Progress Report
March 2003

Farmer Field School
for
Sustainable Agriculture Development
in
Myanmar

Metta Development Foundation
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Executive Summary

In order to address the major problems of Kachin farmers, the production of rice and general income levels, both of which have been constrained by a complex combination of physical and social problems, including soil quality, water availability and low prices during the harvesting period, the project "Farmer Field School (FFS) for Sustainable Agricultural Development in Myanmar" was initiated in 2001. Since then the project has been implemented across the state in partnership with local organisations which are mandated to support the community. While the primary purpose of the FFS is to enhance the overall skills and capacities of farmers in better crop management so that they can tackle the common problems of farming and can increase the production and productivity of rice fields in a sustainable way, the long term goal of the project is to establish and strengthen a development process in rural communities. This is being achieved through developing the capacity of the local organisations, particularly the capacity of the staff that are managing and implementing FFS in these communities.

This report summarises the important project activities and provides an overall review of the progress that has been made in achieving the specific and overall objectives of the project as at March 2003, and hence should be considered a progress report. From the facts and data presented in the corresponding sections of the report, it is quite clear that the implementation of various activities over the last two years has made significant progress towards achieving all the specific objectives of the project. Farmers are seen to have gained confidence and skills in improving crop production at no extra cost. Similarly, partner organisations have gained interest and enthusiasm as it became evident that they could provide better service to the community through FFS. They, too, are building up their capacity in FFS management with a good number of facilitators and coordinators who are currently implementing and coordinating FFS across the state.

The combined effect of the new capacity of farmers and partner organisations has led many communities to develop new initiatives with particular skills and interest in planning and development. Consequently, one sees that FFS has already laid a strong foundation for further development within selected rural communities, and the approach is now being transformed and expanded into other areas and communities.

The project as of this reporting period includes two complete rice seasons, in 2001 and in 2002, during which FFS was implemented. Within this period, a total of 95 FFS were established in various strategic locations in Kachin State. This number is slightly lower than the original target because some of the trained facilitators left the project. Nevertheless, there is every reason to be confident that within the stipulated period it will be possible to establish the 180 FFS that were originally foreseen. To achieve this, another season training course for over 30 facilitators was planned and has been underway since February 2003. The trainees are expected to graduate by the end of April. With these new graduates, it is hoped that at least 120 new FFS will have been established by the end of 2003 and that with the previous 95 there will be a total of 215 FFS by the end of the project period. This would in fact be 35 more than the original target.

A INTRODUCTION

Kachin State is the second largest state in Myanmar. Across the state the trend toward increasing poverty in the rural areas is a serious concern. Rice, the staple food, is the main crop and a major source of livelihood for Kachin farmers. However, many are not able to produce enough for their own consumption. Generally, rice yields in the State are
very low, averaging one to two tons per hectare. The bigger portion of the harvest goes
to cover production costs and pay off debts, as lack of capital forces farmers to borrow
money at a high interest rate. The quota sales of paddy to the government, at below
market prices, add further great burden. Cultivating other crops is highly constrained by
inadequate or non-existent irrigation facilities. Additional or alternative sources of income
are also very limited. All these factors have had an adverse effect on income levels.

Low rice yields themselves are the result of a complex of problems. The quality and
availability of soils, water and seeds all pose problems and more interestingly for our
purposes, a lack of appropriate knowledge and an incomplete understanding of the rice
ecosystem, are the main hindrances to increasing or maintaining the productivity of the
rice fields. Addressing these complex problems, requires more knowledge of the entire
rice production system, and hence, the Farmer Field School (FFS) has been
implemented across state to contribute to the overall skills and capacities of farmers in
better crop management so that they can address the most urgent farm problems and
can increase production in a sustainable way.

Local organisations working in the state have found the FFS an effective way to support
the community. Therefore under the umbrella of the project "Farmer Field School for
Sustainable Agricultural Development in Myanmar" meaningful partnerships have been
established between Metta Development Foundation and four local organisations, the
Kachin Independence Organisation (KIO), Kachin Baptist Convention (KBC), the
Catholic Diocese and the New Democratic Army, Kachin (NDA-K).

The FFS project began in January 2001 for a three-year period and has since been
implemented across the Kachin State and in some areas of the Shan State. The staff
and volunteers of the partner organisations have implemented the FFS at the basis and
Metta has coordinated the overall programme for strengthening the capacity of those
organisations. This report recounts the progress made as at March 2003 on various
aspects in terms of the objectives set out in the project proposal, and it describes plans
and activities for the remaining period of the project.

B PROGRESSES AND ACCOMPLISHMENTS TOWARD PROJECT OBJECTIVES

B.1 PROGRESS IN TERMS OF SPECIFIC OBJECTIVE 1

Objective 1:

To enhance and empower the decision-making ability of the rural household
communities in 180 villages of Kachin and Shan States in Myanmar

This will be done by improving their overall management capacity in a crop-based
sustainable and integrated agricultural system.

Output 1.1
Core group of farmers capable of managing and improving their farms effectively
and efficiently.

Indicator 1: By the end of the graduation, more than 80% farmers of each FFS have
improved their overall management capacity in crop-based sustainable and integrated
agricultural system, which will result in increased production.
**Progress made**

**Farmer Field School (FFS):** A FFS is usually supported by a trained facilitator for a one to one and half-years based on the specific situation and progress of the School. On an average 15-20 farmers in a community attend the FFS on weekly basis. The essential elements of a FFS are a study field and a meeting place. In the study field, farmers grow crops and set up experiments to study problems and critical elements of crop production.

![A typical Farmer Field School (FFS)](image)

Regular observation and monitoring of the experiments, with subsequent formal presentations and discussions in the meeting place provide farmers unique opportunities for learning from actual situations. In addition, further issues such as soil, water, pest control and crops are treated in special sessions and season-long studies in the study field. The application of the knowledge gained in the field on a regular basis tremendously enhances farmers' capacities, particularly in better crop management and problem solving.

**Key activities in FFS:** Important activities that were carried out by those graduating from the FFS to develop farmers' capacity in crop management include specific studies on seed production, soil fertility management, plant compensation, rice variety performance, integrated pest management and a system of rice intensification study. Above and beyond this, a number of issue-based hands-on sessions were also facilitated, predominately on quality seed and seedling production, land preparation, preparation of organic manure, and specific insect and disease management.

