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Executive Summary

The three year project "Farmer Field School for Sustainable Agriculture Development in Myanmar" was created in an attempt to address the basic food security of farmers, particularly in Kachin State. The project using Farmer Field School had tried to develop the skills and capacities of farmers so that with the new skills they can improve their productions and consequently enhance incomes. This was implemented in partnership with a number of local and church based organizations, which have had already social and development programs to improve the well being of the communities. The project tried to develop self-reliant capabilities within the local organizations by developing core group of trainers, facilitators and coordinators. The facilitators had implemented FFS across the communities while the coordinators followed up the progress and guided the facilitators in areas where they needed support.

Metta Development Foundation coordinated the project and organized training for the trainers, facilitators and coordinators with the help of local and external trainers and resource persons. The project was implemented from January 2001 to December 2003 in Kachin State and in some part of Shan State.

Within the three years period, the project established 258 FFS in around 200 communities and trained 5202 farmers of which **4080** male and **1116** female. The trained farmers with enhanced skills and knowledge have made a breakthrough in improving rice yields. They were able to raise their yields from a narrow average of ***2tons/ha or 40 baskets*** **per acre** to more than ***5tons/ha or 100 baskets*** **per acre**, with the highest of **8 to 15tons/hac** without any added inputs. The result of an independent evaluation has indicated that a farm family on average is experiencing 48-56 baskets increase in rice yields based on the practices applied and the area cultivated.

The tremendous increase in rice yields with very minimum effort has actually attracted thousands of farmers in the communities, and the opportunities of raising incomes from farming has further created a strong desire for development among them. With all this, the project has been very successful in laying a strong foundation for community development.

The partner organizations, with a significant number of facilitators and coordinators have gained much confidence as they could see with FFS they can serve the community more effectively. The special coordination mechanisms and implementation strategies, working with a diversified groups of partners have given Metta Foundation an wonderful opportunity to strengthen its ability in facilitating a unique process of peace building and rural development by influencing, encouraging and strengthening the capacity of local groups and organizations.

Though, there are some areas where progress was limited due to difficulties in travels and communication, there is a greater need to expand the program for another phase since there are tremendous requests from other communities who are left behind. During the next phase, however, the focus would be to enhance the quality of FFS, and to develop a core group of planners and managers in each organization so that with them the organizations can develop and run independent program and can expand the program to the entire states based on the new demands.

A General background

A.1 The context

The trend of growing poverty in the rural areas, in Kachin State is a serious concern, primarily because of low yields of rice, which is around 2tons per hectare. Cultivating other crops is highly constrained by limited knowledge, capital, and irrigation facilities. An important consequence of such low income is that many farmers have to leave farming in off-season searching incomes from other sources, ultimately engaging in many illegal activities such as logging. Working as laborer in the mining areas, is also very common, which has caused concern about serious health damage. Poor incomes have also affected the education of children in many families, resulting higher drop out rate from schools in the rural areas.

Traditional rice field with yield less than 2 tons/ha

Many believe the viable options to the problems are to improve the productions of rice, since majority of the communities are engaged in rice cultivation. The potential of such improvements remains very high as the base yields across the state are so low. The problems of seeds, seedlings and lack of appropriate knowledge and practices are the main reasons to such poor yields.

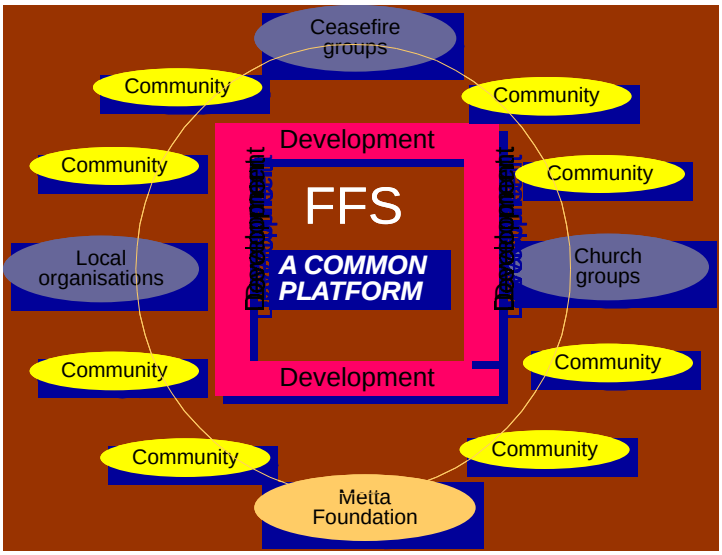
A.2 Local efforts and the opportunities

Local organizations in the state such as Kachin Independence Organization (KIO) - a ceasefire group, Kachin Baptist Convention (KBC) and Catholic Diocese, both are church groups, and many other small organizations and community based groups have been engaged in community services to improve the situation. But their limited capacities in agriculture and extension were the major constraints. Since most of the organizations have large network and statewide operations, it was nevertheless, realized

that if their capacities in agriculture could be strengthened, through them the communities and the farmers could be provided most effective services to improve their productions and incomes from rice.

