b>Optional Chemical Brand Names:</b> Metalaxy 25% WP, Metalaxy 8% + Mancozeb 64% Copper containing fungicides (i.e. Cupromax, Coptex 85 WP, Challenges85 WP, Copxide, Kocide)</p>	<p><b>For Spraying;</b> use 2:2:50 Bordeaux mixture (1gl/ 12 ft garden row) (or) Spray mixture of 10 – 20g copper/ 1gl water</p> <p><b>For the open wound from picked out the affected leaves;</b> spray copper 10 – 20g with water (or) 10cc capsumin (or) 1% Bordeaux Mixture</p> <p><b>Optional Chemical Brand Names:</b> Kasugamycin (i.e. Kasumin, Saipan) Copper containing fungicides (i.e. Cupromax, Coptex 85 WP, Challenges85 WP, Copxide, Kocide)</p>

**BORDEAUX MIXTURE MAKING** is recommended since the ingredients are commonly available, low cost and it is easy prepare.



For Spraying application using spray box

Notes: Bordeaux Mixture should be shake regularly to ensure well mixture and preventing settlement of the crytalized chemical, further it is to be used within 24 hours after mixing.

Common ratio used: < 1 :1:100 > < 1:1:50 > < 2:2:50 >

## **Chemical Awareness**

Buyer should look for those chemical that show the officially registered mark by the Ministry of Agriculture on the package.

The growers and those who would use the chemical are strongly advised to use the application rate and ratio as well as period of time safe to cut for consumption, accordingly as instruction on the package. It is suitable to apply chemical in the morning and not the sunny period of the day.

Problems can occur if these practices are not done properly for example, if the dosage of chemical to be sprayed is too dilute; the bacteria may gain stronger immunity and become resistance to the next round of chemical spray, same concept with antibiotic medicinal dosage to humans. Later 'stronger' chemical must be applied to overcome these 'developed' disease, this is highly not recommended.

In addition, rotation of different chemical or fungicide should be used, this is to prevent the fungus or bacteria to become more resistant.

## **Discussions**

It is recommended to invite specialist from Plant Protection Division to conduct the workshop directly to the Betel growers. The understanding about the disease especially to differentiate between fungus or bacterial caused is a new knowledge to the growers. Further, a proper way of spraying the treatment mixture must be adopted accordingly to provide the most effective result of each spray activity, this is done by spraying of top of the leaf and on soil surface on the downstroke and the upstroke is to aim at the bottom of the leaf.

A concept that should be aware is that some pathogens are soil borne and when rain, the rain droplet splash from the soil could end up on the bottom part of the leaf, fungus could then spread and could become air borne and the cycle is interconnected.

Thus, there is the local wisdom about the betel leaf growing, these new chemical treatment are very new to their traditional practice. Some growers are using unregistered chemical which is very toxic, this is another issue to be concerned of. In some cases, growers may have difficulties to accept these new understanding and method of practice. At least enforcement can be done especially in the sense that each grower should daily monitor their betel garden and take very close care of it, this is the most significant practice to ensure that their garden are routinely cleaned of disease. Though overall, betel plantation would have lower risk of disease during other seasons apart from rainy season.

## **Acknowledgement**

This document is intended to any NGOs or parties interested into betel distribution project. ASEAN volunteers would like to thank you for local wisdom learned from the villagers and from the workshop given by officers from Plant Protection Division from Yangon and Kungyangon Township: U Myo Kin (Manager), U Winn Than (Assistant Supervisor), Daw Khin Mya Myo Lwin (Assistance Supervisor, Daw Pyone Pyone Kyi (Assistant manager), Daw Cho Cho Lwin (Assistant Supervisor)

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**By ASEAN Volunteers**

## **APPENDIX 2**

### **Interview of Fishermen at Seik Gyi Village**

#### **U Paut Sa**

Age: 43 years old

“I have five children. I’ve been a fisherman since I was 12 year-old. After Nargis I’d lost everything including my boat and fishing net. Fishery is my life. I was desperate and I didn’t know how to start my job again. It was lucky for me to having received boat distribution because I could have loaned some money to buy a new boat which was not the choice I would be happy with because I had never had debt before. Now I could look after my family again. I can’t describe to a word how thankful to ASEAN I was stunned and pleased”

