Guidelines for COVAMS Approach

Prepared by

Project for Promoting Catchment Management Through Farmers Activities (COVAMS II)

Department of Forestry

Ministry of Natural Resources, Energy and Mining

In cooperation with

Japan International Cooperation Agency

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Preface

November 2017 marks a decade-long journey undertaken by Malawi and Japan. Their journey began in 2007 when COVAMS was first introduced to conserve the catchment areas, and to mitigate siltation of the Middle Shire River. The approach was first implemented in 7 villages in Blantyre. Five years later, COVAMS was upgraded to COVAMS II, and today, this approach is disseminated in 345 villages across Balaka, Blantyre, Mwanza and Neno.

To reduce siltation, COVAMS provided to villagers technical training courses on soil conservation, as well as galley controlling, soil conservation agriculture, and tree growing. Then, following its success, COVAMS II takes a step further to institutionalize the approach by fast and wide dissemination. Always aiming for effective soil conservation, it also attempts to optimize cost-effectiveness, and to disseminate other relevant technologies.

To institutionalize COVAMS beyond the 4 districts and ultimately nationwide, the Government of Malawi and Japan International Cooperation Agency (JICA) drafted this very official guideline which carefully navigates its users to apply the COVAMS theories in their distinct environment. Should the user be a farmer, Lead Farmers (LFs), Senior Lead Farmers (SLFs), Conservation Coordination Officers (CCOs), Technical Support Team (TST) members or District Management Team (DMT) members, this guideline specifically describes the operational procedures to follow from household to district level, and how to monitor their progress.

Middle Shire River catchment area management and mitigation of siltation have become a common goal today, as Malawi faces issues related to water and electricity shortage due to climate change. COVAMS II proved its legitimacy by successfully implementing its approach in 45,705 households. Now that the decade-long journey is coming to a checkpoint, the project seeks other potential stakeholders to understand, share and sustain this opportunity.

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Revision History

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Rev. 0	2018/2/15	Approved and distributed

List of Abbreviations

AOB	Any Other Business
CCO	Conservation Coordination Officer
CMFA	Catchment Management through Farmers' Activities.
COVAMS	Project for Community Vitalization Activities in Middle Shire
COVAMS II	Project for Promoting Catchment Management in Middle Shire
DMT	District Management Team
DOF	Department of Forestry
F	Female
GVH	Group Village Head
H/H	Household
JICA	Japan International Cooperation Agency
LF	Lead Farmer
M	Male
MoAIWD	Ministry of Agriculture, Irrigation and Water Development
MoCECCD	Ministry of Civic Education, Culture, and Community Development
MoNREM	Ministry of Natural Resources, Energy and Mining
RMT	Regional Management Team
SLF	Senior Lead Farmer
TA	Traditional Authority
TOT	Training of Trainers
TST	Technical Support Team
VDC	Village Development Committee
VH	Village Head

Table of Contents

List of Appendices

The Guidelines for COVAMS Approach contain detailed information on the requirements and operating procedures necessary for successful initiation and implementation of COVAMS approach. The Guidelines address to readers who are still new, and to users who are already accustomed to COVAMS Approach. For the former, should the readers be officers from another district, those from the private sector, or the international organization, the Guidelines should give an overview of the approach and its implementing sequence. For the latter, should the user be assigned extension workers, or managers of districts, the Guidelines should specifically describe the operational procedures to follow from household to district level, and how to monitor their progress. COVAMS Approach initially aims at the mastering of soil erosion control, gully control and tree growing[1] at village-level. Then, the approach extends its techniques to neighboring villages, through the trained LFs.

COVAMS Approach is neither to replace the conventional extension methodologies practiced in Malawi, nor to promote it as a better methodology over others. It is an option amongst others to know, when agility of extending knowledge becomes an issue. Because COVAMS approach is to intervene the target community for a period of two years, its advantage is to transfer knowledge to a large number of beneficiaries rapidly, compared to the other extension methodology. COVAMS provides extension professionals more choices in selecting suitable extension methodologies.

1 INTRODUCTION

The Project for Community Vitalization and Afforestation in Middle Shire (COVAMS) was implemented by the Department of Forestry (DOF) of the Ministry of Natural Resources, Energy and Mining (MoNREM); the Ministry of Agriculture, Irrigation and Water Development (MoAIWD); the Ministry of Civic Education, Culture, and Community Development (MoCECCD) of the Government of Malawi; with the technical assistance from Japan International Cooperation Agency (JICA), to conserve catchment area in order to mitigate siltation into the Middle Shire River. The Project was launched in November 2007 and concluded in November 2012. In September 2013, it was expanded to a new Project: “Project in Catchment Management Activities in Middle Shire (COVAMS II)”, covering the four districts of Blantyre, Balaka, Mwanza and Neno. The Project is expected to conclude in March 2018.

COVAMS approach, an extension approach derived from the Project, is a flexible methodology encouraging farmers of the Middle Shire river basin, for conservation practices of soil erosion control, gully control and tree growing, in order to protect the catchment area in the four districts.

The approach employs low cost and easy-to-use technologies, effective for extending conservation practices in all Traditional Authority (TA) areas in all four districts within the Middle Shire.

The coverage of COVAMS is incremental – starting with a small number of villages per period of time in a TA area, before moving to another set of villages, targeting potentially interested farmers in conservation farming. The target farmers are expected to turn out to be “early adopters” and “early majority” of “diffusion of innovation model[2]” whose share reaches to 50% of village households (H/H).

[1] “Tree growing” in this guidelines refers to such techniques including tree seedling raising, planting and management, protection of natural vegetation, protection and conservation of trees and forest, and agroforestry.

[2] For example, Rogers, Everett (16 August 2003). Diffusion of Innovations, 5th Edition. Simon and Schuster. ISBN 978-0-7432-5823-4.

1.1 Essence of COVAMS Approach

1.1.1 COVAMS approach

COVAMS approach is aimed at extending conservation practice among farmers in the Middle Shire catchment area. The approach allows many farmers to practice conservation technologies and enables rapid extension in target villages at a low cost. Moreover, it addresses cross-cutting issues on catchment conservation. The approach uses villagers as trainers called as Lead Farmers (LFs). COVAMS approach is an evolutional extension method based on the conventional approach for faster, wider and more effective dissemination of technologies.

There are five principles in COVAMS approach. They are:

- Meeting the residents' needs,
- Utilizing local instructors and resources,
- Taking place within a village,
- Making open to everyone, and
- Repeating, because it is necessary to encourage more residents to participate and practice.

1.1.2 Five principles of COVAMS approach

(1) Meeting the resident's' needs

The approach advocates simple, quick but useful and helpful training methodology in conservation.

(2) Utilizing local instructors and resources

Trainers shall be found and nominated within the villages. Use procurable and available resources in the villages to ensure sustainability of the practice.

(3) Taking place within villages

This makes it easy for everyone – even a mother with a baby on her back, or an elderly – to participate in the training, because the distance to the training venue is within reach.

(4) Open to everyone

COVAMS training is open to all H/Hs in villages where the training courses are conducted.

(5) Repeating training to encourage more residents to participate.

COVAMS aims at extending agricultural techniques at a faster and wider pace, to cover the village population. To do so, training can be repeated as necessary to meet the demand of both trained and untrained farmers. It may be postponed or rescheduled when only a few villagers can attend the training due to unforeseeable circumstances.

Its core value is to provide equal opportunity to H/Hs to undergo practical training. The approach encourages beneficiaries to replicate the activities at H/H level after receiving training using their own resources. Currently the approach extends three agricultural techniques in soil erosion control, gully control, and tree growing to promote catchment management through farmers' activities (CMFA).

1.2 Content of Training Provided by COVAMS

Training items include soil erosion control, gully control and tree growing. These are the cores of COVAMS training as a method for mitigation of negative situations.

1.2.1 Soil erosion control

A combination of techniques is introduced to promote erosion control. Some examples include the following:

(1) Maize growing

- Contour hedges,
- Tool making for slope assessment and contour identification,
- Contour ridging made with box ridges,
- Soil structure improvement (manure making), and
- Swale making (e.g. construction and digging of swale).

Farmers may acknowledge the importance of soil erosion control through maize growing. The following are typical topics covered in the training:

- Elements for maize growing (fertilizer / water / soil fertility),
- Timing of planting seeds,
- Spacing,
- Weeding (timing / method), and
- Relationship among maize growing, manure application and contour ridging.

(2) Contour hedges

Contour hedges involve the construction of hedgerows with recommended plants and grasses, or along contour markers to check run-off, as well as stabilizing contour marker ridges.

(3) Tool-making for slope assessment and contour identification

- How to make a slope assessment tool,
- How to make a contour identification tool with line level, and
- How to make an A-frame.

(4) Contour ridging with box ridges

- How to assess the slope of a garden,
- How to identify contours using line level and A-frame,
- How to construct contour markers,
- How to realign planting ridges according to the contour markers, and
- How to make box ridges.

(5) Soil structure improvement

Farmers are encouraged to practice agro-forestry and to use manure, to improve soil fertility and soil structure. A "*Chimato*" method[3] is commonly used to make manure. Conservation Coordinating Officers (CCOs) shall consult beforehand with the Lead Farmers (LFs) regarding the method farmers prefer to use in manure making.

(6) Swale making

Farmers are given the training of the construction of swale along the contour markers.

1.2.2 Gully control

Check dams are small- and medium-sized water retaining structures, constructed with locally available materials such as brushwood and stones.

1.2.3 Tree growing

Typical topics to promote tree growing and planting include the following;

- Introduction of tree growing and seed collection,
- Seedling production method,
- Direct sowing method,
- Natural regeneration method, and
- Tree growing-related options.

The contents of each topic are as follows:

(1) Seedling production method

This involves the collection of seeds of indigenous trees; how to raise tree seedlings up to an out-planting stage of the seedlings; and the management of the planted seedlings and woodlots.