**Achievement:** The results of those activities reflected significant progress that the FFS farmers are making in different aspects of rice production. The field studies, particularly, brought major improvements in their understanding and knowledge, resulting in enhanced skills in the management of the paddy fields. These skills are most evident in the selection and production of quality seeds and seedlings, in the uprooting of the seedlings in the seedbeds, in the methods of rice transplantation, in water management practices, and in the compost and other manure preparation.

*All this has contributed to better paddy fields, and, ultimately, farmers have achieved, on an average, rice yields of 4-6 tons per hectare from a narrow average of 2 tons per*
hectare. As of today, a total of 1662 farmers, of whom 1315 are male and 347 female, graduated from 95 completely established FFS.

The capacity: Farmers across communities have begun translating all the important new knowledge gained in FFS into their work in their own fields. The lack of availability of quality seed in the community is one of the major problems that have severely limited rice improvement. The project in its centres at Alam produced quality seeds of a number of preferable varieties and distributed those seeds to the FFS. Farmers started their FFS with those quality seeds. With the knowledge from the FFS, they are now producing quality seed in their own fields. They also distribute this seed to the other farmers in the community.

The most important practices that farmers are widely observing in their own fields include transplanting rice in SRI (System of Rice Intensification) methods, producing better quality seedling, planting seedlings in line, and preparing and using organic fertilizers such as Dochakin. They have found that these practices contribute significantly to their production levels. Although it might be difficult to assess how many of the FFS and other farmers in the communities are applying all these practices in their fields, during field visits by the project staff, the majority of the FFS farmers were seen to be applying at least 2-3 techniques based on their convenience and practicability. The evident applications of new knowledge and techniques as well as subsequent yield increases clearly indicate that farmers have been able to make significant improvements in the overall management of their rice paddy.
Rice Yields across the FFS in 2001

<table>
<thead>
<tr>
<th>FFS site</th>
<th>Yield of FFS Basket/acre</th>
<th>Ton/ha</th>
<th>FFS site</th>
<th>Yield of FFS Basket/acre</th>
<th>Ton/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nawng Hkying</td>
<td>100</td>
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<td>16. 10 Miles</td>
<td>104</td>
<td>5.2</td>
</tr>
<tr>
<td>2. 10 Miles</td>
<td>108</td>
<td>5.4</td>
<td>17. Saga Pa</td>
<td>110</td>
<td>5.5</td>
</tr>
<tr>
<td>3. Rosana</td>
<td>108</td>
<td>5.4</td>
<td>18. Shang Htawk</td>
<td>110</td>
<td>5.5</td>
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<td>4. 8 Miles</td>
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<td>19. Yihku Nam Hkam</td>
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</tr>
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<td>20. Mai Hkawng</td>
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<td>4.0</td>
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<td>21. Mung Lu</td>
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<tr>
<td>7. Shadau</td>
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<td>4.9</td>
<td>22. Mya Ze Ti</td>
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<td></td>
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<tr>
<td>8. N-gan</td>
<td>96</td>
<td>4.8</td>
<td>23. Lawa Yang</td>
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<td>27. Labang Kahtawng</td>
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<td>3.0</td>
<td>28. Nam Sheng</td>
<td>100</td>
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</tr>
</tbody>
</table>

1 First initiated in the early 1980s in Madagascar and widely researched by USAID and French Government in 1994, planting young seedlings & emphasising on water management.
2 Japanese terminology for compost. See attached leaflet.

The cumulative effects: It is impressive to see, on the one hand, farmers cultivating rice traditionally using very old and tall seedling, without manures or supplementary nutrients and as a result struggling with very low yields of 1.5 to 2.5 tons per hectare, while on the other, the FFS farmers in a similar situation are using most exciting but easy technologies and getting 5-7 ton/ha yields on an average. The farmers using traditional methods are therefore very curious to see what the FFS farmers are doing and have started visiting the FFS fields and talking with the FFS farmers. The FFS also organises field days, and invites the members of the community, with their leaders guiding and encouraging all farmers to learn and work together with the FFS farmers. As a result the experience of FFS farmers has begun influencing the others to improve their understanding and capacities. This process is very much in evidence in the surroundings of most of the old FFS and their graduates.
## Rice Yields across the FFS in 2002

<table>
<thead>
<tr>
<th>FFS site</th>
<th>Yield of FFS</th>
<th>FFS site</th>
<th>Yield of FFS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basket/acre</td>
<td></td>
<td>Ton/ha</td>
</tr>
<tr>
<td>1 Nawng Hkying</td>
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<td>34. Awng Mye (1)</td>
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<td>35. Awng Mye (2)</td>
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<tr>
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<td>5.9</td>
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<tr>
<td>3 Pung Dung</td>
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<td>4. Awng Rawng Pa</td>
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<td></td>
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<td>5.4</td>
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</tr>
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<td></td>
<td>5.7</td>
<td>4.7</td>
<td></td>
</tr>
<tr>
<td>7 Jaw Masat</td>
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<td>40. Mung Ding Pa</td>
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<td>8.2</td>
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<td>8 Nam Bawm</td>
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<td>41. Mung Hkawng</td>
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<td>9 Chyara Pati</td>
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<td>43. Awng Lawng Pa</td>
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<td>44. Da Lak Pa</td>
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<td>12 Rosana</td>
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<td>45. Prang Hku Dung (1)</td>
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<td>46. Prang Hku Dung (2)</td>
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<td>15 Ake</td>
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<td>48. Mannaw (2) Miles</td>
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<td>53. Nalung (Upper)</td>
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</table>

**Indicator 2:** Based on the suitability of natural resources and the availability of other resources, a number of integrated small-scale model farms (on an average one in each farmer’s field) are established during the FFS period and continue to be established after the graduation from FFS.