A.3 The beginning – a partnership for a common platform for development

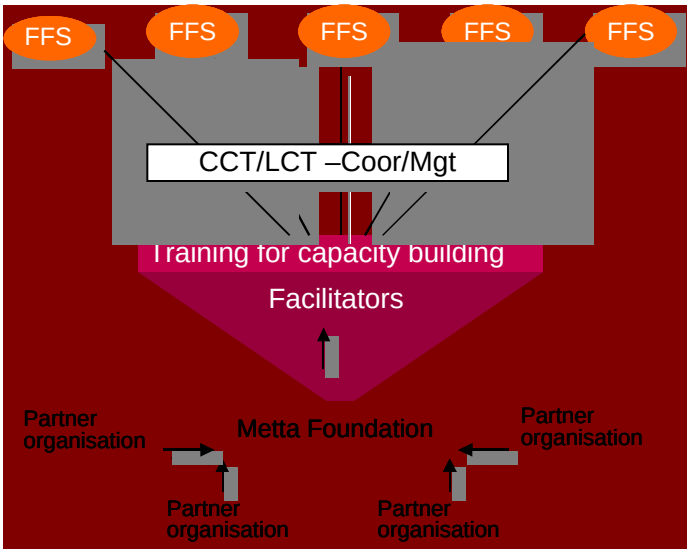
Farmer Field School (FFS) an agricultural extension approach in Asia have been proven very effective to support the communities, particularly to improve the skills and capacities of farmers so that they can enhance their productions and incomes. With the new skills and capacities, the FFS ultimately intends to establish a process of community development. The local organizations currently helping the communities also desire community development.



The Metta Development Foundation a national NGO established in 1998 has been mandated to support the community to recover from the impact of civil war and displacement of communities. The communities, at the same time, have been exploring ways and supports for their own development. It seems development is the common desire of everyone. This common desire has enabled the local organizations, the Metta Foundation and the communities to forge a partnership among themselves for a common cause, to improve the livings and well being of farmers through implementing FFS. And ultimately, FFS has become a common platform for all to advance such development.

B Working strategies

FFS had been implemented in partnership with three local organizations, which are referred as partner organizations i.e. KIO, KBC and Catholic Diocese. However, later NDA-K in Kachin State and NAM in Mungbaw of Northern Shan State, both are ceasefire groups, and Anglican Diocese of Kachin State joined to this partnership. In addition, some local communities led by a veteran leader also joined to the project. The partner organizations were mainly responsible to implement FFS, while Metta Foundation played major coordinating and supporting role to build the capacity of the partners. The project was implemented from January 2001 to December 2003 for a three-year period across Kachin state and in some areas of northern part of Shan state with the financial support of MISEREOR, SWISSAID, NOVIB, and ACTION AID.



The partner organizations, at the initial stage, based on the appropriate criteria, selected interested farmers or volunteers from their organizations. For them, Metta Development Foundation later organized season long training with the help of external trainers and resource persons. The training provided them with necessary skills. At the end of the training, the new facilitators started implementing FFS across their communities. The FFS was followed up and the overall project was coordinated by two special types of teams, Central Coordination Team (CCT) and Local Coordination Teams (LCT). The project formed seven LCT, each with a group of facilitators headed by a Local Coordinator based on the geographical location of the project.

The LCT were mainly responsible for all follow up and coordinating activities within their teams, while the CCT was engaged in consolidation of the overall progress of the project as well as maintaining regular contacts and coordination with the Local Teams. The

financial management, and overall reporting of the project to the donors were maintained by Metta foundation with the help of external resource person.

C Objectives

Development Objective

To establish and strengthen a strong process for 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.

Immediate Objectives

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 was planned to be achieved by improving their overall management capacity in crop-based sustainable and integrated agricultural system.

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

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

Objectives 4: To enhance broader awareness, and influence other local, national and international organizations to create interest for supporting, sponsoring and implementing Farmer Field School in other parts of Myanmar.