(2) Direct sowing method

The training focuses on suitable tree species, and how to prepare sowing pits, as well as how to sow seeds.

(3) Natural regeneration method

This is done through the management of *Lizaya*[4] in order to regenerate trees. This method involves "weeding". It is important to introduce additional activities to have a successful natural regeneration methodology.

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[3] "*Chimato*" method is a composting technique that the Land Resource Conservation Department of MoAIWD is currently recommending. In this technique, soil is put between layers of organic matters; and at the end the surface of the composting heap is smeared with soil. Many farmers in Malawi already know how to make compost using this technique. Hence, the only issue to promote manure making is: how do farmers collect sufficient organic matters.

[4] *Lizaya* is defined as a village conserved forest area where communities can use the natural tree regeneration method.

(4) Tree growing related options

Farmers may receive training on grafting and beekeeping during the second year, only if they are committed to tree growing during the first year. This may be an incentive to villagers to commit themselves to tree growing. To do so, farmers may procure planks to make beehives and requires preparing rootstocks.

1.2.4 Farming techniques and technologies

This section covers selected farming techniques and technologies that farmers may practice. Examples include the following:

1.3 Expected Outcomes from the Intervention by COVAMS

COVAMS continues its interventions in villages for a period of two years, expecting the following outcomes:

- LFs gain training skills in soil erosion control, gully control and tree growing,
- Techniques are acquired through demonstration plot prepared by each LF, and
- There are more farmers who practice all the techniques and continue the activities spontaneously.

During the initial two years, CCOs make themselves available for supporting newly elected LFs, and for providing technical know-how through Training of Trainers (TOT). The CCOs must cultivate good working relationship among all stakeholders, which is key to achieving success. The CCOs fully support the LFs during the first two years of COVAMS but such support gradually subsidizes as LFs gain more experience, making them increasingly capable to operate without the support of the CCOs. From the third year and onward, the frequency of monitoring and support (CCOs visiting LFs and their villages) may be reduced.

1.4 Operation Structure, Roles and Tasks

COVAMS approach utilizes the LF system. The LF system is an extension methodology widely practiced in Malawi. A group of community member works under the direct supervision given by a LF who offers to the group extension services related to agricultural activities in conjunction with the project. Project staff (i.e. CCOs in the case of COVAMS) is responsible for promoting and implementing sustainable agriculture technologies by collaborating LFs. LFs are prominent reference persons for village farmer-to-farmer extension services. The LFs play a major role that contributes to improving the production through technology transfer. LFs are trained to deliver specific technologies to farmers. LFs are to perform three functions: impart their knowledge on local conditions, constraints and solutions to fellow farmers; teach fellow farmers a simple set of technologies that would conserve the natural resources base; and provide means to share knowledge and information within the community.

1.4.1 Operation structure during the first year

The operation structure under COVAMS approach during the first year is illustrated in Figure 1-1.

CCOs carry out TOT to LFs in each village. LFs are expected, in turn, to train farmers in soil erosion control, gully control, and tree growing techniques. The recommended number of LFs is

one per 15 H/Hs - (up to 18 households is acceptable). A group of H/Hs under the same kinship in a part of a village is referred to as *Limana* in Chewa language.

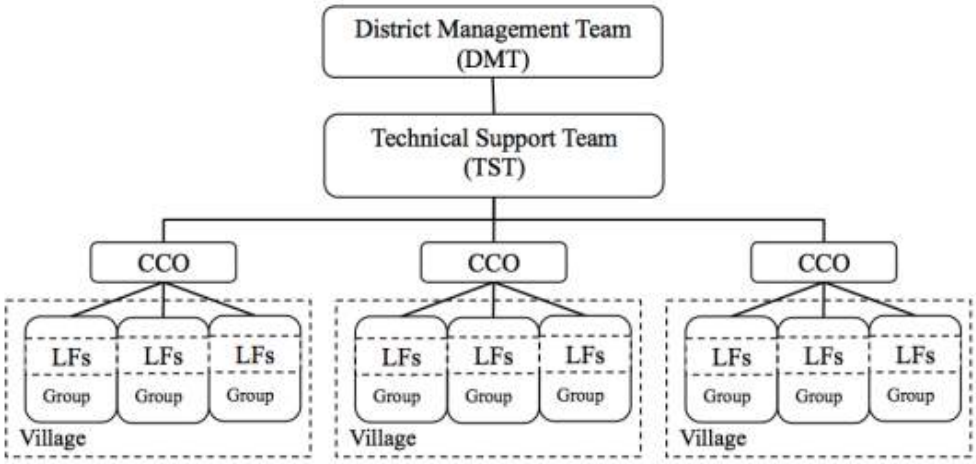

Figure 1-1 Operation Structure (First Year)

1.4.2 Operation structure during the second year

The operation structure under COVAMS approach during the second year and beyond is shifted, as shown in Figure 1-2. The number of villages covered by COVAMS increases annually as indicated in Figure 1-2. A Senior Lead Farmer (SLF) facilitating interactions with the CCOs, provides guidance to all LFs in a village. The SLF is selected by other LFs as the best performer out of all the LFs, and the CCOs appoint him / her as a SLF, based on his / her performance. For their mobility, SLFs will ideally be entitled to bicycles.

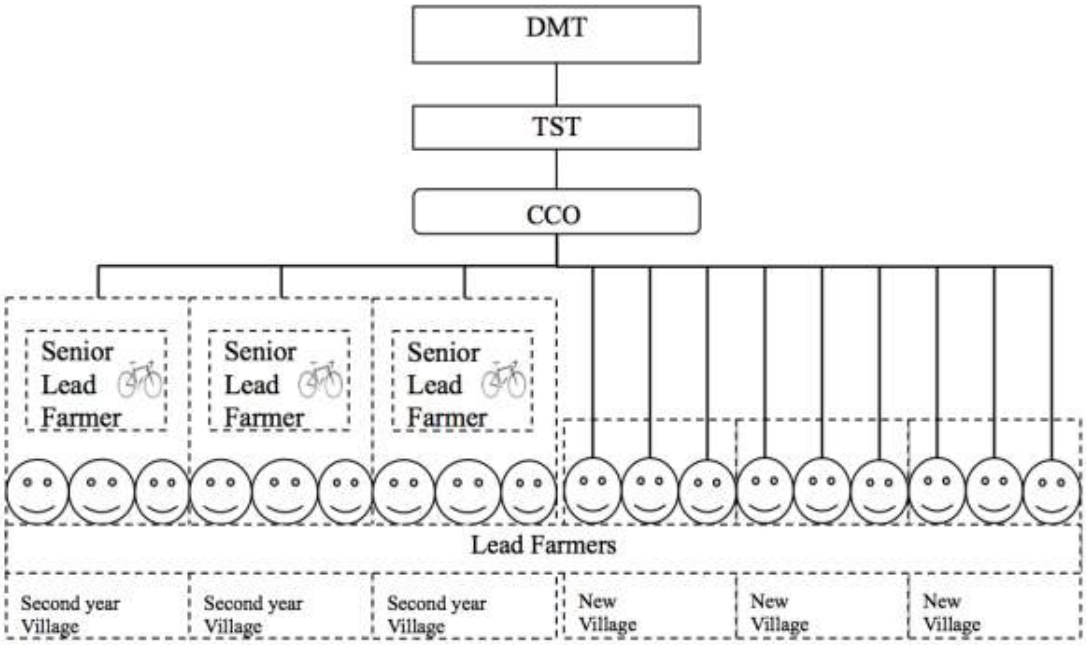

Figure 1-2 Operational Structure (Second Year)

1.4.3 Tasks of Lead Farmers

Tasks given to LFs are:

- To compile lists of H/Hs for submission to the CCOs,
- To conduct sensitization meetings (second year, optional),
- To construct demonstration plots,
- To consult with the group members on a plan for training, and inform the date of the training to all the group members,
- To conduct training on soil erosion control, gully control, and tree growing techniques,
- To provide technical support, and
- To attend the LFs' meetings and share points and conclusion of the meeting with fellow group members.

1.4.4 Tasks given to Senior Lead Farmers

Tasks given to SLFs are:

- To conduct re-sensitization meetings during the second year with Village Heads (VHs),
- To train LFs on conducting sensitization meetings (second year, optional),
- To conduct refresher courses on soil erosion control, gully control and tree planning to LFs,
- To organize LFs' meetings in their villages,
- To monitor and supervise activities carried out by LFs,
- To attend SLFs meeting organized by CCOs, and
- To report to CCOs on the activities carried out.

1.4.5 Tasks given to Conservation Coordinating Officers

The following tasks are given to CCOs:

- To collect information of target villages on the number of H/Hs,
- To conduct sensitization meetings for the first-year villages,
- To conduct TOT for LFs and SLFs,
- To assess the understanding on soil erosion control, gully control and tree growing among LFs and SLFs,
- To monitor the villagers' practice related to CMFA and to analyze progress, as well as to implement additional measures when they are necessary,
- To backstop LFs' meetings,
- To conduct monthly SLFs' meetings, and
- To submit monthly reports and work plan to TST.

1.4.6 Tasks given to Technical Support Team

The following tasks are given to TST:

- To conduct orientation on COVAMS approach to CCOs,
- To plan and conduct training for CCOs on soil erosion control, gully control and tree growing,
- To monitor CCOs' performance and assess their capacity,
- To advise measures to improve CCOs' capacity and their performance,
- To assess LFs' performance as well as those of CCOs,
- To implement the plans, and
- To submit and explain monthly reports and monthly operation plans on COVAMS approach to the DMT.

1.4.7 Tasks given to District Management Team

DMT undertakes the following:

- To draw an expansion strategy in the district and manage progress,
- To control quality of work and coordinate all activities under COVAMS,
- To sensitize TA leaders and VHs on the importance and benefit of soil erosion control, gully control and tree growing,
- To determine the number of LFs of target villages,
- To scrutinize measures and operation plans submitted by TST,
- To assess progress of training and practice on the ground, and
- To produce quarterly and annual reports.