### Progress made

**Integrated farms** are considered those farms that use only natural resources in an integrated manner for cultivating either rice alone or rice and other crops such as vegetables and fruits together. An ideal example of an integrated farm, in the context of this project, is the study field of the FFS, where rice straw is used to produce composts using indigenous microorganisms (IMOs) and recycled to the field to return the harvested nutrients to the soils. In addition, in order to further improve the soil quality and to enrich the supply of nutrients for rice plants, in many FFS green manures are grown and mixed with the soils along with the decomposed rice straw. A certain portion of the FFS field is used to produce quality seeds so that it is not necessary to buy outside the project, while in other parts of the field a number of local and improved varieties are produced which are studied carefully to find their potential for growing in an alternate fashion. Although small in scale, some FFS also grow vegetables and fruits and have even made fish ponds, digging them by the side of the FFS field.

**Integration in practice:** This type of integration has already started to occur in many of the farmers’ fields, particularly in the fields of those farmers who participated in the FFS.
for at least one complete rice season. Most of the graduated and now self-assured farmers have made a portion of their fields a model farm to apply many of the technologies and methods that they learnt from the FFS.

The best example of a model farm can be seen in the application of SRI. FFS farmers are highly impressed by the success of SRI. They have made the SRI Field a model example of the application of some unique practices in rice cultivation. Many convinced farmers have grown rice in SRI methods over an area as large as one acre of land and have produced up to 6-7 tons of yields per hectare.

Rice being the major crop for both sustenance and income, a significant amount of time in the FFS is spent on activities centering on rice production. The entire first year is usually spent treating questions concerning rice. Other activities start from the next season. Once farmers in the FFS see they have gained a secure foundation in rice production, they gradually engage in vegetable cultivation, as many believe vegetables are a good source of nutrients as well as income as they command good prices compared to rice. Along with rice, some farmers have started growing vegetables, too, in their homestead area. Although grown on a small scale, they highlight the interest of farmers in nutrient diversity. So integration and diversity have quite obviously occurred in the fields of many farmers. There will be more evidence of this as the project progresses.

**Output 1.2**

Core group of farmer trainers developed in each FFS, who are capable of facilitating FFS after graduation.

*Indicator: After a one-and-half-year period, one to two Farmer Trainers in each FFS are experienced and capable and working with the community*
Progress made

As mentioned earlier, an FFS is usually facilitated by a competent facilitator trained in a specialised season-long training course. He facilitates the FFS for a one or one-and-half-year period. During this time the facilitator tries to develop the capabilities of a few farmers, who are working closely with him as his co-facilitators, with the idea that they can also become a facilitator or trainer. Over a period of time, these trainers can thus take over the role of facilitating the FFS farmers.

Farmer trainers in FFS 2001: In 2001 the project established 29 FFS. Those FFS are now almost two years old. In most of those FFS a few farmers achieved the capacity of a trainer at the end of the first year. They played a major facilitating role in the second year while the facilitator provided a little support as back-up trainer. In some areas, the new farmer trainers established new FFS in the same villages to extend the support of FFS to a wider number of farmers. In those cases, the FFS facilitator moved to other areas to establish new FFS while still maintaining a little follow-up support for the farmer trainers and their FFS.

Farmer trainers in non-FFS areas: The implementation of FFS in 2001 and the subsequent yield increases in the FFS fields proved to be a great encouragement to the farmers, even those from non-FFS areas who visited the FFS. Subsequently, requests were coming in to the project from nearby and even remote areas of the State to implement FFS in the interested communities. Although the project found those requests very encouraging, the limited number of facilitators made it impossible to extend support to those seeking support. As an alternative, the project decided to organise a special course for selected but representative farmers of the communities in question so that at the end of the course they could return and work with their community farmers as farmer trainers. As such, the project from February to April 2002 before the beginning of the rice season organised a farmer-led extension course for 51 farmers. Since May, after their graduation, these farmers have been working as farmer trainers.

Much of their work has brought encouraging results to the community farmers. This group of farmer trainers is basically working through establishing model farms in their own fields. The trainers, at the end of their training, were given some quality seeds. Using those seeds, most of them established model farms in their own fields. In the model farm, they grew rice using SRI practices and the results have been very impressive. Many were able to raise the yields from 2 tons to 5, 6, and even 7 tons per hectare.

Farmer trainers in FFS 2002: The development of farmer trainers in the 66 FFS that were implemented in 2002 is in progress. In every FFS many farmers were seen to have the interest and abilities which would enable them to play the additional role of farmer trainers in their communities. These FFS are almost one year old and many FFS facilitators have already made arrangements with those interested farmers to take over an active role in the facilitation of the FFS in the coming season, enabling the FFS facilitator to move to other areas and establish new FFS.
The development of farmer trainers both in the FFS and non-FFS areas are spontaneous and on a volunteer basis. They are usually given some seeds and some other necessary equipment such as weeder for practicing SRI. Their work is on a more informal basis, depending on their availability and the interests and requests of other farmers in the respective communities. Although the project at the initial stage planned to develop at least one farmer trainer in each graduate group to facilitate the FFS beyond graduation using the same formal approach of meeting on regular basis, it has been now found more effective to have more farmers playing informal facilitating roles as farmer trainers in order to help the other farmers in the community. In this way the majority of the graduated farmers in FFS can act as trainers for the other farmers, being further strengthened by regular visits of the FFS facilitators.

Of course, in some FFS, there are as well farmers who are formally working willingly as farmer trainers on a volunteer basis. The project provides additional support to those trainers by organising special cross visits and refresher courses. Based on the insights attained in both cases, the project has been encouraging the development and promotion of both formal and informal farmer trainers to extend the project support to a wider number of farmers and communities in the state. As of today, a core group of around 100 farmers are engaged to various degrees and in a variety of capacities in playing the additional role of farmer trainers in the project.
B.2 Progress in terms of specific objective 2

Objective 2
To facilitate and strengthen community efforts and participation in planning, implementing, monitoring and evaluating rural community-based initiatives for sustainable rural development

Output 2.1
Community farmers are capable of planning, monitoring and implementing community-based initiatives to continue sustainable rural development.

Indicator: During and beyond their graduation, FFS farmers together continue to identify their major problems and prepare plans and proposals accordingly to address those problems, which will result in positive changes in the community.

Progress made

After the sites and the participants are selected, the FFS planning process begins with explicit planning activities to identify the specific problems and to determine its goal and action plan. Based on the action plan, the learning activities - the action research and specific sessions - are facilitated. The planning process includes the following activities.

