



COVAMS



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The result of trial on Specified Village Training Approach

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**The project for Community Vitalization and Afforestation in Middle Shire
(COVAMS)**

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1. SUMMARY

This report is prepared to compile the result of implementation of the project activity with Specified Village Training Approach (SVTA). The data were collected through monitoring by PIUs and they were examined if SVTA had worked effectively or not. As a result, it was confirmed that SVTA worked effectively and efficiently.

The differences between SVTA and IVTA are the decision making process of the training and utilization of trainers from the respective villages. Integrated Village Training Approach (IVTA) can be described as demand driven approach. An emphasis is put on the establishment of good relationship between the villagers and the project so that the villagers will come to show their strong interest in information or technologies brought by PIUs. Contrarily, SVTA looks top down approach. The themes of the training are set by the project; hence the village residents are put in a passive position.

The project was anxious whether the village residents would react positively to SVTA because of the nature of the approach and utilization of lead farmers as trainers. Therefore, the utilization of lead farmers as trainers was tried only in soil erosion control to minimize a risk that the residents in the target area might hesitate to accept the operation and end up with very poor participation in the activities.

Despite such worry, the training in soil erosion control was welcomed by the village residents. The number of the participants in the training reached to 3,493 and 1,596 farmers practiced the technologies, which counts about 300ha of conserved gardens.

Besides, the village residents also positively reacted in tree growing activity. The number of practicing people reached to 975 which is about 20% of the total households in the target villages. One of the factors in this result would be provision of seeds by a NGO (Total Land Care). It seemed that a combination of acquiring knowledge and provision of material worked to make them practice.

Gully control training was also practiced in many villages after the training. Moreover, the project found that cost effectiveness became higher with utilization of lead farmers. Combining all the results put together, SVTA can be concluded very effective and efficient, although there are some more rooms to improve.

2. THE RESULT OF SVTA

2.1 SOIL EROSION CONTROL

The number of participants in the soil erosion control training reached to 3,493 people in the 50 villages and 8 households, and the number of the farmers who practiced after the training reached to 1,629 in total of the two TAs, according to the report from PIUs (see annex 1). After receiving the report from PIUs, the project management conducted a field check, taking about 10% of samples. The result revealed that 2% of the farmers who were listed as practicing farmers did not exist, and 22% of farmers practiced swale (a water harvesting ditch), 32% farmers planted Gliricidia, and the estimation of the total area of conserved gardens in the target villages reached to 295ha.

PIUs (11) conducted demonstration of training for the lead farmers to build their skills in conducting training and the number of participants was 797. Hence the pure number of participants in the training done by the lead farmers was 2,696 people in 2009. It looked as if the villagers preferred PIUs as trainers. But the reason why so many people participated in the training done by PIUs was because it was the first training in the villages, according to PIUs.

The COVAMS project fostered 107 pro-lead farmers in total of 50 villages. However, there were some pro-lead farmers who did not conduct any training or did not practice the soil erosion control technologies by themselves in their gardens. As the result of monitoring by PIUs on the pro-lead farmers' activities, it was found that 93 (87%) pro-lead farmers were able to suffice the conditions to be recognized as proper lead farmer, and those were given proper certificate in April 2010.

The management staff managed to check 152 farmers' fields for the field check. Out of 152 farmers, 3 which are 2% of the samples could not found. Hence the total number of farmers who practiced the soil erosion control technologies should be reduced to 1,596 from 1,629.

The total area of conserved gardens reached to about 27.5ha in the field check exercise. The estimation of the total area of conserved gardens in 2009 was made from the result, extending to 1,596 farmers, and it gave 295ha. About 42% of the farmers conserved 200m² to 1000m², 28% of the farmers conserved 1000m² to 2000m², and 2000m² to 3000m² shared 15%, while the largest conserved garden was about 1.2ha.

The ratio of the farmers who practiced construction of swale in their gardens gives 351 farmers when it is extended to the whole of 1,596, but the figure of the report from PIU did not match to the estimation. It was 100 farmers only. The number from PIUs' report might be more accurate. On the other hand, the *Gliricidia* planting was made by 32% of the farmers, and it gives around 510 farmers as whole. The number of seedlings per farmer was about 108, and it figures out that about 55,000 seedlings were planted in their gardens.

