



EVALUATION OF THE FARMER FIELD SCHOOL APPROACH IN THE AGRICULTURE SECTOR PROGRAMME SUPPORT PHASE II, BANGLADESH

EVALUATION

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**Evaluation of the
Farmer Field School Approach in the
Agriculture Sector Programme
Support Phase II, Bangladesh**

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Table of Contents

Abbreviations	5
Glossary and Impact Assessment Terminology	6
Acknowledgement	8
Executive Summary	9
1 Introduction	18
1.1 Purpose	18
1.2 Scope	18
1.3 Organisation of the Report	19
2 Evaluation Methodology and Approach	20
2.1 Analytical Framework	21
2.2 Quantitative Data Analysis	21
2.3 Qualitative Fieldwork and Studies	22
2.4 FFS Literature Study	24
3 Background and Context	25
3.1 Strategy and Policy Context	25
3.2 FFS within ASPS II in Bangladesh	26
3.3 FFS Methodology in ASPS II	28
3.4 Comparison of FFS Methods in AEC and RFLDC	31
4 Key Findings from Application of the FFS Approach within AEC	35
4.1 Relevance	35
4.2 Efficiency	36
4.3 Effectiveness	39
4.4 Impact	44
4.5 Sustainability	50
5 Key Findings from Application of the FFS Approach within RFLDC	53
5.1 Relevance	53
5.2 Efficiency	54
5.3 Effectiveness	57
5.4 Impact	62
5.5 Sustainability	67
6 Comparative Assessment of Institutional and Cost Arrangements for FFS	70
6.1 Institutional Set-up	70
6.2 Costs and Benefits related to FFS Interventions	72
6.3 Monitoring and Evaluation of FFS interventions	75
7 Conclusions	77

8 Lessons Learned and Recommendations	81
Appendix 1: Terms of Reference	85
Appendix 2: Key References	94

Additional annexes to the evaluation report can be viewed on the website www.evaluation.dk:

- Annex 1: Bangladesh context
- Annex 2: Methodology and approach
- Annex 3: Literature study
- Annex 4: Persons interviewed

Abbreviations

<i>AEC</i>	Agriculture Extension Component
<i>AESA</i>	Agro-Eco-System Analysis
<i>ASPS</i>	Agriculture Sector Programme Support
<i>ATE</i>	Average Treatment Effect
<i>BDT</i>	Bangladeshi Taka
<i>CBO</i>	Community Based Organisation
<i>CIP</i>	Country Investment Plan
<i>DAC</i>	Development Assistance Committee
<i>Danida</i>	Danish International Development Assistance
<i>DAE</i>	Department of Agriculture Extension
<i>DoF</i>	Department of Fisheries
<i>DKK</i>	Danish Kroner
<i>DLS</i>	Department of Livestock Services
<i>FFS</i>	Farmer Field School
<i>FAO</i>	Food and Agriculture Organisation
<i>FGD</i>	Focus Group Discussion
<i>FMA</i>	Farm Management Analysis
<i>GALS</i>	Gender Action Learning System
<i>GDP</i>	Gross Domestic Product
<i>GNAEC</i>	Greater Noakhali Aquaculture Extension Component
<i>GOB</i>	Government of Bangladesh
<i>ICM</i>	Integrated Crop Management
<i>IFM</i>	Integrated Farm Management
<i>IFAD</i>	International Fund for Agricultural Development
<i>IPM</i>	Integrated Pest Management
<i>M&E</i>	Monitoring and Evaluation
<i>NGO</i>	Non-governmental organisation
<i>OECD</i>	Organisation for Economic Cooperation and Development
<i>OFRI/BARI</i>	On-Farm Research Division within the Bangladesh Agricultural Research Institute
<i>PBAEC</i>	Patuakhali and Barguna Aquaculture Extension Component
<i>PRA</i>	Participatory Rural Appraisal
<i>RFLDC</i>	Regional Fisheries and Livestock Development Component
<i>RRMAC</i>	Rural Roads and Market Access Component
<i>ToT</i>	Training of Trainers
<i>UNFA</i>	Union Farmer Association
<i>UP</i>	Union Parishad