Community mapping: Community mapping is the first exercise usually done together by all the farmers and the facilitator. This initial activity creates a group feeling among all the FFS farmers. The map also indicates important resources and their location in the community. The community map drawn by the participants is considered as the base map of the community and serves as a reference point during different discussions.

Problem identification and goal setting: The FFS goal is determined by the expectations of the farmers and the expectations are contrasted with the major problems which the FFS farmers have been asked to determine on a cause and effect analysis basis. Once the causes have been determined, the farmers specify their expectations. These are later arranged into objectives (smaller goals) and an overall goal (larger goal) through further analysis.

Situational baseline and goal analysis: While the goals are analysed, the farmers determine the indicators for both the goals and the baseline situation of the community in terms of crop production, yields, current management practices, specific problems, etc., in order to be able to compare the improvements over time. Analysis of this baseline and the subsequent goals helps the farmers determine the appropriate activities required to achieve those goals.

Preparation of action plan: Once the activities are identified, an action plan is set up placing the activities within a framework with the corresponding time, the specific responsibilities and the materials needed to perform the activities. The action plan serves as the guideline for each FFS. Farmers, group leaders, and facilitators all become aware of their duties and responsibilities. The process provides FFS farmers with a great sense of identity with the program as they prepare the plan together. This participatory process enhances the farmers’ and the community’s ability for planning.
Participatory monitoring and evaluation: This exercise is usually done at the end of the rice season to see the progress made during the FFS. The exercise also identifies the setbacks and problems, which in turn are further analysed. The action plan is revised accordingly, and the new action is prepared.

The results: The project utilised this method in most of the 95 FFS facilitated in the past two years. FFS farmers find this process of planning and working together very enriching especially as it has created immense interest in their respective communities. They could see by working together in the FFS that they made significant progress in increasing their rice yields to a very significant level at no additional cost. While these increases have impressed many farmers, they are actually motivated by the planning process of FFS. They have found the FFS a place where they can discuss their own problems and not only take the initiative in joint actions to solve those problems but also plan new initiatives and continue the development process. As a result, in many communities, after the implementation of FFS in one rice-growing season, they decided to continue the process of FFS and built their own training centres and for further development on their own. Many other communities have already purchased a permanent field to conduct experiments and have planned to grow other crops, particularly high value cash crops such as vegetables, banana and different fruits for additional income.

Some communities have already started fund-raising activities for FFS and are engaged in cash crop cultivation such as potatoes, while others have started credit union operations within the group of FFS farmers and are inviting the other farmers in the community to join them. To disseminate the process to more farmers of the community, some communities have appointed their own facilitators (farmer trainers) from among the graduated farmers and have conducted more FFS in different parts of the
community. These solid examples of self-help initiatives by individual communities are clear evidence that there is increased interest and enough confidence in planning and implementing community initiatives.

B.3 PROGRESS IN TERMS OF SPECIFIC OBJECTIVE 3

Objective 3
To create self-reliant capability within local and national organisations, the local organisations will implement farmer Field School at community levels, and national organisations will coordinate implementation of FFS at local levels.

Output 3.1
Trainers, managers and technical specialists capable of implementing and managing FFS program

Indicator: By the end of the three-year programme four national and local organisations will have self-reliant capability to implement and manage FFS, embodied in a total of 70 trainers, managers, and technical specialists

Progress made

I. The activities performed
To develop self-reliant capability within local and national organisations, the project organised a series of training courses such as short-term training and long-term season-long training of trainers’ courses (TOT), refresher courses, review and sharing meetings and workshops. Local and central coordination committees were formed at different levels of the project to take over specific responsibilities.

I.1 Season long TOT
Season-long courses were primarily organised to develop the competence in facilitating FFS. Staff and volunteers of partner organisations were brought into the course to provide them with specific capabilities so that they could become effective trainers or facilitators supporting the farmers in FFS to improve their crop management.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Partner organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KBC</td>
</tr>
<tr>
<td>TOT1</td>
<td>9</td>
</tr>
<tr>
<td>TOT2</td>
<td>5</td>
</tr>
<tr>
<td>TOT3&lt;sup&gt;4&lt;/sup&gt;</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

1 Farmers of surrounding villages of the training site
2 Nyein Aye Mye (NAM), a splinter group of Communist Party of Burma (CPB), the very first group to reach ceasefire in 1989
3 On-going from February 2002
4 Anglican Diocese of Myitkyina
As of this reporting period the project has organised two season-long TOT courses: one in 2000 and the other in 2001. The duration of both the courses was five months. Fifty-six participants from the partner organisations as noted above attended these TOTs. Another course is underway from February 2003 at the project’s training centre at Alam. This is a three-month course, which is a bit shorter as the rice season in this period compared to the wet season is short and, more importantly, the graduated facilitators need to start establishing FFS from the beginning of the next wet season, which will start from June. Thirty-three participants are attending this course.

**Course design:** Two important dimensions are crucially important for facilitating a FFS; one of them is technical and the other is social. Both the dimensions, however, are equally important. The primary aspect of the technical dimension is to be proficient in crop management, while the fundamental aspect of the social dimension is to develop the participants’ full potential as decision-makers. To provide the maximum opportunities to improve both the aspects, the courses covered a wide range of subjects in sustainable agriculture: soil and water management, rice seeds and rice varieties, weed and pest management, agroecology, economy, cost and return analysis, decision making, and management and leadership development. The content was developed by individuals with a wide range of knowledge and expertise, including farmers, field workers, specialists, researchers, managers and community members. The training design emphasised the technical dimension to provide the participants with actual opportunities to become efficient in crop production. Therefore, the training programme were designed in an integrated fashion in large areas incorporating rice, fish, vegetables and fruits together for the entire duration of the crops’ season, so that the participants could understand the whole production system based on their actual situation in the fields.