1.4.8 The roles and responsibilities of District Management Team

DMT is responsible to oversee the day-to-day implementation of COVAMS-related activities in his / her designated district. His / her typical roles include the following:

- To keep record of extension officers, and
- To monitor the degree of enthusiasm or unity of the villagers toward development activities.

DMT shall prepare a road map[5] on the COVAMS coverage of villages in the selected TA.

The following are the basic procedure of DMTs for leading COVAM approach:

- Identification of the number of extension officers from MoNREM, MoAIWD and MoCECCD,
- Identification of the extension officers' duty section and their residents,

[5] Preparation of "road map" is further explained and discussed in 2.2.1

- Collection of information on the number of group villages and villages, and the number of H/Hs in each village,
- Collection of information on the villages in terms of viability in development activities and leadership,
- Determination of priority areas based on degradation of natural resources, climate condition through use of vegetation and physical maps when available, and
- Determination of the number and selection of CCOs in the designated TA.

2 OPERATION PROCEDURES

This section outlines operation procedures of COVAMS approach in the Middle Shire (Balaka, Blantyre, Mwanza and Neno Districts).

Activities during the first year have been shown separately from those during the second year, and further explanation has been provided on the linkages between activities within and across years, and geographical boundaries based on the jurisdiction of TA, group villages and villages splitting down to H/H levels.

Figure 2-1 shows steps in implementing COVAMS activities. These steps begin with the selection of TA during the first year. The process continues until the Project is in full operation going into the second year.

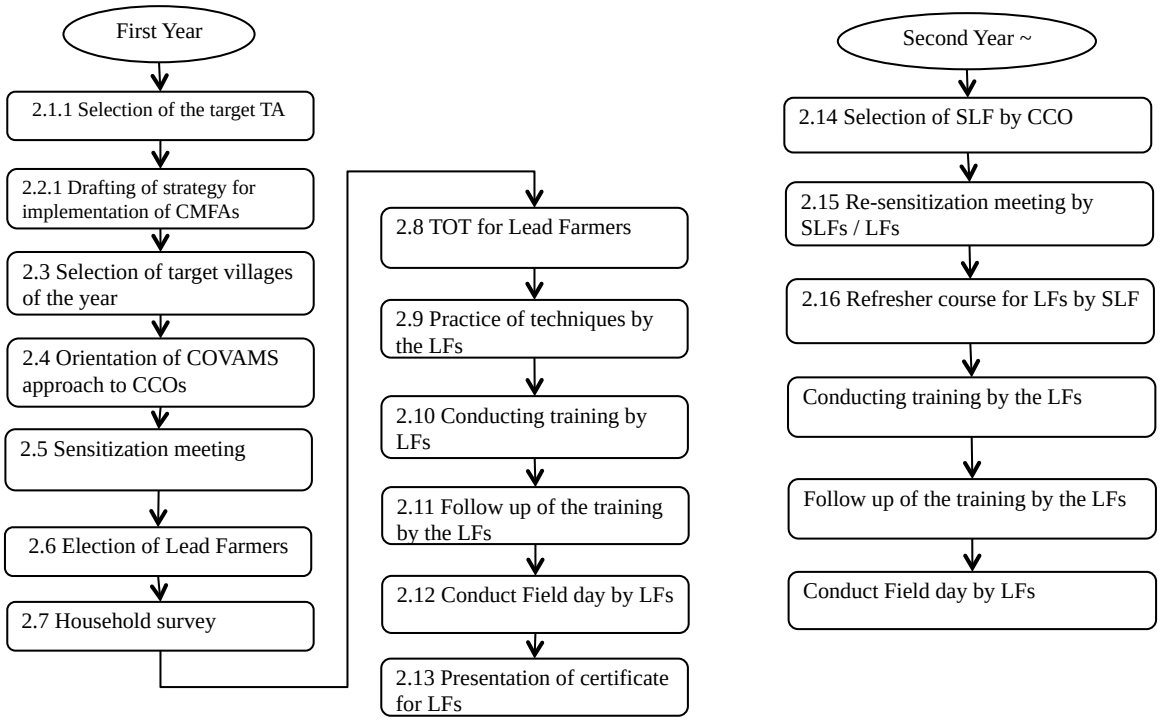

Figure 2-1 Implementing Sequence of COVAMS Approach

2.1 Selection of Traditional Authority

From a management point of view in implementing COVAMS approach, village selection over many different TAs is neither practical nor recommended. The village selection shall be focused in one particular TA to start initially. To do so, a set of criteria to prioritize the selection of TAs may be developed when the intervention using COVAMS approach is introduced. One example for prioritizing village selection may be to look into such issues as the seriousness of soil erosion and its impact to the livelihood of people affected by soil loss. It does not mean an accurate spatial data on erosion is prerequisite to start COVAMS approach. A rapid survey or a preliminary study compiling readily available data and interviews may be enough to justify the start of activities. The activities plan may be easily modified once the activities start. The necessary data of good quality becomes more available as the intervention by COVAMS continues.

2.2 Drafting Strategy for Implementation of COVAMS Approach

2.2.1 Preparation of COVAMS road map

When the selection of TA is made, DMT shall prepare a road map on how they shall cover all the villages with COVAMS approach in the selected TA. The following are the procedures for DMT to prepare the road map:

- Identification of the number of extension officers in MoNREM, MoAIWD and MoCECCD,
- Identification of the posts of extension officers on duty and their residence,
- Collection of information on the number of group villages and villages, and the number of H/Hs of each village,
- Collection of information on the villages in terms of enthusiasm of the villagers (H/Hs) for supporting development activities through identified extension officers, and
- Selection of capable CCOs in the TA and their number, and their distribution within the jurisdiction of the target TA.

DMT shall contact the departments concerned to inquire the information on the availability of extension officers assigned in the selected TA. DMT shall request the extension officers to see if the target villages are enthusiastic and supportive to village development activities intervened by COVAMS. The information is helpful for selecting the first few villages to introduce COVAMS to the TA.

To disseminate CMFAs to the target area promptly, DMT shall take some other issues into consideration. DMT shall request all the departments involved to mobilize their extension officers as much as possible. The fund to support such involvement shall be secured. The number of motorcycles available for the activities is another important consideration to ensure the mobility of extension officers to extend the coverage of COVAMS.

In case there are no motorcycles are available, procuring them is an option to ensure mobility for CCOs, taking the number of villages within the target TA into consideration. Motorcycles are important for the sake of proper management of COVAMS activities, in order to secure mobility of CCOs and to maintain communication among farmers, LFs and CCOs for monitoring ongoing activities in villages. If no motorcycles are available, bicycles may be an alternative. More extension officers are needed when the same service coverage on the COVAMS roadmap is implemented.

An ideal number of villages to work with are 3 to 4 in the very first year. This is particularly so for newly assigned CCOs, because he / she is not fully familiar with what COVAMS is all about during the initial year. He/ she may realize how much commitment and effort is necessary for making effective communication and building trust in communities once COVAMS activities are initiated.

A typical operation of COVAMS approach in a TA is explained in the following sections:

2.2.2 COVAMS operation plan

Below is a hypothetical plan of operation:

(1) First year

A typical operation of COVAMS approach starts by selecting seven (7) group villages during the first year. At least three to four villages shall be enthusiastic about development activities, and such villages shall be carefully selected. These villages shall be included to give a positive influence to other villages. All the villages shall be supported by CCOs.

(2) Second year

CCOs may add three to four new villages in the same TA to expand COVAMS activities. SLFs shall be nominated from the LFs of the second-year villages, to assist the CCOs for providing support to the LFs on behalf of the CCOs. Upon nominating the SLFs, the CCOs provide SLFs another TOT covering topics such as how to organize effective sensitization meetings, and refresher courses focusing on the three techniques to LFs that the SLFs are in charge. The CCOs shall carry out training to LFs selected in the newly extended villages, while the SLFs continue training LFs in the second-year villages simultaneously, so the outreach from the COVAMs continues seamlessly. CCOs and TSTs, however, shall not leave the SLFs alone in carrying out these activities. Instead, CCOs and TSTs shall monitor how the training provided by the SLFs has been performed.

LFs are requested to repeat the same training to encourage farmers to practice and adopt the techniques promoted by COVAMS. In doing so, LFs may have acquired experience in providing training. With an expected assistance to CCOs provided by SLFs, some workload and burden of CCOs to the villages where the COVAMS activities are on-going, CCO may be reduced when the village activities continue without major issues. CCOs may be able to allocate their efforts to negotiate village leaders to join COVAMS activities.