Exchange Rates

USD to BDT: 68.9 (average 2007-10)

DKK to BDT: 12.9 (average 2007-10)

Glossary and Impact Assessment Terminology

Glossary

<i>Adivasi</i>	An umbrella term for a heterogeneous set of ethnic and tribal groups claimed to be the aboriginal population of India.
<i>Char area</i>	Emergent land from the river sediment deposit/accretion process.
<i>Dowry</i>	The money, goods or property brought by a bride to her husband at marriage.
<i>Gher</i>	Enclosure for combined production of vegetables, rice, fish and prawns made by modifying rice fields by building higher dykes around the field and excavating a canal several feet deep inside the periphery of the dykes to retain water during the dry season.
<i>Madrasa</i>	School of religious education attached to a Mosque.
<i>Purdah</i>	Muslim rules for female seclusion/women's restricted mobility.
<i>Union</i>	Sub-Upazila administrative unit.
<i>Union Parishad</i>	Local government body.
<i>Upazila</i>	Sub-district administrative unit, formerly known as Thana.

Impact Assessment Terminology

- **Attribution:** an assessment of the degree to which impacts can be linked back to the outputs delivered by, and 'credited' to, the interventions. At the impact level, attribution is generally accepted to be at the level of some contribution of outcomes in combination with many other important factors.
- **Average Treatment Effect:** the average treatment effect is an econometric method for statistically testing the effect of a particular intervention.
- **The control group:** households/individuals who have NOT been participating in the activities themselves, and do not live inside the support area, but who, prior to the intervention, possessed similar observable characteristics as the participants.
- **Propensity Score Matching:** mathematical technique used to select members of the control group that share characteristics with members of the participants' group, through estimation of a statistical model based on matching characteristics (household characteristics).

- **Double Difference measurement:** the double difference measures the difference in the observed change between participating households/individuals and control village households/individuals, based on baseline (recall) data and ex-post data. Thus the double difference eliminates external determinants of the outcome, in cases where these are the same for the two groups during the intervention period. The double difference approach assumes common time effects across groups and no composition changes within each group.
- **Selection bias:** selection bias is introduced from the way beneficiaries have been selected for participating in the interventions. When beneficiaries are not randomly selected, but some kind of selection process has taken place, then the control group should not be randomly selected, but drawn from a population with same characteristics as the participant group using the same selection criteria.
- **Statistical significance:** in statistics, a result is called statistically significant if it is unlikely to have occurred by chance. In this analysis, *the significance level* is used to measure the statistical strength of a data finding. The significance level is, in this case, *the risk of concluding a data relationship that may not exist*. Frequent levels of significance used for statistical testing are 10%, 5% and 1%. If a significance test gives a value lower than the test levels, the null hypothesis (a hypothesis that an observed difference between two data sets is random/due to chance) is rejected. Such results are referred to as being 'statistically significant'. For example, in this report, if an observed difference between data from participating households and control village households is found to be significant at the 10% level, it means that the null hypothesis (that the observed difference is by chance/random) can be rejected with 90% certainty. The lower the significance level is, the stronger the certainty that the null hypothesis can be rejected. Cases with relatively few observations (data) and large variation, increase the uncertainty and make it more difficult to reject the null hypothesis.

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Executive Summary

The main purpose of this Evaluation was to analyse and to document – in a gender perspective – the results and the lessons learned from using the Farmer Field School (FFS) approach in the Agriculture Sector Programme Support Phase II (ASPS II) in Bangladesh.

The Government of Bangladesh (GOB) and the Danish Government (through Danida) initiated the first phase of the Agriculture Sector Programme Support (ASPS I) in 2000, based on a long history of bilateral cooperation in agriculture, livestock and fisheries. Following ASPS I, the cooperation continued into a second phase (ASPS II) starting from late 2006, with a five-year duration and a budget of Danish Kroner (DKK) 610 million.