“After receiving a boat, I earn about 3,000 – 10,000 Ks per day I’ve saved some money to pay a new boat deposit for my oldest son. Right now our family has 2 boats and we also use some money to extend in the other job to generate more income for taking care 7 family members. I have got hope that our lives would be better. I have a chance to send my son to be a monk. It was amazing and the most important thing in my life. If this year I haven’t get boat I might not able to think about this amazing opportunity for my son to be in the novice – hood”

"I'm happy with my life at the moment but I would like to develop some more things in my life to be better which is sending my youngest son, whom is 6 year-old now to go to school and hopefully that I can build new house because it seem so small for all of us here"

### **Ko Tun Tun Naing**

Age: 30 years old

"I do not know how my life will be if there are no ASEAN project here. I do not want to be a general worker because sometime there are work and sometime no work for a month. The income is not enough to take care of my parents and the job is not freedom as fisherman"

"I have been working as fisherman for 3 years. I have to take care my parents who are really old and that is the reason to why I have to work in many kind of job in the same time to earn enough money for the three people in family"

"Few days after Cyclone Nargis, I lost my hope to getting back on my feet. I do not know how I can start to be a fisherman again. I just thinking that I have to borrow money from the loan person and need to pay a big interest to them. I do not want to be in debt that's the last choice that I want to do because I know that in the end I would not have much money left to save for my marry or take care my parents"

"Right now my life is getting better, I earn money from fishing and using this money to start duck farm. This project is really help to move further and I can look forward to do many things. If I didn't receive boat I think, I still am in debt and getting poorer and poorer because of the big interest. Now I can do fishing and start saving money. If I have more money I would build new house for my parent and I wish to get married soon"

"I would like to thank you ASEAN and donors, my life is getting better now because of this money, Thank you so much"

## Interview of Fishermen at Mayt Lay Yone Village



**U Hla Htun**

Age: 57 years old

“I have started a fisherman career when I was 13. I have one child and he is a fisherman as well. If I didn’t have a boat distribution I would have waited for a few years to have enough money to buy a boat and fishing nets.”

“Before Nargis I owned boat and nets. I used to let other fisherman hire my nets and I would get about 50% from their income. Last year in fishing season I could earn up to 15,000 Ks per day. Unfortunately for this year I’ve waited for the boat and fishing nets so I haven’t earn any money from fishery yet. It will take me about 10 days to get back to fishing again because we have only 2 people in our village that can install the fishing nets.”



**U Aung Myo**

Age: 30 years old

"I've been working as a fisherman since I was 12 year-old. I've never had my own boat and had always rented boat from the other fisherman. Sometimes I paid 50% or 30% of my income to the boat owner that depended on my income on each day"

"After Nargis I was struggling because I didn't have other job to get income to support my family. Now I've received a boat and fishing nets from ASEAN so I can keep all the income with me."

"I'm grateful to ASEAN that giving me the opportunity to have a boat and nets. I'm now planning to save money to buy a land to build my own house because at the moment we're living with my aunty"

### APPENDIX 3

Project's Objective	Activities	Indicator	Questions	Tools
<p>Restore the people of the Siek Gyi village to livelihood using the “Build Back Better(BBB)”</p> <p>Number of beneficially: 118</p> <p>Number of sample group: 48</p>	<p>-Distribute Betel leaf sapling and chemical to prevent betel leaf disease</p> <p>-Set up the Betel leaf disease and chemical awareness for Betel leaf gardener</p>	The villagers can get back to grow Betel leaf as before the cyclone	How many people can get back to be the Betel Leaf grower (in %)?	Interview
		The Villagers can earn income from the brought back Betel leaf growing	how much income do you get monthly throughout the year?	Group discussion
		The betel grower feel more secure about their financial situation	Do you feel secure about your financial situation after Betel occupations is	Likert's scale and group discussion
		Project helps them to recover quicker (compare to if there is	Do you think this project help you to recover quicker?	Likert's scale and group discussion
		Villagers have knowledge about betel disease	<p>1. Do you think that the Betel leaf workshop is useful for you?</p> <p>2. Do you think the</p>	Likert's scale and group discussion