Figure 2-2 and 2-3 illustrate a typical operation:

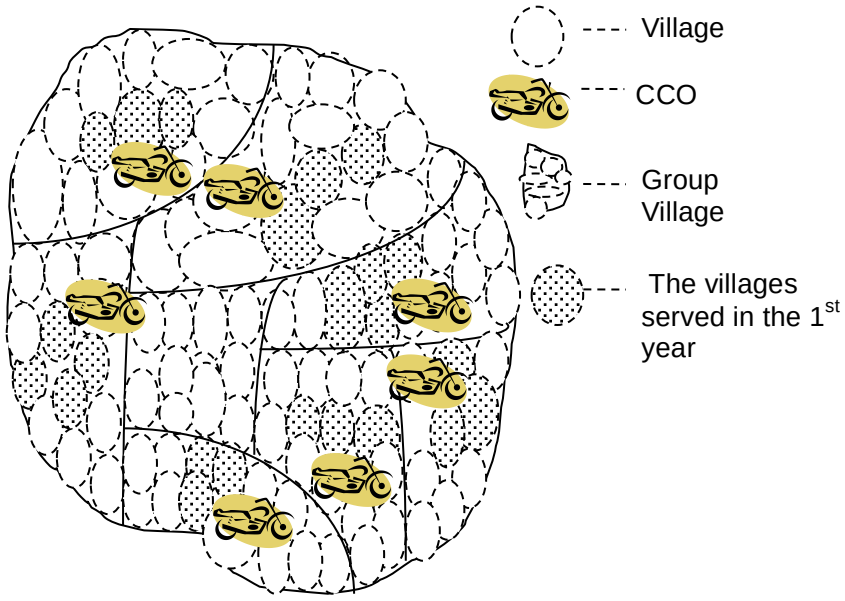

Figure 2-2: Typical TA Operation during the 1st Year

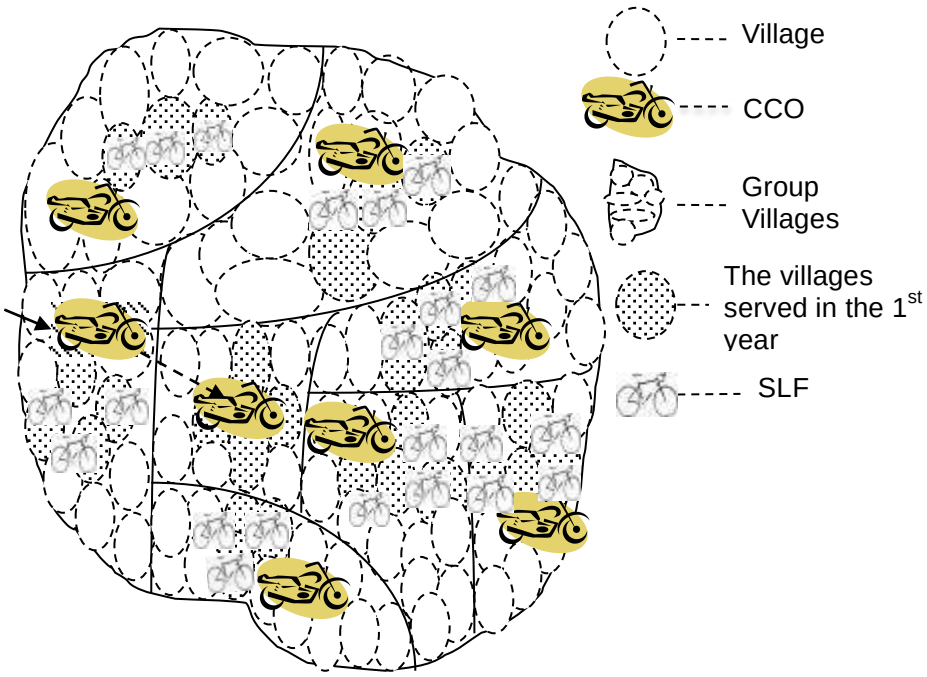

Figure 2-3 Typical TA Operation during the 2nd Year

(3) Third year

DMT shall consult with CCOs for monitoring their work progress. In the most conceivable cases, all the villages assigned to a CCO may have been covered by COVAMS activities, by the beginning of the 3rd year. DMT may request these CCOs who have completed their work in all villages they were assigned, to move on to the remaining villages and extend COVAMS in a prompt manner.

DMT is solely responsible for deciding whether to introduce COVAMS to other TAs. The minimum of 50% of the H/H adoption rate in a village is an indicator for measuring the success of the COVAMS activities. When 50% of H/Hs in a village adopts the technique in soil erosion control, gully control and tree growing without or with minimal supervision, assistance to the village is no longer needed.

2.2.3 Coordination by DMT

It is very important to have close communication with LFs / SLFs and to have frequent monitoring on their activities and farmers' practice for making the approach effective. In order to achieve this, it is very important to select committed extension officers, especially during the first year for positive impact. Therefore, DMT coordination is crucial in identifying committed extension officers and allocating them with motorcycles. In some cases, extension officers may have genuine reasons to work beyond their areas under their jurisdiction. Note that this can only be done with approval from the relevant authority.

2.2.4 Formation of Technical Support Team

TST shall be formed immediately to receive orientation on COVAMS and to assist DMT effectively.

2.3 Selection of Target Villages

2.3.1 Selection of group villages

Selection of group villages should be in accordance to the road map, considering the available extension officers and resources, unless the district is capable of covering all group villages in a TA from the beginning. Selection will be based on the information that CCOs collected in the villages. Through the experience of COVAMS project, the practice rate of the farmers becomes effective when the Group Village Head (GVH) is enthusiastic in development activities. Therefore, the priority shall be given to those villages whose GVH is enthusiastic and influential, in order to have meaningful impact to the practices of farmers, and positive influence over other group villages. The other issue that needs to be considered for the selection of group villages is the quality of extension services provided by the extension officers. A good outcome from intervention depends on the hard-working attitude of extension officers.

2.3.2 Selection of target villages of the year

As previously mentioned, the number of villages for a CCO shall be limited to three or four during the first year, so it is necessary to select the villages of the year. This experience shows that no matter how hard CCOs work, they can make very limited impact if a VH (Village Head) is negligent, and has no interest in the activities of development in his / her village. The village selection, therefore, is important for bringing success through the intervention to the TA.

2.4 Orientation to CCO

Selected CCOs will undergo orientation on COVAMS approach, organized by DMT on the usage of posters for the preparation of sensitization meetings. CCOs learn how to conduct sensitization meetings with COVAMS posters provided by DMT. The COVAMS poster shows the problematic situation of gardens, commonly observed in the Shire River basin. The poster also illustrates countermeasure activities to the above situation. It also explains benefits that may be expected from the countermeasures COVAMS activities introduce.

2.5 Sensitization Meetings

Sensitization meetings attempt to make village leaders and others aware of current issues and challenges in their villages.

2.5.1 Procedures

A sensitization process shall be carried out at three different community levels. The initial step to start COVAMS activities is to meet the TA, and to carry out sensitization meeting for the local stakeholders at the respective TA. The sensitization meeting follows by the stakeholders of the respective GVHs and the VHs, then the target villagers. The sensitization meetings shall be organized by the TA, because of enhancement of ownership in the course of intervention. Once the TA becomes aware of the necessity of introducing COVAMS activities under his / her jurisdiction, request the TA to call all the GVHs and VHs to the sensitization meeting, arranged by the TA.

Prior to the date of the planned sensitization meeting for the villagers, an invitation shall be delivered to all the H/Hs. CCO must discuss with the VH on how they are to deliver the invitation. Especially, the VH shall invite *Limana*[6] heads, so that they may be able to deliver the invitation to the sensitization meeting, to their fellow *Limana* members. The sensitization meeting is generally held once in every village. However, if the size of the village is too large to walk until the village center, or if the number of the H/Hs is large, then the meeting may be planned more than once. In case the villagers' turnover is very poor, then the meeting shall be repeated anytime to increase the understanding of COVAMS benefits.

2.5.2 Contents of the sensitization meeting

(1) Sensitization for TA

When the above preparations are completed, DMT shall make contacts with the leaders of the TA selected, to promote and explain topics such as CMFAs, COVAMS approach, the road map, selection of group villages and villages, and how the activities will be carried out. DMT requests the TA to organize a sensitization meeting, inviting all the GVH and their Village Development Committee (VDC) members and the VH. The invitation letter shall be drafted by DMT, signed by the TA, and photocopied a sufficient number of times, for their distribution to all the GVHs and VHs.

(2) Sensitization for GVH, VH, and VDC

DMT explains the same to GVH, VH, and VDC.

(3) Sensitization for villagers

A successful promotion and implementation of CMFAs depends on whether or not villagers understand the benefit of conserving their land and tree growing. Special attention to the benefit of the villagers from practicing the technologies shall be paid, so that ownership in the activities is fostered. If there are some farmers with experience in soil conservation activities in the past, then they shall be given a chance to speak about his / her experience, such as the increase of yield, etc., during the sensitization meeting. CCOs shall explain that COVAMS

[6] *Limana* means clan in Chewa language

approach employs the LF system. They shall also describe their expected roles in detail, so that the villagers will elect LFs effectively.

2.6 Election of Lead Farmers

Upon completion of the sensitization meeting, the villagers elect LFs. The election defines the success of the training, since it will nurture trust between LFs and the villagers. At the same time, the elected farmers will have pride on being LFs, following the electoral procedure.

One likelihood occasion is that VHs or other local leaderships appoint LFs without considering the importance of election. It is not accepted under COVAMS approach. The electoral process in COVAMS is considered as one of the most important factors for motivating LFs. Therefore, the election process for LFs is not negotiable under COVAMS.

2.6.1 Procedures for Lead Farmers' election

CCOs shall pay special attention to the following:

- CCOs are not allowed to tell villagers the number of required LFs calculated from the strategy prepared by DMT. It is because the number of H/H claimed by VHs is, in most cases, more than reality. Instead, CCOs explain the villagers to elect LFs by *Limana*, considering the number of H/H.
- A general rule is to elect one LF for every 15 H/H. The figure may be adjusted, based on the size of the solidarity (kinship) and the (social and physical) distance to the adjacent group or *Limana*[7].
- Villagers shall be explained in advance that LFs are to be elected by a majority vote.
- The LF election may be carried out during the sensitization meetings, if the number of people present exceed the majority. The election has to be rescheduled when the attendance is small.
- CCOs are to collect all the names of the elected LFs for submission of the list to the DMT.

2.6.2 Eligibility for being a Lead Farmer

In light of its roles, the responsibilities and the tasks given, LFs must be literate.

[7] Suppose there are two *Limana* in a hypothetical village; one is composed of 17 H/Hs and another is composed of 13 H/Hs. It makes sense to keep these two *Limana* rather than separating the *Limana* with 17 H/Hs into smaller two, or merging them together and spitting them into two *Limanas* with 15 H/Hs. If the size of a *Limana* is as small as 6 H/Hs, combine another small *Limana* unless the locations of the two are isolated. In case the size of a *Limana* is as large as 20 H/Hs, then it may be split into two *Limana*.