The Evaluation has assessed FFS implementation within two ASPS II components: 1) The Agricultural Extension Component (AEC), implemented mainly through the Department of Agricultural Extension within the Ministry of Agriculture, and 2) The Regional Fisheries and Livestock Development Component (RFLDC), implemented mainly through the Ministry of Fisheries and Livestock with the Department of Livestock and the Department of Fisheries being responsible for monitoring and managing of RFLDC activities.

The Evaluation has been carried out by an independent team of international and Bangladeshi experts organised by Orbicon A/S. It was conducted from March to September 2011. The overall approach to data collection and analysis has been based on a mixed-methods approach, combining rigorous analysis of existing quantitative data with qualitative information collected during a three-week fieldwork mission to North/North West Bangladesh, Barisal, Noakhali and Chittagong Foothills. The Evaluation also draws on a literature study covering experience with FFS in other regions and countries.

FFS within ASPS II

The FFS approach within both AEC and RFLDC is supposed to contribute to achievement of the overall development objective of ASPS II: ‘Improved living conditions of poor, marginal and small farmer households through enhanced, integrated and sustainable agricultural productivity’. FFS within ASPS II aims at: i) incorporating a demand driven and integrated approach to agricultural extension; ii) promoting farmers’ organisations; and iii) presenting a holistic perspective to the sectors. The FFS approach within ASPS II has a solid emphasis on nutrition issues, which links ASPS II efforts in terms of agricultural diversification in particular into livestock and fishery/aquaculture with increased awareness about production, food use and nutrition linkages.

The overall purposes of FFS are common for both programme components in ASPS II (AEC and RFLDC): i) to provide an environment in which farmers acquire knowledge and skills to improve production and income from their agricultural field crops, homestead (vegetables, fruits, livestock, poultry) and fish cultivation through application of sound farm management decisions; ii) to sharpen farmers’ abilities to make critical and informed decisions that make their farming activities more profitable and sustainable; iii) to improve farmers’ problem solving abilities; iv) to allow farmers to discover benefits from group work and encourage group formation and activities, including development of farmers’ organisations for input and output deliveries and advocacy roles and; v) to empower farmers to become ‘experts’ on their own farms and to be more confident in

solving their own problems. However, although the purpose and principles of the FFS approach are the same, there are important differences in the methods used for FFS implementation within the two components:

FFS within AEC

AEC aims at developing improved extension systems to support poor, marginal and small farm households, by using FFS and group development concepts. AEC is mainly targeting the poor, marginal and small farmer households cultivating 0.2-1 hectare (ha) of land in the northern and north western region, although with a national coverage.

The FFS curriculum in AEC consists of a total of 20 sessions: 11 sessions (mainly male participants) on rice, four sessions (mainly female participants) on homestead issues (mainly vegetable and fruit gardening, but also nutrition and cooking) and an additional five sessions (mixed male and female) on group/club formation and some social issues. In addition, five follow-up sessions are offered the following season on topics selected by the farmers (e.g. livestock, poultry, fish-farming).

In AEC, the Agro-EcoSystem Analysis (AESA) methodology is applied for FFS. AESA includes a series of learning methods and tools to guide the participants through the learning process to master the skills of observation, evaluation, analysis and decision making. These skills they can use afterwards for other purposes. Methods, activities and tools applied in the AESA are carefully selected and are based on non-formal, participatory adult education principles.

In AEC the 'households' are the FFS members, i.e. both the female and male members. Facilitation of FFS in AEC is mainly the work of trained Farmer Trainers, working in teams of two. AEC encourages FFS farmers to form Farmer Clubs at the end of the FFS season, in order to continue group dynamics and provide opportunities for organising other income generating and social activities within the communities as well as possibilities for group saving and provision of loans to the farmers. In those unions where there are at least three Farmer Clubs, the AEC is supporting formation of Union Farmer Associations (UNFAs).