![Training field and studies](image)

**Training methodology:** Training methodologies, nevertheless, provided more emphasis on the social dimension. During the entire training a broad range of methodologies was adopted to facilitate active participation through a non-formal educational approach. Debates, discussions, presentations, brainstorming, group work, roleplaying, workshops and seminars were regular training activities. To strengthen group dynamics, games, assignments, and energisers were used. Facilitating community participation and generating community initiatives are the real challenges in the field. Keeping this in mind, a number of tools and methods - situation analysis using PRA tools, problem identification and analysis, participatory planning, participatory action research, participatory monitoring and evaluations, developing a planning matrix and small
proposal development exercises - were practiced by the participants at different periods in the course of training.

The participants were divided into small groups. Several rice and vegetable plots were distributed to each group. In those plots they grew rice, vegetables, banana and other crops and carried through a number of experiments, studies and action research. For them, these studies were aimed encouraging creativity and innovations. Throughout the entire training period, all the participants, in groups and individually, used these studies to continue to explore, learn and generate new knowledge. On a weekly basis, they monitored the studies and collected data. They analysed the data in small groups and shared their information with the big group. Based on the results of this exchange, they identified appropriate measures to manage their crops effectively and efficiently. At the end of the training period, they prepared a short report for each study. Apart from these studies they also set up many other issue-based experiments in groups and individually. (Details are available in training report 2000 and annual report 2001)

During the TOT, the participants developed a specific set of methodologies for FFS that is appropriate for the specific conditions of Kachin State and Shan State. At the end of the course, the new alumni facilitators made their FFS action plans and started implementing them once they returned to their villages.

**I.2 Review workshops and coordination meetings**

Review workshops are usually organised at the end of the rice season. All the facilitators, local and central coordinators participated in the workshop. These workshops provide an important opportunity to the project to observe its progress at the end of each season. To the facilitators, the review workshops are an important forum to discuss their successes and challenges in facilitating FFS. Problems are discussed and analysed for appropriate action by the facilitators in groups. Similarly, progress is analysed as well, and documented for inclusion in the regular reports of the project.

Based on the progress and achievement, these workshops later review the action plans prepared by the facilitators in previous seasons. The review serves to guide and develop new plans. This systematic process of reviewing and analysing the project progress and challenges, and the subsequent revisions of action plans provide unique opportunities to develop the capabilities of the facilitators and the coordinators, particularly in the area of review and planning. During the last two years the project organised two review workshops at the end of each rice season.

The output of the review workshops was shared in the central coordination meeting, usually organised immediately after the review workshop and attended by members and representatives of different partner organisations. In the meeting, they were updated on the...
project progress and subsequently requested to ensure the support or assistance needed to address any of the particular problems/challenges that were discussed in the review workshop.

I.3 Short courses and refreshers

Short courses are organised based on the particular issues and challenges that are usually identified in the review workshops and during field visits by members of the coordination teams. These are also organised based on the particular needs of the project staff. The refreshers, on the other hand, are organised to reorient the project staff and the facilitators on the project objectives and goals, and on important strategies, concepts, approaches and working methodologies of FFS. Both types, however, are organised together. During the last two years, the project organised a number of short courses and refreshers. In those courses the most important issues and contents that were addressed included the challenges of organising communities, development of facilitation skills, time management, stimulating farmers’ interest and participation in the FFS, etc. In addition, internal issues like reporting, monitoring the progress of FFS, the role and responsibilities of facilitators and coordinators and the importance of quality FFS were discussed and action was taken accordingly.

I.4 Participatory monitoring and evaluation course

A participatory monitoring and evaluation course was held in order to improve staff competence, particularly that of the FFS facilitators, in organising FFS monitoring and evaluation sessions to help farmers assess their successes as well as the challenges they face. The project organised this course for the alumni facilitators of TOT 1 in 2001 and subsequently many of the facilitators facilitated a number of FFS monitoring and evaluation sessions. For the other facilitators, the course is to be organised soon.

I.5 Farmer-Led Extension (FLE) course

The farmer–led extension course, as mentioned earlier, was organised based on special requests of communities from the non-FFS area. Addressing some of the specific problems of the ongoing FFS was another important reason for organising this course. Regular participation of farmers in some FFS where communities are located in a cluster turned out to be a serious problem due to the distance between the clusters. Organising FFS on a cluster basis proved ineffective as only a limited number of farmers live in a cluster.

Fifty-one farmers, mostly from the non-FFS areas, attended the course from February to April in 2002. However, there were some selected farmers from the 2001 FFS. This was an additional support for these farmers enabling them to become formal farmer trainers in their communities. The course was organised at the project’s training centre. It was a season-long course designed like the usual TOT but with the curriculum largely covering issues related to farmers and farmer trainers. Summer rice was grown in the training field with a variety of vegetables and fruits to provide the participants with a real learning situation. An important attraction of the FLE course was growing banana. The participants during the TOT grew banana in a three-quarter acre plot. Another attraction was growing rice with SRI methods.
At the end of the course, each participant was given quality seeds of different varieties of rice and vegetables. During the last week of the course, they prepared individual action plans for establishing model farms in their own fields. They were given rotary weeder to practice SRI and other materials based on their plans. *It is necessary to mention here that like the FFS facilitators, the farmer leaders or trainers, are extension workers too. However, they differ from the facilitators in their working style: whereas the facilitators meet regularly in FFS with the farmers, the farmer trainers establish model farms in their own fields and provide support to other farmers in the community based on their own availability and on the requests of the farmers.*

II The resulting output

II.1 The development of the core group of facilitators and managers:

The outcome all the training activities reflected the development of specific qualifications in the project as illustrated in the table below. With these levels of competence the project is steadily progressing towards its specific objectives and goals. One important objective of the project was to develop capabilities and self-reliance within the partner organisations with a significant number of facilitators/trainers and coordinators or managers to enable them to manage and implement FFS within their communities. As of this report, the project has been able to develop a core group of 28 facilitators and trainers, 10 managers and coordinators and 51 farmer trainers. By the end of April another group of 33 facilitators will be added to this core group to bring the project's total capacity to 122, 40 from KBC, 39 from the Diocese, 35 local people and 8 from the KIO, who are actively engaged at different levels of responsibility, from planning and implementation to monitoring and evaluation of FFS within the communities.