Project's Objective	Activities	Indicator	Questions	Tools
			<p><i>lessons learned from the Betel leaf workshop able to help you to solve potential Betel Leaf disease?</i></p> <p><i>3. Do you know how to prevent and mitigate Betel Leaf disease including preparation for soil before plantation?</i></p>	
	-Support building of fishing boats and distribute fishing nets	They have boat and nets that is suitable with their traditional fishery style	<i>Do you think that your boats and nets are suitable for your</i>	Likert's scale and group discussion
		The fisherman can earn income from the fishery project	<i>How much do you earn monthly throughout the year during different</i>	Group discussion

Project's Objective	Activities	Indicator	Questions	Tools
		This project generates income into variety occupations	<i>Who else in the village have benefited from the fishery project?</i>	Interview
		Fishermen feel confidence that the distributed boats and	<i>Do you think that the boats and nets provided is able to generate</i>	Likert's scale and group discussion
		Their occupation status increased a higher standard of livelihood	<i>Do you feel that your standard of livelihood is increase and feel more</i>	Likert's scale and group discussion
Repair community micro infrastructure  Number of beneficially:  Number of sample group:	Walkway reconstruction  Stupa hall renovation	Villager feel that restored facilities within the monastery has brought back community's spirit and unity	<i>How do you feel about the restoration of the religious building?</i>	Group discussion
		The renovation within the monastery ground is	<i>What is the benefit from the Monastery renovation</i>	Group discussion

Project's Objective	Activities	Indicator	Questions	Tools
		build better for the usage	<i>project?</i>	
		The collapsed building is build back better to be an evacuate shelter in the future which increase the preparation capacity of the village	<i>Do you feel secure about the reconstruction of the collapsed building to be the future evacuation shelter?</i>	Likert's scale and group discussion
	Well Renovation	The villagers have a safer and hygiene well for their usage?	<i>Is the well safer and more hygiene than before?</i>	Likert's scale and group discussion
	Toilet construction within monastery	Standard of the toilet within the monastery is	<i>Is the sanitation standard of the toilet higher than</i>	Likert's scale and

Project's Objective	Activities	Indicator	Questions	Tools
	ground	raised	<i>before</i>	group discussion
Set up a model village to share knowledge and experience with other community(villages,towship,division and tripartite core group-TCG)	Existing local core group corporate with ASEAN (Nargis committee and main committee) to generate a Community Based Early Recovery Project.	<b><i>Local core group have ownership to the project process to co - operate with ASEAN to generate Community Based Project</i></b>	<p><i>1. Do the local core group feel that they are giver adequate opportunity to assessment process?</i></p> <p><i>2. Do the local core group feel that they are giver adequate opportunity to design process?</i></p> <p><i>3. Do the local core group feel that they are giver adequate opportunity to implementation process?</i></p> <p><i>4. Do the local core group feel that they are giver adequate opportunity to</i></p>	Likert's scale and group discussion

Project's Objective	Activities	Indicator	Questions	Tools
			<i>monitoring process?</i>	
	Sharing Betel leaf knowledge with other community	The other 3 villages have gained new knowledge about disease and awareness of chemical to prevent Betel disease	<p><i>1. Do you think that the Betel leaf workshop is useful for you?</i></p> <p><i>2. Do you think the lessons learned from the Betel leaf workshop able to help you to solve potential Betel Leaf disease?</i></p> <p><i>3. Do you know how to prevent and mitigate Betel Leaf disease including preparation for soil before plantation?</i></p>	Likert's scale and group discussion

Project's Objective	Activities	Indicator	Questions	Tools
	<i>Applying the Fishery Project Management process with to the other villages.</i>	Assist the implementer in time and effort	<i>How the local management skill that ASEAN have learned can assist effectively to be applied to other villages.</i>	Group discussion
	<i>Practice of Project implementation using Community Based approach</i>	<i>Project can highly serve the villagers need?</i>	<i>Is it Community Based Project theory and practice serves the villagers needs?</i>	Likert's scale and group discussion

#### APPENDIX 4

Question	5	4	3	2	1	Level of Satisfaction (/5)
<b>Activities A: Distributed Betel leaf Sapling and chemical to prevent betel leaf disease and set up the Betel</b>						
1: Do you feel secure about your financial situation after Betel occupations is brought back?	2	9	34	1	0	3.3
2: Do you think this project help you to recover quicker?	44	1	2	1	0	4.9
3: Do you think that the Betel leaf workshop is useful for you?	46	2	0	0	0	4.95
4: Do you think the lesson learned from the Betel leaf workshop is able to help you to solve potential Betel Leaf disease?	33	12	2	0	0	4.66
5: Do you know how to prevent and mitigate Betel Leaf disease including preparation for soil before plantation?	0	6	40	0	0	3.13
<b>Activities B: Support building of fishing boats and distribute fishing nets</b>						