D Major activities and accomplishments

D.1 Training of trainers course (TOT)

Facilitating an FFS requires special skills, which were very new to those farmers and volunteers who were selected by the partner organizations to facilitate FFS. Two important skills are needed to facilitate an FFS: one is technical and the other is social. Both are, however, equally important. The technical skill is needed to guide the farmers to be proficient in crop management, while the social skill helps to develop their human capacity to be a better decision-maker. To provide them such skills, the project organized season long training of trainers course, which also served as foundation training for them.

The courses covered wide range of subjects in sustainable agriculture starting from soil to water management, rice seeds to rice varieties, weed to pest management, agro ecology, economy, cost and return analysis, decision making, and management and leadership development.

The training was organized in an actuation situation, which started by participants' planting crops and ended with harvesting most of the crops. The participants were divided into small groups. Each group was given lands to grow rice, vegetable and other crops based on their choices. On a regular basis, they monitored those crops and studied their agroecosystems. The comparisons of the weekly changes in the agroecosystem of the crops provided the participants a unique opportunity to understand about soils, water, plant, weeds, pests, etc, and their combined effect to the growth and management of the crop. Based on this understanding, they made decisions what measures were most effective to manage the crops. This continuous process has helped the participants to be proficient in the management of a number of crops that they grew in the fields.

The way learning took place

While the training design has given the participants more opportunities to learn technical issues, the training methodologies, nevertheless, brought more focus to the social aspects. The training methodologies used a broader range of non-formal education approaches to facilitate active participation among them. At the end of the training, the participants prepared their FFS action plans, which they began implementing after they returned to their homes. (The details of the training are available in the training report 2000).

During the entire project period, the project organized three season-long training and trained a total of 89 facilitators as below.

Courses	Partner organisations							
	KBC	C.Dioces	A.Dioces	KIO	NDA-K	Locals	NAM	**Total**
TOT1	9	5		12		6		**32**
TOT2	5	7		5	3	4		**24**
TOT3	8	8	6	1		7	3	**33**
Total	22	20	6	18	3	17	3	**89**

D.1.1 Season long TOT1

TOT1 was, actually, organized during an early initiative from July to November in 2000 at Ubyit in Alam. 32 participants across Kachin State and Shan State, from three partner organizations, KIO, KBC, and Catholic Diocese attended the five months long course. Among them 12 were from KIO, nine from KBC, five from Diocese and the rest from local communities. The training was conducted in some rented lands of farmers in Ubyit village.

D.1.2 Season long TOT2

TOT2 was organized at Metta's newly built the center for action research and demonstration (CARD) in Alam. 24 participants, five each from KIO and KBC, and seven from Catholic Diocese, three from NDA – a new partner joined this year, and the rest from local communities, attended the course. The course was conducted from July to November 2001.

D.1.3 Season long TOT 3

TOT 3 was conducted from February to April 2003. 33 participants, of them eight were from KBC, 14 from Catholic Diocese, one from KIO, seven from local communities, six from Anglican Diocese and three from NAM. Both Anglican Diocese and NAM were newly joined the project.

D.2 Farmer Field School (FFS)

Establishing FFS was the main activity, and primary arm of the project to develop the skills and capacities of farmers. Usually an FFS is run by a facilitator. It is also a season long training but not as intensive as the TOT. Farmers in FFS usually meet only once a week for three to four hours period. The essential elements of an FFS are **a study field and a meeting place**. In the study field farmers grow crops and establish experiments. They study in the same way as the facilitators have studied in the TOT.

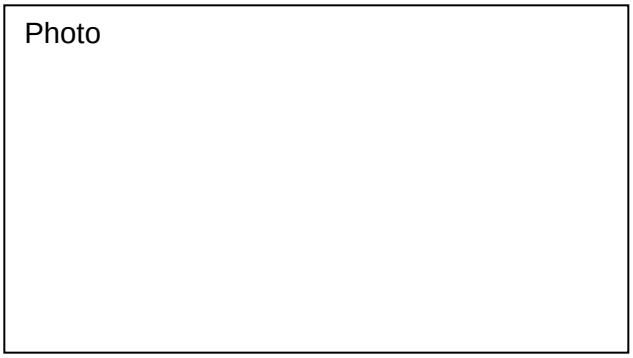
FFS – the school is in the field

Regular observations and monitoring the crops and experiments, and subsequent discussions in the meeting place which are done through formal presentations, provide farmers unique opportunities of learning. In addition, special sessions organized by the facilitator on seeds, seedlings, soils, waters, crops, and insects further strengthen their learning. The application of these learnings in the field on a regular basis tremendously enhances their capacities, particularly in better crop management and problem solving.

Within the three years period, the project established 258 FFS where a total of 5202 farmers of which 4080 male and 1116 female, participated. An FFS was usually run for one year or one and half-year period based on the situation and the progress of the farmers. On an average 15-20 farmers in a community attended the FFS on weekly basis.