FFS within RFLDC

FFS within RFLDC focuses on fisheries and livestock development in the District of Greater Noakhali and Barisal Division in the southern coastal area of Bangladesh. RFLDC focuses on remote and marginal coastal and char lands, characterised by high concentrations of poverty. During ASPs I, group/organisation formation was gradually incorporated, resulting in the establishment of Community Based Organisations (CBOs).

The FFS implemented RFLDC-Noakhali from 2007 has included common planning sessions for men and women. The curriculum has offered four main technical modules mainly related to homestead opportunities: poultry (chicken and ducks), livestock (cattle, goats and sheep), fishery/aquaculture and homestead gardening (vegetables and fruit). In addition, supplementary modules have been offered on health, nutrition and social issues. Each module has included three to 10 sessions. The total programme of up to 36 sessions has been offered over a period of 18 months at bi-weekly intervals. When not relevant for the participants, certain modules have been skipped or shortened. Only one of the household members has participated in each session, either the man or the women depending on the focus of the module. The group size and composition has varied according to the module.

RFLDC-Barisal started with household production system based FFS from 2007, addressing both male and female household members. Although not identical to the one in Noakhali, the FFS curriculum used in Barisal covered most of the same topics. The nutritional issues module was separated in three sessions for both men and women, while the fourth session was solely for women (specific women health issues). Though not mandatory, in general the fishery/aquaculture module was offered to male participants, and the livestock module to female participants. The whole programme was offered over a period of 10-12 months.

From 2010, RFLDC-Barisal has developed a common curriculum with RFLDC-Noakhali, offered over 18 months and which basically follows the existing Noakhali curriculum. The approach has moved away from the household-based participation (one man and one women from each household), into an individual-based approach (either man or woman from the household).

The FFS methodology used in RFLDC includes an Experiential Learning Cycle, but does not follow the AESA methods and structure as applied in AEC. Instead the 'Farm Management Analysis' (FMA) is applied at each FFS session with the same objectives as AESA. The FFS sessions are run by Local Facilitators, who will, in between the FFS sessions, follow and advise the participants on application in their own field, pond or home-stead.

Integrated Farm Management

Recently steps have been taken to promote unity between the different FFS curricula used in the ASPS components through development of an Integrated Farm Management (IFM)-FFS curriculum. This curriculum is presently on trial with AEC, RFLDC and the Food and Agriculture Organisation (FAO) in 68 locations (25 in North-West, 15 in Barisal and 28 in Noakhali). The objectives of the IFM-FFS are similar to the ongoing FFS in AEC and RFLDC. The developed draft curriculum combines the existing AEC and RFLDC curricula and consists of nine modules with 58 sessions.

Major Findings and Conclusions

This Evaluation has come to the following major findings and conclusions.

Results and impacts:

1. Since 2006, around **three million poor people** (representing more than 500,000 households) in rural Bangladesh have benefitted directly from new knowledge and techniques related to agricultural production and nutrition provided through FFS in ASPS II. To this should be added what seems to be quite large (but not quantifiable) spill-over effects from FFS farmers to non-FFS farmers.
2. The impact of FFS on household **nutrition and food security** is statistically highly significant, most notably among the households with the lowest income levels. FFS households have reduced their vulnerability and increased intake of most food items significantly more than control village households. Likewise, FFS households estimate that their probability of being hit by food shortage has decreased from 20% before FFS to 11% after FFS, compared to a slight decrease from 31% to 30% within control village households.