2.6.3 Explanation of conditions to be a Lead Farmer

Once the LFs are elected, their roles and responsibilities, as well as working conditions shall be explained clearly to them. It was observed that some of the newly elected individuals had no willingness to serve as LFs, or they quit being LFs after completing TOT. Accepting the LF position is a serious confirmation – all LFs must commit themselves to serve. CCOs shall hold an explanation with the elected LFs, to explain their expected roles and conditions, before starting TOT.

The roles and tasks given to LFs were explained in 1.4.3, and their work requirements are, but not limited to, as follows:

- to conduct a H/H survey,
- to participate in and complete TOT for LFs conducted by a CCO,
- to practice all the techniques by themselves in their premises, and
- to participate in LFs' monthly meeting.

The LFs must demonstrate the following:

- to complete a demonstration plot on the techniques in their gardens, with a minimum size of 500 m² for soil conservation,
- to make two check dams made with at least two different materials (brush wood and stones),
- to raise at least 50 tree seedlings and to plant them in their premises. Also create minimum of 20 stations using direct sowing method,
- to gain experience in conducting training on the three techniques, and
- The fellow villagers must accept the LF.

2.7 Household Survey

Guided by CCOs, LFs shall carry out H/H surveys to collect the information shown in Table 2-1.

Table 2-1 Household List (Example)

Village name: Kumpita

Name of Lead Farmer: Hana Rodric
Name of Limana Head: Henry Moses

Ref. No	Name of household's head	Age	Female / Male	No. of family members staying together, excluding the household head
1	Henry Moses	45	M	3
2	Elube Lazalo	50	F	2
3	James Rodric	38	M	5 LF's H/H
4	Daglas Spencer	28	M	3
5	Faines Mulaka	40	F	4
6	Peter Phiri	35	M	3

Note: The name of the H/H head used in the list shall be the registered name used for official purposes, such as the national voter registration, etc. DMT shall compile and consolidate the data on the villages as soon as it is submitted. When it is ready, DMT shall give each LF a copy of the result of the H/H survey through CCOs.

2.8 Training of Trainers for Lead Farmers and Senior Lead Farmers

Elected LFs shall participate in TOT covering all the techniques under COVAMS approach.

2.8.1 Trainer, venue and expectations

All the training is carried out by CCOs during the first year. During the second year, SLFs who received the training course in their respective villages from CCOs, may conduct refresher courses training fellow LFs in the second-year villages. TOTs to LFs in the first-year villages are conducted by CCOs, sequentially in one village at a time while smaller villages may join other larger villages. Training may take place anywhere within the village, in a building or open ground. LFs are advised to complete the training without skipping a day, to ensure the farmers acquired the necessary skills and knowledge, for further sharing with them by the end of the exercise. VH has to involve as many farmers as possible, because support from VH is key to a successful adoption, according to observation.

2.8.2 Contents of Training of Trainers

(1) Training of Trainers (first year)

There are three topics which TOT covers, namely soil erosion control, gully control, and tree growing. The contents of each subject are explained in “1.2 Content of Training Provided by COVAMS” in page 3. Additionally, facilitation skills and benefits of the techniques may be included.

(2) Refresher course (second year)

TSTs and CCOs shall analyze general skills and knowledge of the three techniques, acquired by the LFs in their districts, and identify any shortfalls LFs may have. The training contents may be redesigned and modified whenever necessary. SLFs conduct refresher courses for LFs in the second-year villages, while CCOs conduct TOT in the first-year villages. SLFs conduct refresher courses.

2.8.3 When to conduct Training of Trainers

When to carry out TOT is flexible. Whenever LFs have time, a session may be carried out. The ideal months for conducting TOT for LFs may be between May and July, so that they have ample time to practice soil erosion control, gully erosion control and tree growing techniques, before conducting training for their fellow farmers.

2.8.4 Village meeting after the training

When TOT is completed, CCO shall communicate with the VHs of each village to request a village meeting. The purpose of the meeting is to acknowledge LFs who were awarded the provisional certificate by the villagers. In addition, the roles and responsibilities of LFs shall be explained and understood by villagers.

2.9 Techniques Demonstrated by Lead Farmers

2.9.1 Soil erosion control

LFs will practice all the techniques they learnt during the training in their gardens before they start training the fellow farmers, so that they can conduct the training with confidence. At the same time, it helps LFs to know where to emphasize in each technique during the training. LFs use their own gardens for demonstration during training for *Limana* members.

2.9.2 Gully reclamation and control

Practice of several small-scale check dams with stones and brushwood in LFs' gardens or premises of their homes.

2.9.3 Tree growing

Each LF is expected to practice raising tree seedlings - at least 50 of any tree species. This practice shall start soon after TOT is completed. DMT may provide necessary inputs for the practice. CCOs must monitor seedling production such as watering and root pruning. "Direct sowing" should be practiced with 20 planting stations. Attention must be paid to land preparation for direct sowing. The time for starting direct sowing is in the beginning of the rainy season so that enough moisture can be expected. Note that DMT may provide LFs necessary inputs such as tubes and tree seeds to encourage LFs to promote the technique.

2.10 Conducting Training by Lead Farmers

2.10.1 Preparation for conducting training

Each person shall prepare the following for training. A list of items for preparation is shown in Table 2-2. The descriptions of the tasks to be carried out by each individual are explained in the following:

Table 2-2 Preparation for Training

Title / Person	・ Preparation for Training
DMT	・ Preparation of invitation cards ・ Procurement of training materials ・ Production of manuals
CCO	・ Explanation of the training procedure ・ Distribution of invitation cards ・ Distribution of training materials ・ Distribution of manuals
LF	・ Practice of the techniques ・ Production of training plan

(1) Description of the preparation made by District Management Team

(i) Preparation of “Invitation cards” and training report materials

Prior to the training in a village, DMT shall prepare the “Invitation cards”. The cards are to be distributed to each H/H before LFs start the training.

(ii) Procurement of training materials

Under COVAMS approach, some training materials may be supplied to LFs. Specific materials to be procured depends on the availability of such materials and funds allocated. What to be procured is decided by DMT. The materials are supplied based on necessity; therefore they are not always supplied to all participants. Typical training materials required for the topics are as the following:

- Soil erosion control
  - Materials for making tools such as slope identifying tools and A-Frames
  - Strings
  - Line Levels
  - Nails
- Tree growing
  - Tubes: 100 tubes for each training
  - Tree seeds (three different sizes such as small, medium, and large)
- Gully reclamation and control
  - *Panga* knives

The training materials may be supplied to LFs during TOT.

(iii) Production of manuals

The manuals on the three techniques may be produced (photocopied) and provided to the LFs.

(2) Description of the preparation made by CCOs

(i) Explanation of training procedures

For the planning of the training, the following are some of the points to consider:

- LFs shall discuss with group members on the most convenient date and venue of conducting the training for each subject, and have a consensus amongst the members. LFs may conduct the training either jointly or individually, and
- The date and venue of the training shall be communicated to VH to seek his / her involvement.

(ii) Conducting training

- Effective training affects the participants’ attainment of skills and knowledge in soil erosion control, gully control and tree growing. LFs shall pay attention to let everyone practice during the training, because COVAMS training shall emphasize on practicality rather than theory,
- All COVAMS training shall conclude in a day or two, so the villagers may have enough time to adopt the techniques back in his / her garden. LFs must make themselves available for fellow farmers to give them advice, and
- The training will be conducted by a *Limana* or any group, so anyone from a different group may join if the timing and venue are convenient for him / her. CCOs shall instruct LFs that COVAMS training is open at any time so that everyone will have multiple opportunities to participate and to take advantage of it.

(iii) Distribution of Invitation cards

- CCOs shall request LFs to distribute the cards to each household of the village on their behalf.
- VH may have to be a part of the distribution because his / her involvement affects the outcomes of COVAMS activities. The role of VH is to call for the meeting upon request of the CCO, when the handover of the invitation cards to LFs takes place.

Figure 2-4 Examples of the Invitation Cards

(iv) Distribution of training materials / manuals

- If the manuals and materials are supplied, the delivery shall be completed in advance to avoid confusion. CCO must make sure that all necessary materials are ready for the training on the day of TOT.
- In addition, CCO may request LFs to find and bring materials and tools available at home (such as poles, etc.) on the date of the training.

(3) Description of the preparation made by Lead Farmers

(i) Practice of the techniques

- Prior to the training to their fellow farmers, LFs shall make sure they can make the demonstration plots as they were taught. (See Section 0 in page 17).
- LFs shall follow the explanation made by CCOs for the planning of training.

(ii) In case of unforeseeable changes in schedule, etc.

- LFs must make sure a few days before, that all the group members can attend the training as previously planned.
- If the date of the training needs to be rescheduled, consult with the group (*Limana*) members for the new date and venue. Make sure any change in schedule shall be informed to all members.
- The change of the schedule shall be informed to CCO.

2.10.2 Implementation of training

LFs shall inform the dates and venues of conducting the training to CCOs. CCOs shall visit the training to oversee and assess the implementation as much as possible. Interviewing *Limana* heads or other group members to seek their opinions on the overall performance from time to time, would be another practical method to monitor the implementation.

2.11 Follow-up of the Training

Follow-up activity means that trainers provide post-training technical and moral support to the farmers. Follow-up in COVAMS activities is primarily provided by LFs to *Limana* / group members. It is sometimes provided by CCOs when such supports appeared to be necessary.

2.11.1 Follow-up by Lead Farmers

(1) Soil erosion control

Farmers may have difficulty in the practice of making tools, identification of slopes, construction of contour markers, and realignment of planting ridges. Construction of contour markers and realignment of planting ridges are sometimes a challenge for farmers due to the complexity of the terrain of plots. LFs are expected to provide technical support when farmers face difficulties. CCOs must communicate to the community members that LFs are always available to assist them. The follow-up must be given to any farmers. It doesn't matter if the request was from an individual or group, or from those who participated in the training or not.