<table>
<thead>
<tr>
<th></th>
<th>KBC</th>
<th>KIO</th>
<th>Diocese</th>
<th>Local</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitators/trainers</td>
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<td>9</td>
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<td>28</td>
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<tr>
<td>Facilitators/trainers*</td>
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<td>1</td>
<td>14</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Coordinators/Managers*</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Farmer Trainers</td>
<td>18</td>
<td></td>
<td>14</td>
<td>19</td>
<td>51</td>
</tr>
<tr>
<td><strong>Total capacity</strong></td>
<td>40</td>
<td>8</td>
<td>39</td>
<td>35</td>
<td>122</td>
</tr>
</tbody>
</table>

The project provided training to a larger number of staff than those currently active. However, as mentioned earlier, the partner organisations concerned assigned many to tasks other than those in this particular project activity. This staff still has the ability to facilitate and manage FFS and could be brought in again if the partner organisations are able to redistribute responsibilities among their staff.

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* Receiving training and will start implementing FFS from May 2003
* Some of the coordinators/managers also facilitate FFS
II.2 The capacity of planning and management and training:

For planning, managing and coordinating all the project activities, two levels of coordination teams were established, the central coordination team (CCT) and the local coordination teams (LCT), comprising a core group of staff and representatives from the partner organisations. These groups primarily manage and coordinate the programme. There are six local coordination teams effectively working under the central team to coordinate all the FFS activities. In addition, there is also a training team working with the coordination teams. The members of this team are the outstanding facilitators, local coordinators and central coordinators. Since, the beginning of TOT2, this team has been playing a major role in organising training in the project.

II.3 The capacity of the partners:

Through the significant number of facilitators, trainers, coordinators and managers developed within their own organisations - as set out in the table in II.1. -., the partner organisations, are increasingly convinced that they can serve their communities more effectively with FFS. The implementation of FFS and participation in the review meetings and workshops has influenced their overall programme strategies. As a result, some of them have taken further steps to integrate the FFS in their core programme. The KIO, for example, has already taken over FFS as the main strategy for their agricultural programme, and they are in the process of developing their own training centre at Laiza, which could serve as the centre for further development and coordination of FFS in KIO areas. A small team comprising a senior agriculturist of KIO and a local coordinator of this project are working on the development of the centre. Similarly, KBC has planned to develop a centre for action research and training in Lashio to develop and coordinate their own programme in Shan State. Other partners are also in the process of developing their own plans.

II.4 The capacity of Metta Foundation:

At the beginning, it was quite challenging for Metta with a very limited staff of their own to operate and manage such a programme. However, working through partnerships, Metta gained competence and self-assurance in discovering and managing the appropriate expertise and resources to develop and run such a programme effectively and efficiently. The special coordination mechanisms and implementation strategies of this project with diversified groups of partners have given Metta a wonderful opportunity to strengthen its ability in facilitating a unique process of peace building and rural development by influencing, encouraging and strengthening the capabilities of local groups and organisations. While targeting and addressing the real problems of rural
people, Metta has not only earned significant trust and credit in local communities but also the moral support of the government to continue this type of programme.

B.4 PROGRESS IN TERMS OF OBJECTIVE 4

Objective 4
To encourage broader awareness of the problems facing the rural population and to influence other local, national and international organisations, creating an interest in supporting, sponsoring and implementing Farmer Field Schools in other parts of Myanmar

Output 4.1

Project reports, documents, case studies, and impact studies

*Indicator: Exposure of as many development organisations and social workers as possible to these programme activities and other sustainable agricultural development related information by the end of the three-year programme.*

Progress

To achieve this particular objective, the project did not need to embark on or emphasise any special activities. Rather FFS sites and the action research centre of the project have attracted spontaneous interest and visits of farmers, community members, local and national organisations and their staff have been very common. As a matter of fact, accommodating visitors to the centre was often a bit difficult, as it hampered the usual activities, particularly during the training period.

Although the project did not maintain any record of the number of the visitors who visited the project activities in the centre over the last two years, the number may well be more than 10,000. Visits of farmers and local organisations from all across the Kachin and Shan States have been very regular, and there have been a number of organisations and groups from other states and divisions of Myanmar as well. Visits of international donors are also common and groups from a number of countries, particularly in Europe, have been very regular.

For the benefit of the farmers and practitioners of IPM and sustainable approaches, the project organised exchange visits and field days in every FFS. The field day was a special event in the individual communities, where FFS farmers could present their newly gained knowledge and demonstrate the output of the FFS to the entire community. Local leaders and administrators attending the FFS provided an important support.

Results: The ultimate results of these visits are very much evident in the requests of additional communities to implement FFS in their areas. Requests in various forms also came from a number of local and national organisations. The project initially started with three particular local organisations. However, based on its quick success, NDA-K in Kachin State, and NAM in Shan State later joined the programme. In addition, the project organised short courses and exposure visits for a number of local organisations in its centre and different parts of the project area. Farmers, workers and community members visiting the project activities were impressed by the process of FFS. Therefore, requests even came in from farmers and local communities living in the upland areas to
expand the programme into their areas. The model of working in partnership also impressed the other ceasefire groups in the country. Considering the requests and needs of those communities, the project now is moving to special areas; one in Sadung in the Kachin State and the other in the Pa-O region of the Shan State. There the project will work within the framework of a different proposal in partnership with local organisations.

To capture the project progress from time to time and to document the important events, the project has produced this current project progress report, annual reports, training reports and special event reports. Those reports were translated into local languages as well. Appropriate copies of those reports were distributed not only to the concerned local groups but also to international organisations, agencies and groups.

C OTHER ACCOMPLISHMENTS

C.1 THE CENTRE FOR ACTION RESEARCH AND DEMONSTRATION (CARD)

To accommodate the growing need for regular and customised training courses, refreshers, and meetings for project staff, FFS facilitators and farmers, the project has established a Center for Action Research and Demonstration (CARD) at Alam, Myitkyina. The centre has been engaged in continuous advance action research for developing appropriate technologies for FFS and this has become an important aspect of the project. It works in more than eight hectares of land, which comprise permanent training facilities and includes a large field for training and action research.

**Training Facilities**

**Training hall and office room:** The training hall, located at the side of the training field, comprises adequate training facilities and can accommodate more than 60 participants. Two types of boards, white board, and black boards are available for use in class sessions and regular meetings. The front room of the hall is being used as the coordination office of the project. The office is equipped with computers, and maintains all the records of the project.