3. The impact of FFS on **household income** is statistically highly significant. While income in FFS households on average has risen from BDT 52,000 before FFS (2007) to BDT 72,000 after FFS participation (2010), the increase within control village households within the same period was only from BDT 47,000 to BDT 57,000. The income increase within FFS households is most significant for the households with the lowest income levels.
4. The impact of FFS on **production diversification** is a statistically highly significant. The total number of agricultural products produced is significantly larger for FFS households than for control village households.
5. FFS, as applied through ASPS II in Bangladesh, has been demonstrated to be a very efficient development investment. When costs are compared with benefits from the FFS interventions at household level, it shows a **pay-back time of less than a year** from the investment. Compared to cost experiences from FFS interventions in other countries, FFS within ASPS II in Bangladesh appears to be at an average cost level.
6. FFS has become an **'eye opener'** for the FFS participating women, their husbands and families, for what women are capable of producing and contributing to household income and food security, if they are given the chance and permission.
7. The successful 'FFS women' and their husbands have become **role models** for other farmers in their neighbourhoods and for their children. FFS has been a major boost to women's self-confidence. FFS has contributed to improving inter-household relations between men and women and contributed to increasing gender equality in decision-making, at least on 'smaller issues', in relation to production and income.
8. There has not been any verifiable and measurable positive impacts or effects so far on persisting **socio-cultural problems** (e.g. child-marriage, child labour, dowry, polygamy, drug abuse, sexual and gender-based violence, suicide, divorces, child accidents and abuse) in the FFS communities compared to non-FFS communities.
9. There are indications that some **unintended negative impacts** could be directly or indirectly linked to implementation of FFS (e.g. increased work load for children, reports of drowning accidents of small children during women FFS sessions, land disputes and further social exclusion of marginalised groups within the villages and negative environmental impacts related to boro rice cultivation).

Organisational issues:

10. The main **motivation** for farmers to join FFS is the possibility of obtaining new knowledge on farming practices and technology, based on the desire to increase production and, potentially, cash income.
11. The CBOs are in general operating at a **more advanced level** than the Farmer Clubs and UNFAs in terms of both input supplies and marketing. This is also a reflection of the rather different types and levels of support these organisations have received from, respectively, RFLDC (CBOs) and AEC (Farmer Clubs and UNFAs).
12. Both **Farmer Clubs and CBOs** are becoming increasingly organised and able to identify opportunities and needs as well as creating links to local government

structures at the Union level. Several of the Farmer Clubs and CBOs are also successfully involved in production and distribution of quality inputs among farmers. Progress is more limited in terms of establishing linkages to marketing and processing of the products.

13. **Women's membership and participation** in Farmer Clubs (village level) is much higher than in the case of the CBOs, which often meet or are located outside the villages where the CBO members live. Traditional restrictions on women's mobility, combined with a generally decreasing absorption capacity for intake of new members in the CBOs and lack of proper information, is limiting women from participating in the CBOs. As for decision making and leadership of both Farmer Clubs and CBOs, it is a concern that the representation of women and minority groups in the executive committees is very limited, since this is where the more advanced marketing and other strategic activities are located. Women are therefore to a large extent excluded from these advanced activities.

Technical aspects and modalities:

14. The FFS approach has been implemented through **different modalities** within ASPS II, which in general has been appropriate due to the differences among AEC and RFLDC target groups and focus areas. In terms of AEC, the use of AESA has in particular been shown to be highly relevant and well applied for the male sessions on field crops (rice), although it is seen as a limitation that no other field crops have been included. Given the relatively more limited initial level of own experience and resources among the FFS participants in RFLDC, the use of more demonstration-oriented methods appear to have been appropriate for achievement of the livelihoods and production targets within this component, but not yet for the development of farmers as skilled, informed independent decision making experts. The current IFM piloting will provide useful experience from combining elements from AEC and RFLDC.
15. Time allocated to some of the topics in the joint male-female FFS sessions, in particular **awareness raising on different socio-cultural issues**, tends to be too short to generate notable impact. Presentations are too broad, Farmer Trainers/Facilitators are just 'touching' on the issues and there is no proper coverage. Socio-cultural issues are seen as an add-on in need of awareness-raising, rather than intra-household dynamics being seen as an integral part of livelihood management, which farmers need to analyse and address through FFS.
16. Farmer Trainers and Facilitators become **model farmers** who are appreciated as being easily accessible in the local areas where they are recruited and live. This ensures continued access for the farmers to training and knowledge on vegetable gardening, livestock and fish farming.
17. Practical demonstration skills are reasonably well developed among **Farmer Trainers/Facilitators**. However, their skills to ensure active contribution by all participants and stimulate interaction between participants are often limited, also with regard to gender sensitivity.