(2) Tree growing

Raising tree seedling doesn't require high-level techniques, as long as there is a proper selection of species. Seedling production, however, needs careful attention for watering and root pruning. Attention to keeping moisture by careful watering makes a difference in the growth of seedlings. The root pruning reduces possible risks of damages occurred during the time of transplanting. It also has a benefit of controlling growth. Therefore, it is important to monitor farmers' activities and give appropriate advice whenever necessary.

Follow-up during out-planting seedlings is necessary, especially when making a pit of the right size that fits the size of the seedling. Also, soil compaction around the seedlings after transplanting is necessary. In many cases, inadequate compaction can dry up the seedlings. Direct sowing practice requires some attention on land preparation. Clearing the weeds and preparing pits for sowing seeds are particularly important.

(3) Gully reclamation

Attention should be paid to the size of check dams. In most cases, relatively large check dams are built with stones. When the check dam is not properly constructed, it retains too much water that eventually pushes through the retaining wall, causing unexpectedly dangerous run off. Therefore, LFs shall follow-up when the farmers are to construct a relatively large check dam.

2.11.2 Follow-up by CCO

The follow-up by CCOs may primarily focus on the activities carried out by LFs. Initially, LFs may face challenges in conducting the training, and CCOs must closely LFs in these early stages of conducting the training. There are two ways to know the level of understanding of LFs on the techniques. One is through LFs' monthly meetings (refer to Appendix B1: Checklist for LF / SLF monthly meeting); the other is through a field visit (refer to Appendix B2: Field checklist for CCO and for LF). Due to resources and time availability, CCOs shall pay attention to organizing monthly meetings regularly and visit the field to monitor progress when necessity arises.

2.12 Arrangement of Field Day

Filed Day is the most effective event among all COVAMS activities, to encourage farmers to demonstrate and learn conservation techniques. COVAMS approach recommends that LFs shall conduct Field Day in each village, aiming at maximizing participation. To make it possible, Field Day shall be conducted by LFs.

2.12.1 Preparation and training for Field Day

(1) Who shall lead Field Day

An individual or group of LFs may carry out Field Day for the entire village, or *Limana* members may use their own gardens. To make it happen, CCOs shall train LFs how to conduct Field Day events.

LFs are not always fully confident of practicing and demonstrating all three techniques. To encourage LFs who are not confident and who did not practice all the techniques in the previous season, they may continue practicing them during the current season, to improve their techniques. An invitation to become a trainer for the event shall be given to LFs who performed well in adopting and demonstrating all the techniques during the season.

(2) Arrangement for Field Day

The decision can be made by LFs together with VH. The contents of Field Day shall be a combination of the three techniques of soil erosion control, gully control, and tree growing. Field Day must take place at the LFs' gardens to demonstrate all the techniques as examples, and it may be completed as a half-day event.

(3) When would be the most appropriate time to organize the event?

Field Day shall be organized at least twice annually, considering the nature of maize growing. The first time shall be during February at vegetative stage, while another occasion would be during April at reproductive stage.

2.13 Presentation Ceremony

LFs maybe awarded by recognizing their hard work and dedication. By doing so, it motivates LFs to work harder for their communities. As such, a certificate presentation ceremony may be taken place in the presence of government senior officials such as District Commissioners, Project Managers (PMs), Agriculture Development Division officers and Regional Forestry Officers. It may be difficult to conduct the ceremony in one place due to the cost to gather the LFs at the place; hence, several ceremonies may be planned combining adjacent villages. The suitable time during the year for the ceremony is between April and May, so that the awarded LFs can work during the coming season with higher motivation.

2.14 Selection of Senior Lead Farmers

One SLF is elected to represent every 15 LFs in a village. CCOs are responsible for selecting the SLF based on the performance during the previous year, and the commitment of the entire candidate LFs in the village during the previous year. The criteria for the selection must be clear and accountable so that other LFs would not have any objections.

2.15 Provision of Bicycle

SLFs are expected to coordinate LFs' activities by disseminating information, providing technical support to LFs, attending SLF meeting organized by CCOs, etc. Having such roles and responsibilities, SLFs may be entitled to use bicycles to ensure their mobility. It must be stressed, however, that the ownership of the bicycle is not on a particular SLF, but on the group of LFs of the village. Once a SLF leaves from the post, the bicycle has to be given to another SLF who replaces his / her post.

2.16 Re-sensitization Meeting by Senior Lead Farmers / Lead Farmers

During the second year of intervention, COVAMS approach recommends that SLFs conduct re-sensitization meetings. Re-sensitization training focuses on the review of the first-year result rather than repeating the earlier contents. It is recommended to have one large village re-sensitization meeting and one small re-sensitization meeting at *Limana* level. LFs shall conduct re-sensitization meetings at *Limana* level while SFLs do similar meetings at village level. SLFs shall be trained on how to conduct the village re-sensitization meeting while it is not necessary for the LFs to be trained for conducting the *Limana* level re-sensitization.

2.16.1 Village level re-sensitization

The content of the meeting is, more on the review of the village's performance of the previous year. The CCO responsible for the village shall give the results of the training conducted by LFs and the number of participants, as well as the number of practicing farmers beforehand. Moreover, the result of production through reviewing Field Day taken place in the village should be presented during the re-sensitization meeting. SLF shall inform them during the meeting, and facilitate a discussion during the evaluation of the result, causes of the result and the way forward for the following season. Additionally, an explanation of COVAMS posters should be presented by SLF.

2.16.2 Training for Senior Lead Farmers on conducting re-sensitization

The training contents shall follow the agenda of the meeting. The training comprises of the following:

- The performance of the village during the previous year,
- Assessment of the result,
  - LFs' performance
  - Farmers' practice
- Analysis (causes) of the result,
- Experience of the practice farmers (benefit),
- Way forward for the following season, and
- Explanation of COVAMS posters.

An emphasis of the training shall be given to practice over the theories. Participants are encouraged to try and practice the knowledge and skills attained while the training is still in progress. DMT will award certificates to SLFs at the end of the training, for recognition of their contribution towards training, and for motivating them for further commitment.

It might be difficult to convince SLFs to work for the villages as resource persons without providing incentives or compensation. Hence it is necessary to explain the condition of work thoroughly, and to agree with them prior to nominating them as SLFs. The acknowledgement

of SLFs' dedication and services to their communities shall be made by occasions such as official ceremonies or church services, possibly publishing it through medias. Such recognition will motivate not only those awarded, but also others to dedicate to the services.

2.16.3 *Limana* (group of households) level re-sensitization

Re-sensitization meetings shall be carried out in order, beginning at *Limana* level, then at the village. The objective of the *Limana* re-sensitization meetings is to share with participants results on maize growing, tree growing, and gully control; and to provide a forum for practicing farmers to share their own experiences on the three techniques. At the end of the re-sensitization meetings, the stakeholders shall prepare a joint action plan for the following season.

2.17 Refresher Courses

Refresher courses are organized for LFs during the second year of intervention, in order to consolidate both knowledge and practice in soil erosion control, gully control and tree growing. Such refresher courses are also tailored to boost LFs' confidence of their practice.

In most cases, CCOs may add new villages during the second year, and are preoccupied with tasks such as TOT for the new LFs elected from the new villages. Therefore, COVAMS approach is designed to nominate SLFs for conducting a refresher course. SLFs were chosen because of his / her performance during the previous year. While they are knowledgeable and skillful enough to demonstrate the techniques, the refresher course will be provided by SLFs. SLFs receive skills and knowledge from TOTs to teach adequately, and to deliver the techniques to the fellow LFs.

2.18 Option for Enhancing Sustainability

The procedures of COVAMS approach explained in these guidelines were derived from the experiences of technical cooperation between Malawi and Japan. According to the principles of COVAMS approach, it aims at maximizing the usage of local resources available. This is based on a belief that reliance to external resources has a weakness in terms of sustainability.

The set of materials listed in the guidelines (explained in Section 2.10.1) is not considered entirely as locally available resources. COVAMS training ultimately needs no external inputs if the principles are strictly applied. Therefore, the list may be a reference only if sustainability is a prime factor to consider. Procurement and supply of materials may be adjusted, depending on the availability of fund and ease of delivery. COVAMS II has developed "Lean COVAMS" in consideration of enhancing sustainability even after the Project is terminated. Lean COVAMS is a revised approach of COVAMS by making use of goods in a village as much as possible. The JICA technical cooperation project has tried and implemented Lean COVAMS for one year and found there is no difference from the implementation process of conventional COVAMS as explained elsewhere in the guidelines. The approach uses goods available in the village as much as possible, to minimize reliance to external resources. The comparisons of the conventional COVAMS and Lean COVAMS in terms of cost, and the outcome has been carefully reviewed. The comparison is shown in the Table 1 "Cost estimate for two-year activities through COVAMS approach" in Appendix A.

3 MONITORING AND EVALUATION

In the operation of COVAMS approach, the areas to note are steady increasing, in parallel with the number of villages to cover, and the number of farmers who adopt and practice the techniques. Monitoring and evaluation, therefore, shall focus on the following viewpoints:

- Steady increase of the number of villages and timing of the activity
  - Progress of COVAMS approach activities in the villages
  - Progress of expansion of target villages in the district

- Achievement of the expected number of farmers who are practicing
  - Quality of the activities done in order to motivate potential farmers and create the environment for conducting training effectively by LFs.

In order to monitor the quality, the following areas have to be closely assessed:

- Understanding of COVAMS approach and benefits by practicing, as well as disadvantages of the villagers by not practicing
- Status of support from the village leaders to LFs
- Method of information dissemination for equal opportunity of participation in COVAMS to the entire villagers
- Understanding of the three techniques by LFs and villagers
- Understanding of the roles of SLF

3.1 Monitoring COVAMS Activities in Villages

Farmers are expected to practice the techniques when the training is completed so the activities of COVAMS approach follow the farming calendar. DMT has to monitor and guide all the activities to be carried out within the appropriate time scale in the calendar, following the annual work plan prepared by the district staff.