PIU reported in a PIU meeting as followed; the farmers who conserved their gardens told that they were able to increase the harvest of maize from the garden. Majority were saying that the increase was about three (3) times to five (5) times, compared to their previous harvest. The biggest jump was from a 20kg to 500kg, which is 25times.

2.2 TREE GROWING

Tree growing training was conducted twice with different contents by PIUs. One was for pot filling, including how to make the soil for pot filling, sowing tree seed and roots pruning. The other one was for out-planting of seedlings and their field management. The number of participants reached to 1,635 and 975 for pot filling and out-planting training respectively. Assuming the number of participants in out-planting training can be counted as the number of practicing people, the percentage reached to about 20% to the entire households' number in the target villages.

In most of the villages, several nursery groups were formed. This was happened with intention of obtaining some inputs such as tube, several species of seeds, watering can and some other tools. These inputs were promised by TLC with a condition that the villagers should establish a nursery as a group, although TLC accepted individual nursery later. As a result, the number of villagers who raised seedlings individually reached to 246 while the total number of group members was 1,547. However, unfortunately, most of the villages received tubes and limited number of species of seeds only without other tools.

With the hope of receiving the inputs, larger number of villagers joined to nursery activity. But because of disappointment that they did not receive the promised inputs, the number was reduced in the out-planting training. Despite such circumstances, the villagers who worked individual based raised around 28,000 seedlings and the group member raised around 170,000 seedlings. Out of the 198,000 seedlings, the villagers out

planted around 114,000 seedlings in the season of 2009 / 2010.

2.3 GULLY CONTROL

Small scale gully control training was conducted by PIUs in March 2010. Because of financial closure of JICA system, the training was conducted once only in each village with very top down approach. However, total number of participants reached to 1,127 people which is about 23% to the entire households of the target villages.

The participants practiced construction of small scale check dams with three kinds of materials (brush wood, sacks, stones) in their respective villages. After the training, PIUs reported that some of the participants practiced the construction of the check dam by themselves although there is no data.

In 2010, rain continued up to late April, so the villagers were able to see the effectiveness of the check dam. PIUs reported that the participants were appreciating the check dam, seeing stored soil at the dams.

3. COST OF THE OPERATION

The major costs of the operation for SVTA in 2009 were indicated as follows.

3.1 COSTS FOR CONTOUR RIDGING TRAINING ACTIVITY

The tables below show each cost for fostering trainers, conducting training and some inputs.

Table 1 : The cost for fostering trainers

Trainees of the course	Title of the course (duration)	Classification of the cost	Cost
PIU (11)	Brush up course (3days)	Trainer fee	MK 12,000
		Allowance for trainees	MK 12,900
Lead Farmers (107)	TOT for new LFs (4days)	Trainer fee	MK 112,800
		Allowance for trainees	MK 126,900
		Manual	MK 37,450
	Facilitation skill up course (3days)	Trainer fee	MK 84,000
Allowance for trainees		MK 85,650	
		①Sub total cost	MK 471,700

- The numbers in the () at column trainees of the course indicates the participants.

Table 2 : The cost for conducting training by LFs assisted by PIU

Trainees	Title of the course	Classification of the cost	Cost
Farmers (2,696)	Training for contour ridging	Trainer fee (133times)	MK 97,720
		Assistant fee (PIU)	MK 74,000
		Training material (Line level: MK1,400x191)	MK267,400
		Training material (String: MK295 x107)	MK 31,565
		Training material (Nails: MK50x107)	MK 5,350
		②Sub total cost	MK 476,035

Table 3 : The cost for inputs in developing demonstration plot by LFs

Items	Price	Quantity	Cost
Hoes	MK 800	107	③MK 85,600

Table 4 : The cost for Vetiver grass

Items	Quantity	Cost
Labour		MK 85,000
Vetiver		MK 125,280
Transportation	10t lorry x	MK 810,000
	④sub total cost	MK 1,020,280

Grand total for contour ridging was ①+②+③+④=⑤MK2,053,615

3.2 COST FOR TREE GROWING

The table below shows the cost for conducting training and some inputs.

Trainees	Title of the course	Classification of the cost	Cost
PIUs (11)	TOT in tree growing (Pot filling and nursery management : 1 day)	Trainer fee	MK 2,400
Farmers (1,635)	Pot filling and sawing seeds	Trainer fee	MK 69600
		Assistant fee	MK 900
		Training material ¹ (Gliricidia: 1629x MK200)	MK 325,800
Farmers (975)	Out planting of seedlings	Trainer fee	MK 55200
		Assistant fee	MK 23100
		Sub total cost	MK 477,000

1: The training materials were given not only from the project but also from TLC. But no cost was figured out.