D.3 Review workshops

Review workshops were organized at the end of rice season, every year. The workshops were instrumental to consolidate the project progress. All project staff, FFS facilitators, local coordinators, and central coordinator attended the workshops. During the workshops, all necessary data and information regarding FFS were consolidated using a standard format by the local teams, which were then systematically shared among all the project staff.



A significant amount of time of the workshops was engaged in identifying the project successes, and more importantly the challenges that the FFS and the facilitators encountered. The workshops, after discussions and analysis of the problems made particular plans to address them. The most important outcomes of the review workshops were the action plans of the local teams, which were then consolidated by the central team, which then became the overall plan of the project. All support services needed by the local teams particularly the facilitators were determined in this particular plan.

D.4 Coordination meeting

The project organized coordination meeting twice a year, one in the middle and the other at the end of the year. The primary purpose of this meeting was to share and discuss the project progress, particularly with the partner organizations and maintain smooth coordination among them. In the first meetings the local and central coordinators shared the outcomes of their follow up visits to the FFS, while in the second meetings, which were held immediately after the review workshops, the overall plans of the following year of FFS were shared. Besides, any support services needed from them were also requested through their representatives attending the meeting.

D.5 Refresher courses

Organizing refresher courses, at the end of the review workshop, was a regular activity of the project. The contents, however, were determined based on the demands, and problems and challenges faced by the facilitators and the local teams. Over the three years project period, the project organized three refresher courses, one at the end of

2001 for TOT1 alumni, another in 2002 for TOT2 alumni and the third at the end of 2003 particularly for the local coordinators and central coordinator of the project. The refreshers provided the facilitators with new skills and enthusiasms about the approach and methodologies of FFS.

D.6 Participatory monitoring and evaluation (PME) course

With the idea of facilitating the FFS farmers to evaluate the activities of their FFS by themselves, the project organized the first PME course in last part of 2001. It was organized in CARD at Alam for the facilitators of TOT1 by the time when they finished one year in FFS. The course provided the facilitators basic understanding of PME with specific guidelines and necessary tools. However, only a few staffs were actually able to facilitate PME in their FFS. The major problem was, there were no follow up activities on this.

Realizing the importance of PME, the project again organized another course in last December 2003. This time it was organized for a core group of staff, which included the central and the local coordinators of the project and a representative from each partner organization. The main objective was to develop the capacity of this particular group so that they could organize PME for all the facilitators of the project and later engage in systematic follow up activities to further guide the facilitators to maintain the process and quality during the next phase of the project.

D.7 Establishment of the Center for Action Research and Demonstration (CARD)

After the graduation of TOT1 in earlier initiative, the project realized that once the project started, there would be a need for a permanent place to conduct regular training, refreshers and workshops of the project. At the same time, the project would require producing and distributing quality seeds and seedlings to farmers to enhance the success of FFS. With this idea, the project established the Center for Action Research and Demonstration (CARD) in 2000, at Alam, 20 Kilometer north of Myitkyina the capital of Kachin State.

CARD facilities and fields

It has been established in more than eight hectares of lands, which comprises permanent training facilities including a large field for training and action research. The center can accommodate 60 participants. It is now an integral part of Metta Development Foundation. Since after its establishment, the project organized all its training courses, workshops and meeting here. It also serves as the coordination center of the project. The center has been actively engaged in action research, and the following tasks are instrumental to the center.

- Developing and demonstrating easy and appropriate technologies for compost and other organic manures preparation. An exciting method of preparing compost using Indigenous/effective micro organisms (IMO/EMO) has already been developed and is being used to produce compost in large scale.
- Developing the center 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 along side.
- Producing quality seeds for rice and vegetables. Both foundation and certified seeds are produced and distributed to FFS and other local communities.
- Developing in built appropriate technologies to improve soil fertility. This includes cultivation of green manures and development of appropriate cropping patterns.
- Continuing experiments with summer rice to identify and develop specific varieties suitable for Kachin area. Developing and demonstrating specific methodologies on (System of Rice Intensification) SRI to adapt in Kachin conditions.

D.8 Farmer led extension course

The project organized a farmer-led extension course from February to April 2002. The course was organized to address some of the particular challenges of the FFS facilitators. Besides, to meet some of the demands of farmers from non-FFS communities where FFS cannot be extended was another reason to organize the course.