1.: Do you think that your boats and nets are suitable for your traditional fishing?	16	0	0	0	0	5
2: Do you think that the boats and nets provided is able to generate income to support your livelihood in the long term?	16	0	0	0	0	5
3: Do you feel that your standard of livelihood is increase and feel more secure?	16	0	0	0	0	5
<b>Activities C: Walkway Reconstruction and Stupa Hall Renovation</b>						
1. Do you feel secure about the reconstruction of the collapsed building to be the future evacuation shelter?	16	18	0	0	0	4.47
<b>Activities D: Well renovation and toilet construction in monastery ground</b>						
1. Are the well safer and more hygiene than before?	33	0	0	0	0	5
2.Is the sanitation standard of the toilet higher than before?	35	0	0	0	0	5
<b>Activities E: Existing local core group corporate with ASEAN (Nargis committee and main committee) to generate a Community Based Early Recovery Project.</b>						
1: Do the local core group feel that they are giver adequate opportunity to assessment process?	9	0	0	0	0	4.81
2: Do the local core group feel that they are giver adequate opportunity to design process?	9	0	0	0	0	4.81
3: Do the local core group feel that they are giver adequate opportunity to implementation process?	9	0	0	0	0	4.81
4: Do the local core group feel that they are giver adequate opportunity to monitoring process?	9	0	0	0	0	4.81

Question	5	4	3	2	1	Level of Satisfaction (/5)
<b>Activities F: Sharing Betel leaf knowledge with other community</b>						
1: Do you think that the Betel leaf workshop is useful for you?	19	0	0	0	0	5
2: Do you think the lesson learned from the Betel leaf workshop is able to help you to solve potential Betel Leaf disease?	19	0	0	0	0	5
3: Do you know how to prevent and mitigate Betel Leaf disease including preparation for soil before plantation?	5	7	7	0	0	4.27
<b>Activities G: Practice of Project implementation using Community Based approach</b>						
1: Is it Community Based Project theory and practice serves the villagers needs?	11	0	0	0	0	5



## APPENDIX 5

### Interview and Group Discussion Results

#### Activities:

- **Distribute Betel leaf sapling and chemical to prevent Betel Leaf disease**
- **Set up the Betel leaf disease and chemical awareness for Betel Leaf growers**
  - *"We know very clearly after this workshop about the chemical to prevent the disease and the insecticide chemical"*
  - *"We learn about the first step of the betel leaf disease"*
  - *"We really satisfied the workshop because we learn the name of the chemical. It helps us to grow the betel leaf very systematically"*
  - *"I know how to solve some problem and some problem I still need more workshop"*
  - *"I want to discuss more with the technical I still have some more questions to ask them"*
  - *"I know how to solve betel leaf problem now"*
  - *"I know how to prevent the Betel Leaf disease and how to prepare the land before grow the Betel Leaf"*
  - *"I do not know the other effect of some chemical which we are using now I still need to know more about that"*
  - *"I need the technician teach us more action on how to do it if they do not demonstration to us we do not understand"*
  - *"If there is the new workshop I want to know the technique on how to prevent the disease and how to betel leaf productive and on how to use the fertilizer"*

#### Activities: - Support building of fishing boats and distribute fishing nets

- *"The boats and nets is the same as with the one before cyclone, we also give the idea to the implementing team what kind of boat that we really want. The boats that we received are really serving our need"*
- *"Normally we can earn 3,000-10,000 K a day depend on the fisherman skills the average income is around 70,000 K/month"*
- *"In Jan and Feb is high season for fisherman so some of fisherman can earn 150,000 – 200,000 during this month"*

#### **Activities: - Renovation within the Monastery Ground**

- *"The religious is very important of their faith and they felt trust ASEAN that why they asked ASEAN to help them renovate the monastery"*
- *"The renovation is useful in the direct way that about the Buddhism faith and it can be the cyclone shelter"*
- *"The walk way project is very useful in monsoon season they can come to the monastery easily we can do the activity in the new religious building"*
- *"We feel very happy to see the building and we gathering into the building in the special day such as the full moon day"*
- *"We happy and we think that standard of the toilet is higher than before and we think it's not easy to build that kind of toilets in their village. We wish we could have this kind of toilet for everybody"*