3.3 COST FOR GULLY CONTROL

The table below shows each cost for conducting training and some inputs.

Trainees	Title of the course	Classification of the cost	Cost
Farmers	Small scale gully control	Trainer fee (53 times)	MK 63,600
		Training materials (Empty sacks @MK40x 20)	Mk 800x 53 MK 42,400
		Sub total cost	MK 106,000

3.4 COST FOR MONITORING

The table below shows the annual cost for monitoring by PIU members in 2009 - 2010.

Items	Cost
Depreciation of Motorbikes (10)	MK 1,024,443
Fuel and lubricants (10 motorbikes for 10 months)	MK 800,000
Maintenance cost	MK 369,540
Spare parts	MK 500,000
Filed allowance (11 PIUs for 10 months)	MK 624,000
Sub total cost	MK 3,317,983

4. THE ANALYSIS OF SVTA

4.1 EFFECTIVENESS OF SVTA

The effectiveness of SVTA could be analyzed through comparison of the number of participants or practicing people in the three training courses between 2008 and 2009. The result shows that SVTA villages (2009 villages) exceeded IVTA villages (2008 villages) in the number of participants per village in all the training themes. In this sense, it can be concluded that SVTA is significantly effective.

The possible cause of this result could be attributed to the fact that the villages applied SVTA had only three training themes to participate in, while the villagers on the other party had dispersed themselves with many training themes in their participation. Simultaneously, it can be said that the themes of SVTA attracted the villagers' interest.

- **Soil erosion control**

The number of participants in soil erosion control training (3,493) increased almost 10 times compared to that of the last year (362). The average number of participants per village was 70 in SVTA while 52 in IVTA. The ratio of practicing farmers to the total number of households in the target villages was both 32%. On the other hand, the ratio of the practicing farmers in soil erosion control to the number of training participants was 46% in 2009. It was about 10% reduced from the one of the last year (57%).

The efficiency per trainer of last year was 36 participants per trainer, while 29 participants per lead farmer trainer in terms of pure number of participants. Suppose the participants did not mind who the trainer was, the efficiency goes up to 34 per trainer. In this case, there was no difference in the efficiency between IVTA and SVTA in terms of soil erosion control training.

The result shows that there is very little difference between the two approaches in this training theme in terms of number of participants and its practice. The only advantage in IVTA was the ratio of practicing people out of the training participants. Therefore, SVTA in soil erosion control can be considered as effective.

- **Tree growing**

There were very few people who planted trees under IVTA in 2008. The training in tree growing was conducted in a series and most of the 2008 villages started to establish

their nurseries as the training went on. However, most of the villages failed to grow the seedlings because of inadequate interest in some villages as well as inadequate technical support by PIUs in other villages. As a consequence, no villages reached to out-planting training course and very few trees seedlings were planted.

On the other hand, about 20% (975) of the total households of the target villages planted tree seedlings that they had raised under SVTA. This achievement was realized with the following possible factors;

- ① The number of activities was not so diversified; hence the villagers did not lose their concentration in raising seedlings.
- ② An availability of tree seeds provided by Total Land Care (NGO).
- ③ The project provided the villagers training in out-planting.
- ④ The project was able to establish good relation with the villagers through continuous support in soil erosion control activities.

The total number of tree seedlings planted was 114,000, according to PIUs' report, which means that 118 seedlings per household were planted as an average. This number includes agro-forestry species of Gliricidia which planted mostly in their gardens as soil fertility improvement material.

As a conclusion, the villagers' interest in tree growing is considerable and it could be said that SVTA has successfully brought out their interest in tree growing.

- Gully control

The training in gully control was conducted once per village under both IVTA and SVTA. It seemed that the villagers had no ideas about what gully control is. However, after the training, several villages showed their interest in the gully control of the bigger scale gully (between medium scale and small scale) by collecting necessary stones by themselves for construction of check dam, apart from the small scale gully.

The number of participants recorded 103, which was 15 participants per village and 16% to the total number of households under IVTA, while 1,127 people participated in the training, which gives 22 participants per village and 23% to the total number of households under SVTA.