3.2 Monitoring Expansion of Target Villages

COVAMS approach expansion plan shall be prepared in each district. COVAMS approach is steady increasing the number of villages, covered by the shortest possible period with more than 50% of farmers of all H/Hs adopting the technique. DMT shall monitor carefully whether or not the pace of expansion matches with the plan. If the pace for extending COVAMS is slower than it was originally planned, then DMT shall analyze the causes of the problem, and place appropriate measures to fix the situation.

3.3 Monitoring Activities by Lead Farmers.

3.3.1 Monitoring understanding of the benefit of COVAMS

By assessing the items below, the quality of both the sensitization meetings carried out by CCOs, and Field Day carried out by LFs are clearly identified. These items are:

- Benefits of practicing techniques on COVAMS activities,
- Disadvantages of not practicing COVAMS activities, and
- Understanding on the roles of LFs.

Other elements that may reflect the quality of activities are explained in the following:

- Sensitization meeting is very important in motivating farmers in their practice, since it is conducted at the beginning of intervention. Therefore, the quality of the meeting shall be monitored, and if there are any shortfalls, then TST shall provide some additional measures such as retraining CCOs and repeating the meeting to fix the problems.
- Field Day will provide good influence to the farmers' second-year practice. During Field Day, the names of encouraged and committed farmers will be listed into the name list. By counting the number of farmers on the list, the quality of Field Day will possibly be assessed.
- The quality of activities can also be assessed with the number of participants in the training, and the adoption rate of farmers during the first year. Through monitoring those results, the management may develop an idea on how the re-sensitization meeting is carried out. The contents and the delivery of training by SLFs during the re-sensitization meeting shall be revisited, if the result is lower than the expectations.
- The overall practices performed by LFs and the number of training courses conducted, may be an indicator to the perception and understanding of the roles and responsibilities of LFs. When something is not working correctly with a LF and the problem is persistent, then the LF has to be consulted. If nothing is improved or changed, then replacing the LF is an option, should such decision be mutually agreed among community members and village leaders.

3.3.2 Monitoring village leaders support

In the Malawi context, a degree of influence by a VH over any activities within the village is significant. In a village where VH supports COVAMS activities by LFs and the villagers, farmers' practice rate is generally very high. Monitoring VH's attitude towards LFs and the farmers may give a good view on what is going on. At the same time, it is also important to create good relationship between CCO and VH in order to secure a good working ground for LFs to perform. If the attitude of VH is not favorable, then CCO shall intervene into the situation to resolve the difficulties.

The support from VH can be assessed through his/ her attendance to sensitization meetings, the number of participants during training and the number of farmers practicing. When those numbers are lower than expected during the first year, a support from VH is not as high as expected. In this case, CCO may intervene into the situation to fix the difficulties for the second year for improvement.

3.3.3 Monitoring the dissemination of information for ensuring equal opportunity

Among the five principles of COVAMS approach, “ensuring equal opportunity for participation to training” is the most significant. In other words, the information on training must reach every H/H in the village. COVAMS approach recommends distributing the invitation cards to every H/H for ensuring access to the information. CCOs have to check whether or not the invitation cards are properly distributed. If not, then CCO must take every possible measure to fix the problem.

3.3.4 Monitoring the understanding of soil erosion control, gully control and tree growing

The quality of TOT for LFs carried out by CCOs can be assessed through monitoring the quality of field practice of the three techniques demonstrated by the LFs. In particular, the facilitation skills of CCOs may be evaluated through LFs’ quality of contents, training design, as well as its delivery.

Effective training is a combination of skills to practice three techniques, and capacity for facilitating training. The former may be attained by themselves practicing in his / her own garden. The latter is challenging because it requires trial and error through actual training. When monitoring farmers’ practice, if its adoption and quality of work is less than expectation, then TST may closely watch how the training is practiced within the community. There may be some room for improvement, and additional measures and advice may be necessary and effective. An intensive monitoring toward the practice of LFs, particularly those who recently started his / her work is more important. The monitoring of practice by farmers shall be carried out regularly, to see if there is any shortcoming in it. In such case, advice shall be given to LFs during the regular LFs meeting, to avoid any embarrassment he / she may feel having his / her practice by CCO in front of farmers.

3.3.5 Understanding of the roles of Senior Lead Farmers

To assess SLF performance, it will help to monitor the indicator and measurements in

Table 3-1. During the second year, COVAMS approach recommends to utilize the SLF system to reduce the workload of CCOs, and to increase the number of villages under COVAMS approach. However, it is not very clear if the system works properly or not at the beginning of the second year. Hence intensive monitoring of SLFs' activity at an early stage of the second year is necessary, especially by TST. The SLF system is a key to sustaining the activities of COVAMS approach in the village. CCO and TST must give a backstopping to SLFs until familiarizing with their roles.

Table 3-1 Indicators and Measurements for Monitoring

Purpose of Monitoring	Indicators	Measurements
Improvement of the quality of sensitization meeting	Understanding of COVAMS approach	• No. of villagers participated • No. of attendants in the meeting • No. of participants in the training • No. of practicing farmers
	Benefit of practice	• No. of participants in the training • No. of practicing farmers or its rate against entire H/Hs of the village
	Understanding of the roles of LF	• No. of LFs who are practicing • No. of training conducted
Improvement of the quality of relations with VH	Status of support from village leaders to LFs	• Attendance to sensitization meeting by village leaders • No. of participants in the training • No. of farmers practicing
Assurance of equal opportunity	Method of information dissemination	• No. of attendance at the sensitization meeting • No. of participants in the training
Improvement of the quality of TOT by CCOs	Understanding of the three techniques by LFs	• Demonstration plot developed by LFs
	Acquisition of facilitation skill	• Contents and quality of training for the villagers by LFs • Quality of practice of the techniques by farmers
Improvement of the capacity of SLFs	Understanding of the roles of SLF	• Implementation of re-sensitization meeting by SLF • Quality of the re-sensitization meeting • Quality of the refresher course for LFs • Quality of training for villagers by LFs • Implementation of LFs meeting in the village

Table 3-2 Annual Activity Schedule

Month	Items / Technique	Activity
January	Gully	• Training on gully reclamation and control
	Tree	• Tree growing
February	Tree	• Monitoring on management of planted tree seedlings
	Gully	• Training by LFs • Follow-up on the practice
	Management	• Selection of next target villages
March	Tree	• Monitoring of management of planted tree seedlings
	Soil	• Field Day on maize harvest at LFs' demonstration plot
	Gully	• Follow-up on the practice
	Management	• Introduction to COVAMS for headmen • Confirmation of headmen's willingness to join
April	Tree	• Training on beekeeping • Monitoring of management of planted tree seedlings • Explanation on tree growing activity
	Management	• Explanation and training for village resources selected from LFs for conducting sensitization meeting (if necessary) • Preparation and implementation of Sensitization meeting • Selection of LFs • Collection of H/H list
May	Tree	• Training on beekeeping • Monitoring of management of planted tree seedlings • LF training (TOT)
	Soil	• Selection of LFs in the new target villages • Refresher course for SLF / LF • LF training (TOT)
	Management	• Implementation of sensitization meeting • Collection of H/H list • Brush-up course for SLFs
June	Tree	• Monitoring of management of planted tree seedlings • LF training (TOT) • Production of seedlings and practice of direct sowing by LFs • Monitoring LFs' practice
	Soil	• LF training (TOT) • Construction of demonstration plot by LFs • Monitoring LFs' practice
July	Tree	• Training on tree growing • LF training (TOT) • Monitoring LFs' / farmers' practice
	Soil	• Construction of demonstration plot by LFs • Monitoring LFs' / farmers' practice
	Management	• Collection of training report
August	Tree	• Training on tree growing • Follow-up on and monitoring of practice
	Soil	• Soil erosion control training by LFs • Follow-up on and monitoring of practice
	Management	• Collection of training report
September	Tree	• Training on tree growing • Follow-up on and monitoring of practice
	Soil	• Training on soil erosion control by LFs • Follow-up on and monitoring of practice

Month	Items / Technique	Activity
	Gully	• TOT for LFs on gully • Practice of check dam construction
	Management	• Collection of training report
October	Tree	• Demonstration of direct sowing method and distribution of seeds • Follow-up on and monitoring of practice
	Soil	• Training on soil erosion control by LFs • Follow-up on and monitoring of practice
	Gully	• Training on gully reclamation and control
	Management	• Collection of training report
November	Tree	• Monitoring on seedlings management (watering and pruning)
	Soil	• Soil conservation training by LFs • Follow-up on practice • Monitoring of practice • Confirmation of the number of villagers who are practicing
	Management	• Collection of training report
December	Tree	• Follow-up on out-planting practice
	Management	• Confirmation of the number of villagers who are practicing and areas

Appendix A: Cost estimation of the activities through COVAMS approach

1. Purpose of the Cost Estimation

The cost of utilizing COVAMS approach varies depending on what kind of technology is spread by when, or with whom it shall be carried out. To make these matters clear, a cost comparison on COVAMS approaches based on different conditions is presented. One challenge is: there are a few parameters to include when cost estimation is to be carried out.