In the remote areas where communities live in clustered, an FFS usually covered three to four clusters, as the number of farmers living in a cluster was not big enough for an FFS. However, due to the long distance between the meeting place of FFS and the clusters that the farmers had to travel every FFS day, many of them could not participate in the FFS regularly. This became a serious problem to some communities. In such case, instead of running FFS, suggestions were made to train a particular farmer from each cluster so that, the trained farmer can help the other farmers of the cluster.

51 farmers attended the course. Among them were some selective farmers from 2001 FFS. This was an additional support to these farmers so that they can work as formal farmer trainers in their communities. The course was organized at CARD. It was a season long course designed like the usual TOT but the curriculum covered mostly issues that are related to the farmers and farmer trainers. During the training they grew summer rice, varieties of vegetables and fruits. An important attraction of this course was growing banana in three-quarter of an acre of land in the training field. Another attraction was growing rice with SRI practices.

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.

D.9 Establishment of Model Farms

The graduated farmers after the FLE course, established their farms as model farms. In those farms they grew rice and other crops using the most successful practices that they learned during the training courses. Among them rice field with SRI practices became attractive to many farmers in their communities. The average size of a model farm was around an acre.

D.10 Mungbaw initiative

Mungbaw initiative was started to accommodate the request of the local communities and a local organization NAM (a former ceasefire group) in northern Shan State. It is the most northern part of the country bordering with China, mostly surrounded by mountain. The area comprises 30 rural communities who are engaged in rice cultivation in the terraces of the mountains only in wet season. Since the production from lowland rice was not enough, the local authorities put pressure to the farmers to grow summer rice. Farmer had relentlessly tried so but they were not successful as very low and prolonged temperature is a big problem. The initiative began in October 2001 with a particular view to studying the feasibility and opportunities of growing summer rice while designing and developing appropriate methods and practices for large-scale demonstration and promotion in the area.

At the end of one year systematic experimentation where rice was grown in every month in alternate blocks in around two acres of land, with a number of local and improved varieties with different management practices, it was found that November (planting) to June (harvesting) is the most successful period of growing summer rice in the area. However, due to such long duration, which is more than 8 months, if seedling period is counted, it is not wise to grow summer rice at all, as it ceases the opportunity of growing wet season rice, which begins from May and which is the main crop in the area. (Detailed could be seen in the final report of the initiative)

Nevertheless, the harvested yield, which was **5 tons/ha** (100 baskets per acre) and the methods that were used to grow summer rice attracted the farmers very much. They believed these methods would tremendously help them to improve their wet season rice as well, and consequently they requested to implement FFS there. The project since 2003 started FFS in the area and ultimately many farmers experienced similar gains from their wet season rice.

D.11 Project evaluation

To assess the project progress, particularly to identify its direct and indirect results, the project organized an independent evaluation from 17 November to 10 December 2003.

The evaluation was conducted by two external evaluators (an economist and an agriculturalist) with diverse knowledge and experiences. During the mission, the evaluation team visited 19 FFS, and held discussion meetings with FFS and non-FFS farmers, village leaders, and local officials. In addition, they talked with different levels of project staff, i.e. facilitators, local coordinators and central coordinators, and the leaders of partner organizations to assess their particular capacities. Their overall findings have highly indicated that the project has made significant impacts towards the lives of the communities as well as improved tremendous capacity of the facilitators. The details of the evaluation are available in the evaluation report. Some highlights, nevertheless, could also be seen in the next sections of this report.

E The results

E.1 Improvement in rice yields

The most impressive results of the project that are easily noticeable are the improvements in rice yields. In the study fields of all **258** FFS that the project implemented over the last three years farmers grew rice to study and practice different methods of rice productions. Using those methods they were able to raise rice yields from a narrow average of ***2tons/ha or 40 baskets*** **per acre** to more than ***5tons/ha or 100 baskets*** **per acre**, with the highest yields of **8 to 15tons/hac** without any added inputs.

Rice fields in FFS

Average yields of rice across the FFS study fields in different years

Year	No. of FFS	Average yields (t/ha)	Highest yields (t/ha)	Farmers average yield (t/ha)
2001	29(25)	5.45	7.9	2.0
2002	50(50)	5.25	12.4	2.0
2003 [plots ≥ 1 acre]	163(121) [64]	5.38 [5.02]	15.0 9.23]	2.0

Average for plots where yield was estimated by crop-cuts was 5.13 t/ha (N=60); and where yield was reported from the harvest of whole plot, the average was 5.64 t/ha (N=61).
( ) the number of FFS sites based on which the average of yields was made

E.2 Sustainable production practices

Improvement of rice yields all across the FFS is the direct result of a set of sustainable agricultural practices that have been developed and validated by the farmers based on systematic and intensive experimentations in the FFS and in their own farms. These practices are the most important output of the project. Two sets of such practices are very much distinct and are largely available to the farmers for wider use based on the particular situations of their fields. They are:

E.2.1 System of Rice Intensification (SRI)

SRI – a new approach of growing rice, is largely known throughout the rice world for its tremendous potentials of increasing rice yields without adding external inputs, particularly chemical fertilizers. Its success, however, comes based on appropriate adjustments and combinations of the practices according to the local conditions, which requires intensive testing and experimentation. The project introduced SRI to FFS in 2001, since then after systematic experimentation, developed the following principles to guide farmers how to adjust the practices to obtain the best performances. It needs to be mentioned here that SRI now has evolved as an important approach in rice production in more than 15 countries in the world.

Principles of SRI

Rice plants perform better with:

- ***Careful transplanting,*** usually single seedling per hill, to minimize trauma, and
- ***Wider spacing***, for canopy and root growth, of
- ***Young seedlings***, usually 10-12 days old so that the rice plants' growth potential will be preserved.

Rice performs better in soil that is:

- ***Well-aerated*** during the vegetative growth period, through:
- ***careful water management*** with alternate irrigation and
- ***mechanical weeding*** with rotating hoe.
- ***Enriched microbiologically*** through compost and different (SRI) plant/soil/water/nutrient management.

E.2.2 Integrated Pest Management or IPM practices

In areas where most of the time in the season water remains stagnant, SRI might not perform well. In those places another practice, which has been evolved over years of season long training on rice IPM, widely called as IPM practices, were used. The

practices recognized the fundamental principles of SRI but differences exist in the number and age of seedlings use.

E.2.3 Other individual practices

The most important reasons of low yields of rice all over Kachin State and Shan State are the low quality seeds and seedlings. The seeds that farmers generally use are basically ordinary rice. The tall and weak seedlings that they produce from such seeds are already half dead by the way they uproot[1], them. Moreover, they don't undertake any soil amendment practices. The combined effects of all these badly contribute to low yields. Against them the following practices have been largely accepted and adapted by the farmers and accordingly they are experiencing proportionate yield gains.

Use of salt solution for sorting the high-density seeds: High-density seeds are vigorous and can produce stronger and healthy seedlings. All farmers in FFS are with deep interest, practicing salt solution method to sort out the good seeds. They enjoys the method very much.

At certain level of concentration (when an egg floats on the solution) when ordinary seeds are poured into salt solution, the good and the high-density seeds are deposited at the bottom of the containers, while the lighter and bad quality ones float over the solution, which are then separated.

Production of healthy seedlings: Farmers in FFS learned that to initiate the growth of a healthy crop requires healthy seedling. All over the FFS they are now practicing seedlings with great care. They learned that only 5-10 kg seeds are enough to grow rice in one hectare.

[1] While uprooting farmers usually pull the tall and weak seedlings holding their tender leaves from the top as a result most of the leaves and the roots are damaged. Then they beat those damaged seedlings to their legs to remove the soils that come with the roots, which further damage the seedlings.

Production of quality seeds: After realizing the importance, farmers started producing seeds in their own plots. They have been sharing seeds of different varieties among themselves.

Production of Indigenous Microorganisms (IMOs) and compost: Producing IMOs, the other version of which is called effective microorganisms (EMOs) has been very attractive to the farmers. They have been using IMOs to produce compost quickly.

E.3 The economic gains

Direct gains: The project has made tremendous impact in terms of economic gains by individual farmers. These could be easily seen in the interpretation of project results in terms of economic impact by the evaluation team based on their discussions and meeting with a significant number of farmers in the FFS communities. See the table. FFS farmers have been largely

Cost of production before and after applying the new practices from 2 acres[2] of land

Items	Before (in baskets)	After (in baskets)
1. Total production	80	160
2. Costs of production		
Seeds	3	1
Buffalo renting for plowing	30	30
Fertilizer bag	8	
Sub total	**41**	**31**
Land renting	20	20
Quota sell to government	16	(16)[3]
Labor charges	14	28
Total costs of production	**91**	(95) **79**
3. Total cost of production to produce a basket of rice	**1.135**	(0.593) **0.493**
4. Net income	**(-11)**	(65) **81**

[2] 2 acres were considered a unit area based on the buffalo renting. Usually a buffalo is rented for 2 acres of land.

[3] If quota sale is counted. Government has already stopped quota sale

experiencing two types of gains: one is saving from the production cost and the other from the direct increase of production from per capita of lands.