**Accommodation and other facilities:** Two dorms, one for men and the other for women, built at two different locations of the centre, can accommodate around 60 people. There is also a small, separate building to accommodate trainers and outside resource persons. The dining room can also be used for classes and meetings. A small warehouse is used for storing harvested crops and seeds. The centre has modest hydropower facilities, which can run one laptop and two tube lights. The water for the hydropower comes through the irrigation channel and is used in the training field. There is a small garage near the entrance of the centre.

**Training and demonstration field**

The training field is the most interesting part of the centre, and also serves as a demonstration field. As most of the training in the project is organised around the actual state of the crops, it provides the participants with a real basis for learning. The training field has been divided into three important sections; one section is for rice and other field crops, another section for vegetables alone, and the third for fruits intercropped with vegetables and other short-term crops. The regular training activities and those crops
with a particular focus on production technologies have made the training field a showcase or a model for farmers and FFS facilitators showing how much income can be generated on such land using the appropriate technologies being developed at the centre. The centre is particularly engaged in the following activities.

- Developing and demonstrating easy and appropriate technologies for the preparation of compost and other organic manures. An exciting method of preparing compost using Indigenous/Effective Micro Organisms (IMO/EMO) has already been developed and is being used to produce compost on a large scale.

- Developing the centre as a showcase of high-income generation in a sustainable manner. This includes cultivating short duration high value cash crops such as banana, garlic, ginger and vegetables in an integrated fashion. For long-term permanent income, high value fruit and timber trees will be grown as well.

- Producing quality seeds for rice and vegetables. Both foundation and certified seeds are produced and distributed to FFS and other local communities.

- Developing appropriate built-in technologies to improve soil fertility. This includes the cultivation of green manures and the development of appropriate cropping patterns.

- Continuing experiments with summer rice to identify and develop specific varieties suitable for the Kachin area. Developing and demonstrating specific methodologies of (System of Rice Intensification) SRI adapted to conditions in the Kachin State.

- Moreover, the centre serves as a venue for all training, refreshers, workshops and meetings.

### C.2 MUNGBAW INITIATIVE

**Introduction:** Mung Baw is the mountainous area of northern Shan State with altitudes ranging from 500-1000 meters above sea level. Around 30 village communities live on the slopes of the mountains, and are primarily engaged in cultivating rice on slightly-elevated flat terraces during the wet season alone. Incomes from a single rice crop are not, however, enough to satisfy the needs of the families concerned. Nyein Aye Mye (NAM), a newly established organisation committed to the improvement of the livelihoods and socioeconomic status of minority communities affected by war and insurgency, has recently introduced its operation in the area. Influenced by its partnership in the FFS programme, NAM requested Metta to introduce summer rice into the area in order to enable the farmers to gain an additional source of income. The primary purpose of the initiative, which started in October 2001, was to study the feasibility of and possibilities for growing summer rice, while designing and developing appropriate methods and practices for large-scale demonstration and promotion in the area. The initiative was implemented by a research team comprising staff and volunteers of both organisations with considerable financial and technical assistance from Metta.

**Methods and results:** Mountainous topography and a prolonged winter with low temperatures and fog are the major challenges to summer rice in the area. The success of summer rice, therefore, requires adjusting the planting periods of both wet season and summer rice. To find such appropriate periods, rice was grown in alternate blocks on approximately two acres of land every month of the year. Both traditional as well as SRI methods were used to grow rice. Transplanting of rice started in October 2001. At the end of the season in June-July 2002, out of eight varieties planted only two varieties were found to produce significant yields. However, the length of their growing season was found to be very long – nearly 8 months.
Conclusion and recommendations: The results of the experiments clearly indicate that the production of summer rice in the area from the period of November to June is absolutely possible. Based on the prevailing agro-climatic conditions of MungBaw, however, it is also very clear that growing both summer rice and wet season rice in one year is completely impossible. In such a situation it would appear to be unwise to try to grow summer rice at the expense of wet season rice, as wet season rice, compared to summer rice, is much easier to grow, and it requires neither the attention nor the inputs that summer rice does.

It must, however, be noted that the achieved yields of summer rice with better management practices, which included use of quality seeds, better seedlings, compost and transplanting in lines, was much higher than farmers’ average yields in wet season rice. Were these better management practices applied to wet season rice, yields could easily be increased to a level that could well be equivalent to the yields of two rice crops in a year. In addition, the better management practices would contribute to improved soil quality and the overall productivity of rice fields in a sustainable manner.

The most productive system, however, may be to grow vegetables using manure and compost in dry season and to intensify the management practices of wet season rice. Improving the wet season rice would increase the overall yields of rice and thus the farmers’ incomes, while the introduction of vegetables would provide a further source of income in a period when farmers have very few options to earn money from their fields.

The prevailing temperatures of MungBaw in the dry period are very congenial to growing a large number of high-value vegetable crops. In terms of income, vegetable production is much more profitable than rice. In fact, as the area is close to Muse, there is the prospect of marketing the vegetables at relatively high prices compared to the average prices of other parts of the country. During the initiative, the production of vegetables, along with summer rice, clearly indicated the potential in growing a number of vegetables – including potato, radish, onion, garlic, tomato, cabbage, cauliflower and other leafy vegetables - and other crops in the area.

Actions: The overall findings and results of the experiments were shared among farmers in the area. Consequently, based on their interests as well as the interests of NAM, the project decided to expand the FFS approach into this area. Accordingly, three volunteer farmers of NAM have been participating in this year’s season-long training course which started last February. After their return, they will establish FFS in their communities and work intensively on both rice and vegetables in the wet and dry seasons respectively. (The details of the experiment results are available at Metta upon request)
D PROGRESS IN TERMS OF DEVELOPMENT OBJECTIVE /OVERALL GOAL

Development Objective:

To establish and strengthen the process of rural development in the rural communities of Myanmar in general, and in Kachin and Shan states in particular

This will be done by establishing Farmer Field School (FFS,) as a platform for community development.