The training in gully control was also conducted by PIUs and FMOs once every target

village in March 2010, towards the end of the rainy season. The project management was not able to identify the suitable timing for conducting this training, and consequently quick decision was made that the project should conducted the training rather than not. Despite such circumstances, many villagers participated in this training.

Therefore, SVTA can be concluded as follows:

- ① The lead farmer operation was well accepted and the lead farmers were utilized effectively by the villagers in most of the target villages. (Number of participants)
- ② The lead farmers could transfer the technologies appropriately in erosion control to the participants in the training. (Increased yield)
- ③ The training themes are matching with the needs of the villagers. (Practicing ratio after the training)
- ④ Hence, SVTA works effectively.

4.2 OTHER FACTORS

The project conducted sensitization meeting (COVAMS explanation meeting) in all the target villages of 2009. This meeting was suggested by PIUs to enhance villagers' understanding towards COVAMS activity, through observation that the villagers had excessive or distorted expectations to the project in 2008.

The project took a strategy on the sensitization meeting that the contents of the meeting ought to be consisted from the point of benefit of the farmers when they participated in COVAMS activity. At the same time, some villagers who benefited from the soil conservation activity of the previous year should be invited to the meeting so that the participants of the meeting would take the explanation more seriously.

It appears that the sensitization meeting enhanced the villagers' understanding on the significance of soil conservation. Addition to this, it helped to fill the shortfalls of SVTA in terms of establishment of trust between the village residents and the project. A proof can be found in Steven village although the stride in the number of the practicing people was not so much.

PIUs reported that most of those villages which are low practicing ratio had poor support from the village headmen on the conservation activity. Steven village in TA Kapeni was also one of those villages. Upon seeing the poor practicing ratio, the PIU in

charge to this village requested to the COVAMS management for repeating sensitization meeting for the village. After the repetition of the sensitization meeting, the number of farmers who practiced soil conservation was increased from 2 to 13 people.

Simultaneously, establishing of demonstration plot with the soil erosion control technologies by the lead farmers also strengthened the solidarity between the villagers and the lead farmers. In some villages, some lead farmers who did not practice the technologies in their gardens were refused to conduct training by the villagers. It seemed that the procedures the project took for nurturing the lead farmers as a trainer were coherent.

4.3 COST PERFORMANCE

The total cost of the operation for SVTA in 2009 fiscal year was approximately MK 6,000,000. With this amount, SVTA achieved 133 times of training courses in soil erosion control, 102 times in tree growing and 53 times in gully control including follow ups for the farmers to support their practices in each training theme. Besides, the numbers of practicing farmers are 1,596 and 975 in soil erosion control and tree growing respectively.

Considering the point that Malawi government could allocate Mk 10 million for COVAMS project in 2009 / 2010, it can be said that SVTA's cost performance made the government possible to operate by its own.

On the other hand, it is worthy to analyze the cost performances for the operation with lead farmers comparing to the one with PIU only in order to judge which operation should be encouraged.

The cost of the operation with lead farmers as single year appears requiring larger amount, compared to the one with PIU only. It is because the cost for fostering them as trainers was necessary. However, it is actually not expensive when we look into the details. For example, the total amount for this fostering activity for 50 villages was MK446,800 which is almost equivalent to the cost for purchasing a motorbike (MK512,000). Besides, this cost for fostering training is one time and the cost performance will be improved as the training is continued multiple years.

In the operation of 2009, each PIU looks after five (5) villages. Suppose the PIUs conducted the same training courses and the same number of training courses as lead farmers did, the calculation of the cost for the operation would be as follows;

- Depreciation of a motorbike (5 year of depreciation) : MK 102,400 / annual
- Depreciation for a month : MK 8,500
- Depreciation during the training period (2 months): MK 17,000
- Motorbike depreciation cost per village : $Mk17,000 / 5 \text{ villages} = \textcircled{1}MK 3,400$
- Fuel and lubricants cost per village (3 times of training / village) : $\textcircled{2}MK 1,000$
- Maintenance cost (2 months / village) : $MK 370,000 / 10 / 12 / 5 \times 2 = \textcircled{3}MK 1,240$
- Spare parts (2 months / village) : $MK 500,000 / 10 / 12 / 5 \times 2 = \textcircled{4}MK 1,660$

Hence, the total cost for a PIU to conduct training courses per village without trainer fee was $\textcircled{1} + \textcircled{2} + \textcircled{3} + \textcircled{4} = MK 7,300$ approximately.