The idea here is to present and compare two classifications of COVAMS approach: one is the cost based on the practice following each procedure explained in these guidelines; another is the so-called “Lean COVAMS” approach, which is a modified practice by eliminating most of the external inputs listed for the conventional COVAMS (see Section 2.18. Option for enhancement of sustainability in the guidelines, for an explanation of “Lean COVAMS”). Beside the reduced cost by eliminating goods for implementation, there is a difference between the two approaches. The conventional COVAMS approach may be suitable when agility in both penetration and extending coverage is mattered. Supported by a relatively high level of inputs such as materials for farmers, bicycles and motorcycles for ensuring SLFs and CCOs, it may take advantage of the enthusiasm of target communities and mobility. On the other hand, Lean COVAMS may be suitable when risks of reliance to external material inputs are concerned, in a view of long-term ownership and sustainability. Lean COVAMS is suited when financial resources are not adequate, while extension work needs to reach out to as many communities as possible. COVAMS aims at minimizing dependency to incentives given from outside. It rather attempts to facilitate farmers understand their own benefits by voluntarily participating in development activities to improve their own lives.

The two different approaches share the same five principles of COVAMS. The activities of the two make no difference in terms of process and procedures. The activities of the two shall follow in accordance with the COVAMS Approach Guidelines.

2. Assumptions of the Estimation

The following assumptions were made to estimate the cost of implementing COVAMS. They were built based on Project experience in the four target districts in Malawi.

A CCO oversees one hundred LFs on average. An average of 15 LFs are elected in a village. Six to seven villages may be assigned to one CCO under his / her responsibility. From these figures, the cost necessary to COVAMS over a two-year period may be easily estimated.

The basis of this calculation is that a CCO trains one hundred LFs and seven SLFs from 6 to 7 villages within a two-year intervention. The expenses for materials and fuel are based on the market price obtained between June 2016 and May 2017. The element of cost is shown in Figure 1.

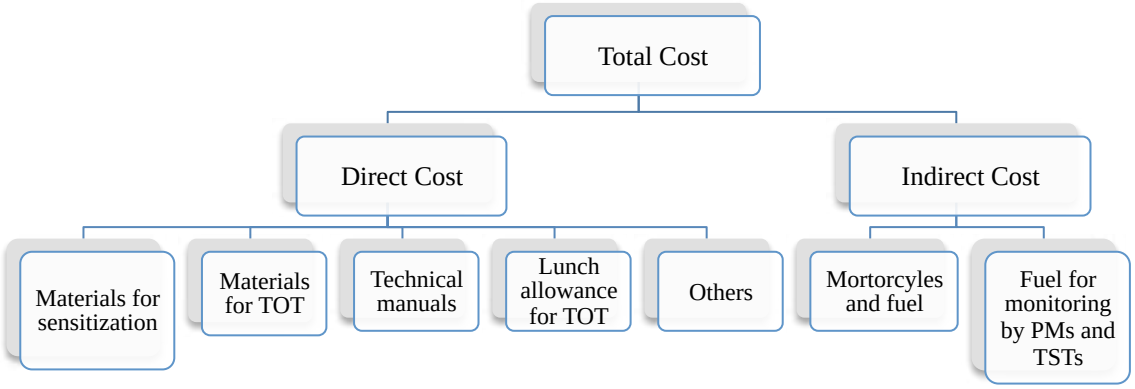

Figure 1: Element of Cost for Implementing COVAMS

3. CALCULATION OF THE COST

3.1 Direct Cost

Direct cost consists of the following items: materials for sensitization, materials for TOT, technical manual, lunch allowance, and others.

3.1.1 Sensitization Materials

Production of posters for the sensitization meeting mainly used by CCOs may be outsourced to a print shop. The black and white posters used by LFs are produced with black and white A3-sized papers.

3.1.2 Materials for Training of Trainers

The training materials outlined in the guidelines are provided to LFs at the first-year TOT. The items include a *panga* knife, a line level and nylon threads to measure contour lines, nails to make “A-frames” for aligning contour lines, polythene tubes for seedling production, a notebook and a pen. Polythene tubes are provided at TOT for distribution to the fellow farmers. For Lean COVAMS, items distributed are limited to notebooks, pens, strings, and line levels.

3.1.3 Technical manuals

The technical manuals include tree growing, soil conservation and gully reclamation. They are outsourced to a print shop for production, and are provided to LFs. For Lean COVAMS, the manuals are only provided to SLFs.

3.1.4 Lunch allowance for Training of Trainers

A lunch allowance of 800 MKW/day is provided to LFs and SLFs during TOT. The duration of TOT for LFs during the first year and second year take four days. TOT for SLF during the first year and second year takes three. The lunch allowance is provided to both conventional and Lean COVAMS.

3.1.5 Fuels for Motorcycle

The annual expenses for running a motorcycle are calculated from the actual expenditures between June 2016 and May 2017. The expenses related to motorcycles during the second year are deemed at a half of the annual expenses, because SLFs are nominated to assist CCOs.

3.1.6 Others

Other expenses included are: T-shirt for LFs and SLFs, and bicycles provided to SLFs.

3.2 Indirect Cost

3.2.1 Motorcycle and its depreciation

Ensuring mobility for extension officers responsible for monitoring and overseeing COVAMS activities is one of the major factors for designing extension activities. The expenses related to motorcycles are not negligible. They vary depending on how many new motorcycles are to be procured, when estimating the cost of COVAMS activities. If existing motorcycles are available, then how many more motorcycles to be procured is a complex question. If the office equips some motorcycles, which may be allocated to the activities, then the expenses on repair and maintenance shall be considered. Newly procured motorcycles may not require repair and maintenance, but their depreciation may need to considered instead. Ensuring mobility is a key element of designing COVAMS approach, while procuring a new motorcycle is, however, not absolutely essential. General recommendation for any agencies that would like to adopt COVAMS shall look into the possibility of utilizing locally available resources, including readily available motorcycles instead of procuring new motorcycles.

3.2.2 Fuel cost for management staff such as Project Manager and Technical Supporting Team

The fuel cost for the monitoring of field activities by PM and TST is also considered variable. The more area the activities reach out, higher becomes the cost of fuel. The frequency of carrying out site visits shall be carefully reviewed, based on the necessity and available resources including time, effort and budget.

3.3 Things to consider

COVAMS approach is not a perfect solution for every situation. It has advantages and, at the same time, limitations. One particular success may not be replicable in other locations, since all communities are different. COVAMS approach may not be attractive when community members receive regular external support, such as financial support or food baskets for the improvement of nutrition, etc., from other development partners.

Table 1: Cost estimate for two-year activities through COVAMS approach

Items	To whom	COVAMS			Lean COVAMS		
		U.P. (MKW)	Qty.	Amount (MKW)	U.P. (MKW)	Qty.	Amount (MKW)
I. Sensitization							
1. Posters (color, plastic poster)	CCO	82,500	1	82,500	82,500	0	0
2. Posters (black and white, A3 paper)	LF	2,550	100	255,000	2,550	0	0
3. Envelop (A3)	LF	100	100	10,000	100	0	0
II. TOT (SLF / LF)							
4. Marker Pen (3 colors × 10 sets)	CCO	1,750	10	17,500	1,750	0	0
5. Flip Chart	CCO	3,000	1	3,000	3,000	0	0
6. Masking Tape	CCO	1,100	1	1,100	1,100	0	0
7. Notebook	LF	495	100	49,500	495	100	49,500
8. Pen	LF	120	100	12,000	120	100	12,000
9. Document Folder	LF	195	100	19,500	195	0	0
10. Panga Knife (soil conservation)	LF	995	100	99,500	995	0	0
11. Strings (soil conservation)	LF	450	100	45,000	450	100	45,000
12. Nails (soil conservation)	LF	950	300	285,000	950	0	0
13. Line Level (soil conservation)	LF	2,500	100	250,000	2,500	100	250,000
14. Polythene Tubes (100 pots/LF) (tree growing)	LF	200	10,000	2,000,000	200	0	0
III. Technical manuals							
15. Manuals (three techniques)	LF	5,693	300	1,707,900	5,693	21	119,553
IV. Lunch allowance for TOT							
16. TOT for LF (8 days / 2 years)	LF	800	800	640,000	800	800	640,000
17. TOT for SLF (6 days / 2 years)	SLF	800	42	33,600	800	42	33,600
V. Fuel							
18. Fuel for CCO activities (7 villages x 1.5 year)	CCO	32,280	10.5	338,940	32,280	10.5	338,940
VI. Others							
19. T-shirts	LF	4,000	107	428,000	4,000	107	428,000
20. Bicycle	SLF	45,000	7	315,000	45,000	7	315,000
			Total (MKW)	6,593,040		Total (MKW)	2,231,593
			Total (USD)@700	9,418.63		Total (USD)@700	3,187.99

Appendix B: Check Lists

Appendix B-1: Check List for LF / SLF monthly meeting

A. Progress report

- Limana meetings conducted
- Number of trainings conducted
- Challenges encountered
- Explanation of the field practices during the reporting period
- Number of H/H / technology
- Number of seedlings raised / planted
- Number of gullies reclaimed
- Number of check dams
- Area conserved in acers
- Others (raised by CCO and SLF)

B. Plans for the following month

C. AOB

Appendix B-2: Field Check List for CCO and for LF

■ TRAINING

1. Quantity

- Number of SLF trained
- Number of LF trained
- Number of Farmers trained

2. Quality

- Facilitation
- Participation
- Contents delivered (more practical)

■ PRACTICES

A. Tree Growing

A-1. Quantity

- Number of seedlings to be raised (target)
- Number of seedlings to be raised / species
- Number of seedlings planted / species
- Number of trees surviving
- Area under natural regeneration (in ha per CCO, in acer per LF)

A-2. Quality (Management practice)

- Management on nursery
- Management on woodlot
- Management of areas and trees regenerated

B. Soil and water conservation

- Number of heaps / type of manure
- Area applied manure
- Materials used and processing / procedure
- Orientation of ridges (proper)
- Distance between marker ridges and ridges
- Presence of water harvesting technologies and their dimensions
- Management on nursery
- Management on woodlot
- Management on areas and trees regenerated

C. Gully Reclamation

- Number of check dams constructed
- Number of gullies reclaimed
- Orientation of check dams
- Materials used in check dams

D. Others (raised by CCO, SLF and LFs)