In traditional methods, once the land rental charge is added, rice cultivation is purely negative. But farmers hardy realize this since they never put value to their family labors. On the other hand, the use of improved practices has drastically reduced the production cost (in terms of volume of rice produced). The current cost to produce a basket of rice is just less than half of what was spent before.

Direct economic gains from yield increase

Year	FFS no.	No of farmers benefited	Average Increase per family from 3 acres (baskets)	Total increase (baskets)	Value in US$
2001		Non significant	Non significant	Non significant	
2002	29	476	48	**22,491**	71,430
2003	95	1662	55	**90,477**	196,700
2004 (expected)	258	5202	56	**287,511**	625,000

But, the added return that came from the volume of increase of rice at individual and community level was the most impressive achievement. Considering the bottom line, based on the lowest level of increase, the evaluation team, which comprised an economist, based on their discussions and meetings with the farmers, found that ***while many families had experienced up to 150 baskets of increase of rice, but 48-56 baskets increase was very common to every farm family who participated in the FFS.***

E.4 Core group of farmers

The project in its three years period trained 5202 farmers. These trained farmers are the most important assets of the projects. Using the new skills and capacities, they will continue to improve their conditions, and at the same time, the experience of each of them will influence the other farmers in the community.

The FFS through its intensive training has tried to develop in each village a core group of farmers, usually 15-25, depending on the size of the village, who will have more knowledge and experience in the village, and can help the other farmers through their experiences. This is how the benefit of FFS reaches to the entire communities. This

informal system of support to the other farmers, which usually rolls on based on the experiences of the core farmers are called roll-on effect of the project.

Estimated gains by non-FFS farmers from roll-on effect[4]

Year	*Gains from average rice area per family*	*Gains in baskets*	*No. of farmers could benefit*	*Total gains in baskets*	*Total gains in US Dollar*
2003	1.5 – 3 acres	46.5	2,380	110,670	240,580
2004	1.5 – 3 acres	46.5	8,310	386,415	840,100

An important difference of FFS, in terms of benefits, is that its benefits do not end with its phasing out, rather continue to grow and expand with time. The following table provides actual estimates of roll-on effect calculated by the evaluation team based on their visits and discussions with non-FFS farmers in the graduated FFS.

E.5 Core group of farmer trainers

Farmer trainer with wonderful rice field

Another important output of the project is a core group of farmer trainers that have been developed over the years based on their superior performances and qualities than other farmers in the communities. The project formally recognized the service of 51 farmer trainers, after they received a formal season long training course. Besides them, in every FFS there are many informal farmer trainers, who are guiding and helping the other farmers in the communities as well based on their needs, convenience and interests.

E.6 The momentum of community development

The overall success and the methodologies of FFS have highly impressed the communities. The introduction of FFS has actually brought a momentum and sincere desire for community development among the farmers, local leaders, village heads, and

[4] Source evaluation report

even government officials. Their supports and appreciations were very much obvious in their speech and participations in the field day activities. It was a unique opportunity for the community to discuss their future development based on what they learnt and shared.

Communities are attending Field day

Many communities after participating in the FFS built their own training centers. Some have purchased permanent fields to conduct experiments and planned to grow other crops, particularly high value cash crops such as vegetables, banana and different fruit crops to improve further incomes, while others have started credit union operations within the FFS farmers and are inviting the other farmers in the community to join. From these solid examples of self-help initiatives, it is very clear that FFS has already laid a strong foundation within the communities for actual development.

E.7 Core group of facilitators and the capacity of the partners

The project, in its three years period, was able to develop a core group of 79 facilitators, 10 coordinators, and 51 farmer trainers with a total capacity of **140** as shown in the table below. In addition, in June-November 2003, KIO has separately organized a TOT for 22 facilitators under this project. With them the total capacity stands at **162.** The new facilitators will start FFS from 2004, from the beginning of new phase that the project is planning.

	KBC	KIO	C.Diocese	A.Diocese	Local	NAM	NDA-K	Total
Facilitators	18	15	18	6	16	3	3	79[5]
Farmer Trainers	18		14		19			51
Coordinators	4	3	2		1			10
Total capacity	40	18	34	6	36	3	3	140

[5] 18 of them were not involved in facilitating FFS. They were assigned other works by the partner organizations.

E.8 Expansion of the approach to other regions

The effectiveness of the project approach, and the results has influenced many farmers, communities, and local organizations in other parts of the countries. The project implementation strategy and coordination mechanisms have particularly impressed many other ceasefire groups. Based on their sincere request and appreciation, a new five-year project has begun in the northern most part of Kachin State and southern part of Shan State, to develop the capacity of farmers to disengage from opium cultivation.