This amount does not include the cost for follow up for the participants which has done by a lead farmer almost every day during the period. It means that the cost for the fuel and lubricant goes up. For example, the cost for fuel and lubricants in October 2009 per PIU was around MK 8,000. It became MK 1,600 per village. Therefore the additional cost should be MK 2,200 for the follow up, being reduced the amount for conducting training (MK1,000). Then the total reaches to MK 9,500 approximately.

Meanwhile, the cost for fostering two lead farmers per village was around MK9, 000. Hence, it looks almost the same cost effectiveness for both sides. However, the project observed that the capacity of PIU to conduct training when follow up activity was included would be one village only. If so, the cost for PIU will be far more when they have to concentrate on just one village.

Suppose the cost effectiveness for single year is the same, when a comparison in the cost for the same activity is made for a multiple years, the following will be a statement. "The cost performance improves as the lead farmers continue their activity for more than one year, while the one of PIU's requires the same amount every year."

A comparison in the cost performance can also be made on trainer fee between lead farmers and PIUs. PIUs conducted training courses in soil erosion control in 2008 and the figures were as follows;

- Number of training courses : 13 times
- Number of farmers who practiced : 207
- The total cost for trainer fee : MK37,200

- Cost performance : MK 180 / farmer's practice, MK 2,860 / training

The performance of the lead farmers in 2009 was as follows:

- Number of training courses : 133 times
- Number of farmers who practiced : 1,596
- The total cost for trainer fee (lead farmer only) : MK 97,720
- Cost performance : MK 60 / farmer's practice, MK 740 / training

In short, it can be concluded that the operation of SVTA with lead farmers is at least three folds more cost effective than just with PIUs.

5. JUSTIFICATION FOR APPLICATION OF SVTA

The application of SVTA was a trial of the project as to improving the pace of expansion of the areas. SVTA has demonstrated that almost the same degree or more in the impact as that of IVTA can be achieved. Simultaneously, it was found that the operation with utilizing village human resources as trainers worked effectively and efficiently in the field of soil erosion control at least. Besides, the success of the operation will allow more rapid expansion of the areas by shortening the period in one fifth of IVTA, which is about a hundred years in dissemination of technologies in soil conservation.

Hearing the reaction on the maize yields from the farmers who practiced soil erosion control technologies, the ratio of practicing farmers in this field will expectedly be reaching to more than 50% in the second year. The increase of the maize yield will be able to bring stability of the farmers' food situation and the situation will possibly provide the farmers some spare time and finance for other activities such as tree growing and gully control.

When it comes to operation mechanism, it was revealed that the operation with lead farmers will perform more efficiently than depending on PIUs only. Hence this operation mechanism should be encouraged, since its effectiveness was confirmed as effective. Moreover, the advantage of the operation is that fostered trainers will remain in the villages, and the village residents will be able to access to the resources anytime they want.

With these results, it can be concluded that SVTA has a great potential to achieve the mission of Malawi government that of mitigation of siltation in the Shire River with reasonable cost.

6. CHALLENGES REMAINING

The training in soil erosion control by the lead farmers in the respective villages started in August 2009. At the time the training started, many farmers had made planting ridges in their gardens already, and it can consequently be assumed that this delay of implementation of the training activity affected the practicing ratio. To improve the practicing ratio, the timing of implementation of the activities has to be planned in accordance with the farmers' activity calendar.

Besides, SVTA indeed shortened the necessary period for expansion of the areas in the entire Middle Shire to hundred years from five hundred years of IVTA. However, hundred years is still too long while the need of mitigation of siltation in Shire River is urgent. It is imperative that the project devise to improve the operation system in order to make the period shorter.

The bottle neck of the above two points is shortage of PIUs. One way of solving is to increase the number of PIUs. The other way could be increase of utilization of village human resources for dissemination of the COVAMS concept and technologies.

The analysis of the operation 2009 found that utilization of village resources is more cost effective. In this sense, it is worthy to try more utilization of village resources in the operation to shorten the period. However, PIU's support to the lead farmers in the technologies is also indispensable to secure the quality in their practice. The challenges remaining in this room is that COVAMS project has to find the most cost effective combination in sharing roles between PIUs and lead farmers. Particularly, it is obvious that the cost performance will improve as a PIU increases the number of villages in-charge. Therefore, it is necessary to identify how many villages a PIU can look after with lead farmer cored operation.