#### **Activities: - Existing local core group corporate with ASEAN (Nargis committee and main committee) to generate a Community Based Early Recovery Project.**

- *"I was suspicious at that time because I didn't know exactly that this team could help our village or not"*
- *"I was interested because I believed that this team was sent by government"*
- *"As soon as I saw ASEAN team I trusted them and I've helped the village together with ASEAN volunteers as much as I can"*
- *"We didn't have experience about cyclone and we were in trouble at the time. When TCG came to our village, we were very happy and relied on TCG. Up to now I've helped TCG team and have been working with them"*
- *"Since the day ASEAN has come here I've enjoyed seeing how they've been implementing the project"*
- *"I am very happy and satisfied because of the renovation of the stupa and reconstruction of the religious building in our village and I also wish we could get the development project support for our village"*
- *"While we were looking for the donor for the villagers who were in trouble. We met TCG volunteer team and I helped them by collecting information and data"*
- *"I am very satisfied that I can help TCG volunteer team by collecting information of the villagers needs and data and given correct information"*
- *"I give advice and discuss with ASEAN volunteer team to identically design project which based on the villagers' need during the project designing process"*
- *"I liked to be involved in the meeting with the volunteers about the project designing because they discussed about the community's need"*
- *"When ASEAN team came here to support our village I thought that they would also support farmers but they didn't. However they supported the other villagers like fishermen and Betel leaf grower so I am very happy and helped the volunteer team when they had implemented the project."*
- *"I helped the volunteer and I was given the opportunity to design process of the project."*
- *"I attended the meeting and observed the discussion"*
- *"I was satisfied that I could work together with the engineer when TCG started the project"*

- *"When TCG set up the office here and implement the project I participated actively"*
- *"I've tried my best to fulfill the village and TCG 's need"*
- *"I participated in the implementing process of the project"*
- *"I got the good opportunity to involve in this project and I am satisfied that we could implement the village's main need"*
- *"When TCG had started project I was working as a construction leader of the construction in Siek Gyi monastery."*
- *"I try my best to help them when they need me in monitoring process "*
- *"I work as a supervisor of monitoring process"*
- *"I try my best to manage in the monitoring process of the project and I am satisfied and I think that this project is really successful"*
- *"I am satisfied because I chose to put the right man into the right job and I also monitoring when we implementing the project"*
- *"I am satisfied because I can help and take participate in every part of this project"*

#### **Activities: Sharing Betel leaf knowledge with other community**

- *"Before the workshop I do not know which chemical I should use for which disease but right now I learn from the technician already"*
- *"I think the workshop is really useful I learn how to prevent the disease before I start growing and I think if you know that you almost half way to the successfulness."*
- *"I saw the slide show I do understand more when I saw the photo and when the technician demonstrate the way to prevent disease to me."*
- *"I learn from the technician on how to separate the bacteria and fungi from each other"*
- *"Because of the workshop I learn how to solve disease problem more effectively"*
- *"We learn a lot from the workshop but it is really difficult to say that we can apply to solve our disease problem because after Nargis our soil was swept away so the condition of soil not so good to plant"*
- *"I give only 3 from 5 because even we know how to prevent but I still not sure that if the disease coming up again we will able to solve it and also we lack of knowledge about how to prepares the soil before growing"*
- *"I give only 4 from 5 because I feel a little bit sure in some point and unsure for some point I hope that we can have more workshop"*
- *"I give 5 because when I met the technician I have question on my mind and I ask them so I get the clear answer so I can apply it to solve disease problem"*

### Activities: Practice of Project Implementation Using Community Based Approach

- *"This project's implementation really meet community's need"*
- *"Community Based Project idea really serve the community need but there are still some more family who did not get support from this project we should think about that family if we can"*
- *"This community based project is really serve community need and I think this project is really successful project although I think it doesn't cover all the family in this village but our project had done good so far"*
- *"Implementing this project in the community based idea is really serve community need and for my personal opinion I think the project is really effectiveness"*
- *"This project is really useful and successful because the Nargis committee and ASEAN volunteer can cooperate well in this project to make an effort to serve community need"*