The project, in its five years periods, intends to establish Farmer Field School (FFS) in 300 communities, half in PaO region of Shan State and the other half in Sadung region of Kachin State as platforms for the communities to discuss their common problems and undertake joint actions to enhance incomes and livings. With the establishment of FFS, the project expects that there are enough alternatives to opium and there is increased food security all across the community with diversified farming activities particularly from high value cash crops such as fruits and vegetables.

F The Challenges and the lessons learnt

The overall successes that the project has made in such a limited period are really very impressive. The tremendous increase in rice yields with very minimum effort has actually attracted thousands of farmers in the communities, and the opportunities of raising incomes from farming has further created a strong desire for development among them. With all this, the project has been very successfully established a milestone in the communities for development.

The partner organizations, with a significant number of facilitators and coordinators have gained much confidence as they could see with FFS they can serve the community more effectively. The special coordination mechanisms and implementation strategies, working with a diversified groups of partners have given Metta Foundation an wonderful opportunity to strengthen its ability in facilitating a unique process of peace building and

rural development by influencing, encouraging and strengthening the capacity of local groups and organizations.

While these are the most remarkable achievements of the project, but there are some key areas where progress is limited. The primary purpose of FFS was to enhance the ***decision making*** abilities of farmers. Decision making improves with the improvement of overall understanding of production system. That is why the FFS curriculum is so intensive and season long, so that with improved learning, farmer can make appropriate decision based on their choices and abilities to improve their productions. This is actually called the human capacity building.

Now what happened actually to majority of farmers was that their yields had increased primarily because of the ***adoption*** of some key practices, such as quality seeds, and seedlings, etc., as their base yields were very low. There was very little learning associated with this improvement. This could have been done without FFS. The FFS through its studies and experimentations provides farmers the knowledge so that in any situation they can develop and modify appropriate practices and can improve production based on their needs and demands. This did not happen primarily, because of the facilitators' inability to create enough ***learning opportunities*** within the FFS, as generally the ***experimentation process*** in FFS was not much stronger.

Developing community's planning and management skill was an important objective of the project. This was planned to be achieved by establishing a strong planning, monitoring and evaluation process in the FFS so that with the new ***planning skills*** community can actually develop new initiative by themselves and in course of time they are ***self-reliance*** and can continue their own development. This also did not happen as there was very little follow up on this .

Another important objective of the project was to develop ***self-reliant capabilities*** within the partner organization so that they can plan, develop and manage their own programs. While at the end of the project, each of the partner organization could be seen to have a significant number of facilitators and coordinators developed, who are capable of facilitating and coordinating FFS, but still none of them has independent ability in planning, and management, particularly developing new program and monitoring its quality.

From all these, the project, has learnt that limited follow up activities which were constrained by the non-existent transportation system in many parts of the project area, and the partners limited understanding about the project were the most pressing reasons of such limited progress in those particular areas. It took much longer time for the partner organizations to understand the project and its strategies. Therefore, the progress in the first and second years was comparatively low. The project also lost some of its trained facilitators due to partner limited understanding about the project.

Limited follow up also affected the regular reporting system of the project, particularly the reporting from the local team to the central team. All reports and information about FFS were available only at the end of the rice season during the time of review workshops. As a result, the project did not get enough opportunities to validate the data presented by the local teams and the facilitators.

Nevertheless, compare to the initial success of FFS in other countries, the overall success of the project is still very impressive.

G The next plan

The needs of FFS to other communities are still at large since they found FFS has actually addressed their main problem with greater degree of success. Many communities have requested to expand the program to their areas. Such expansion is very much needed as still thousands of farm families are left behind whose lives could be improved similar way. However, the challenge is to maintain the quality and at the same time the needed capacity to maintain such quality.

During the inception of the project, it was highly felt that once FFS is established with great care, there would be tremendous demand from farmers to expand the program. Therefore, the project intended to develop self-reliant capabilities within the partner organizations so that these organizations can independently develop and expand programs to meet such demands. Since now the partner organizations did not attain such capacity, it would be difficult for them to develop and manage independent program. The greatest need at the moment is to develop a self-reliant core group within each partner organization.

The partner organizations, in the final review workshop of the project in last December 2003, after a series of discussions about the overall progress and achievement of the project, has unanimously agreed that there is greater need of expansion of the project. This expansion has to be made in a similar way as was done in this project. During the expansion, however, the focus would be **to enhance the quality of FFS**, and **to develop a core group of planners and managers** in each organization so that this time at the end of the next phase, there are solid and self-reliant capacities built within each of the partner organization. At the end of the workshop a draft plan has already been made and based on which a complete proposal is under preparation, which would follow soon this terminal report.