Indicator: By the end of the year 2002, 120 and by the end of year 2003, altogether 180 FFS have been or will be established in which self reliant and strong community groups identify their own problems, prepare plans, generate and share knowledge, and address problems to improve their conditions.

Progress made

Qualitative: From the facts and data presented in the sections above, it is evident that significant progress towards achieving all the specific objectives of the project has been made through the implementation of a wide range of activities over the last two years. Farmers have gained skills and confidence in raising levels of production and improving the productivity of their land without incurring additional costs.

Similarly, partner organisations have been seen to gain interest and enthusiasm as they could see that through FFS they could provide better service to the community. They, too, are building up their capacities in FFS management with a good number of facilitators and coordinators who are currently implementing and coordinating FFS across the state.

The combined effect of the new competence of the farmers and the partner organisations has led many communities to develop new initiatives with an emphasis on planning and development. Consequently, one can clearly see that the FFS has already laid a solid foundation within many communities for further development. The program me area and the approaches are therefore now being transformed and expanded to other areas and communities.

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2002</th>
<th>Total</th>
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<tr>
<td>FFS</td>
<td>29</td>
<td>66</td>
<td>95</td>
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Quantitative: The project as of this reporting period has completed two rice seasons - one in 2001 and the second in 2002 - implementing FFS in various communities. Within this period, it was possible to establish a total of 95 FFS in different strategic locations of Kachin State. However, as per the original proposal, it was planned to establish around 120 FFS by the end of 2002 and two season-long training courses were thus organised. The 56 graduates of the two courses were, by the year 2002, supposed to facilitate 112 FFS, on an average two FFS by one graduate. The project, however, was not able to establish FFS in all of those 112 locations as some of the graduates were not regular in their work and some left the programme. Currently 34 of the graduates (alumni) are actively engaged in FFS facilitation.
To minimise this gap, the project planned, as mentioned earlier, another season training course for around 33 facilitators, which has been underway at the project's training centre since last February. The trainees are expected to be graduated by the end of April. With these new graduates a total of 67 facilitators will be facilitating FFS. Therefore, by the end of 2003, the project expects to have established at least 120 new FFS. With this 120 and the previous 95, there will be a total of 215 FFS established by the end of the project period. This will mean that the project will have established 35 FFS above and beyond the original target and will be able to achieve all of its objectives within the stipulated period.

E CHALLENGES AND PROBLEMS ENCOUNTERED

The most striking problem that project has encountered is the lack of communication, particularly with the local team and the facilitators. The most important reason is the almost complete lack of a communication and transportation system in many parts of the State. Even in areas where transportation service is available, it takes an unusually long time to travel, particularly in the wet season – which is the usual working period of FFS - when heavy rain and mud again make travel and communication utterly impossible.

The immediate effect of this lack of communication is that the local team and the facilitators receive very limited technical and backstopping service from the project. The other effect of this is the limited follow up service. This has been further constrained by a shortage of staff members in the Central team. As a result, the flow of information and the internal feedback service of the project have become retarded.

Lack of an adequate communication system has negatively affected the regular reporting system of the project, particularly the reporting of local coordination teams to the central coordination team. The reports of the local teams become only available at the end of the rice season during the time of review workshop. As a result, the project does not have many opportunities to validate the data presented by the local teams and the facilitators.

Another challenge is that of establishing a strong Participatory Monitoring and Evaluation system within the FFS. Although special courses on PME were organised for many facilitators, the lack of close follow-up and backstopping services from the central team prevented the implementation of monitoring in the majority of the FFS. However, some FFS have already started the PME but at a very modest level.

The project suffered as well from the loss of many of its trained facilitators for a variety of reasons, one of which was the initially incomplete understanding of the partner organisations regarding their roles and responsibilities. Consequently, they assigned many of the trained facilitators to jobs other than facilitating FFS. But the project has been able to cover this loss by organising another TOT, which was not originally planned in the proposal.

F FUTURE PLAN

As this is the last and most crucial year, the project has planned to emphasise three special activities. They are 1) to strengthen the follow-up support of the project, particularly for the local facilitators and their teams, 2) to conduct an independent
evaluation, and 3) to organise a planning and review workshop for the future phase of the programme.

Considering the large number of FFS that will be implemented this year, the project has already discussed the importance of follow-up support with the partners and the members of the central coordination team. The central team is now making follow-up-visit plans with the local coordination teams.

For the evaluation, an independent evaluator, having considerable background in FFS and different development approaches, has already been contacted and the terms and references are in the process of preparation. The evaluation will be conducted from late October to early November and the partner organisations and the local teams have already been informed accordingly. The project is expecting some critical inputs from this evaluation and believes that these will be highly constructive for the future work.

An important achievement of this project has been the development of a significant increase in the capacities of the farmers themselves as well as the partner organisations, contributing to enhancing their production and income as well providing inspiration among other farmers in the respective communities for development. The partner organisations have been further nurturing this process within the same communities or in other communities. The competence of the partner organisations is crucial, particularly in transferring and transforming the process in other parts of the states where many more farming communities live under conditions similar to those within the FFS communities.

The capacity of the partners particularly means the development of new facilitators, trainers, coordinators or managers independently within each of the organisations which are currently managing and implementing FFS under a common partnership mechanism. If the current mechanism ceases with the end of the project, the chances are high that the partner organisations might not be able to continue planning and managing FFS as effectively as has been the case up to the present. Therefore, a phase-out mechanism is crucially important, where partners will begin to play an increasingly leading role in planning, development and management, gradually taking over the role of the Metta while Metta limits its role to strategic support and assistance in planning, monitoring, evaluation and reviewing.

Therefore, a review and planning workshop defining future steps is very important. This workshop will be organised in November 2003. This year's follow-up report, the independent evaluator's report, the overall consolidation report of the project, and the views and opinions of selected community leaders will be the major contributions to the workshop. The leaders, the programme managers of each of the partner organisations and the entire coordination team as well as the facilitator groups are expected to attend the workshop. Some donor representatives have also showed an interest in participating in the workshop.
Addendum

The report covers up to March 2003. At present FFS is being implemented in many parts of Kachin State. Moreover, Sadung & Pa-O programmes have taken off since the beginning of May 2003 after months of careful groundwork.

Suggestions & enquiries are most welcome
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