Policy and institutional aspects:

18. The application of the FFS Approach within ASPS II complies to a large extent with **Danida's key strategies and policies** on household poverty alleviation and in-

clusion of women, indigenous peoples and minority groups. However, it only partially complies with the goal of full gender equality, mainly because the approach does not sufficiently take into account gender specific intra-household differences.

19. In terms of **GOB policies and strategies**, the FFS approach is well reflected e.g. in relation to the 'Poverty Reduction Strategy Paper II' (2009) which focuses on poverty alleviation through increased targeting of the extremely poor and vulnerable groups, including women. The FFS approach is also well anchored in relation to the government's new 'Country Investment Plan' (2010) which focuses on sustainable and diversified agriculture through integrated research and extension, with particular importance given to crop sectors, livestock and fisheries. In addition, the FFS approach is fully congruent with the suggestion in the New Agricultural Extension Policy, to apply a group approach for delivery of extension services.

Institutional arrangements and Monitoring and Evaluation:

20. The potential **synergy effects** between AEC and RFLDC activities have only been achieved to a limited extent. Even within the two RFLDC sub-components, it has been difficult to coordinate activities.
21. Although the set-up of AEC is more linked to existing GOB structures than RFLDC is, both components are to some extent implemented as 'projects' with separate management units and procedures. The **institutional sustainability** of the FFS modality, applied within ASPs II, lies therefore mainly with the capacity that has been built at the local level with farmers, Farmer Trainers/Facilitators, CBOs/Farmer Clubs/UNFAs as well as the local level Department of Agricultural Extension staff that has been trained (within AEC).
22. After experiencing some initial constraints and shortcomings, the **Monitoring and Evaluation (M&E) framework** for the FFS interventions has recently been improved within ASPs II. Data are now being collected more strategically within both AEC and RFLDC and are to some extent being used for analysis of progress. Limited efforts have however been made within the components to: i) gender disaggregate data; ii) collect data on socio-cultural, employment and spill-over effects from FFS interventions; and iii) trace Farmer Trainers/Facilitators.

Lessons learned and recommendations

The evaluation findings and conclusions lead to the following lessons learned and recommendations.

Wider implications from experiences with FFS in ASPs II, Bangladesh:

Lesson 1: The FFS approach, as practiced in ASPs II, is a **cost-effective mechanism** for lifting poor rural households, including landless and often excluded and marginalised population groups, out of poverty, hunger and malnutrition. In addition to the direct effects, the level of spill-over effects appears to be of large magnitude.

Recommendation 1: Future development interventions, aiming at reducing vulnerability and improving food security, nutrition and livelihoods among poor rural households should strongly consider using the FFS approach, incorporating the other recommenda-

tions given here. Although not directly evidenced by the Evaluation, the results from FFS may have the additional potential of contributing to social stabilisation within countries like Bangladesh, characterised by relatively high inequality and poverty.

Lesson 2: Increases in **micro-level growth and self-employment** (at the household level) due to FFS interventions in ASPs II, have been considerable. In addition to increased market production among small-scale farmers with land access, it has been demonstrated that, through FFS, even hard-core poor households with very little or no land are capable of increasing their income from producing for the markets.

Recommendation 2: Future development interventions aiming at stimulating growth and employment within the agricultural sector should target small-scale farmers as well as hard-core poor and marginalised farmers as core FFS members. Even among the poorest and marginalised farmers, there is a potential to contribute with a range of services and agricultural/food products to the markets and for value-chain and enterprise development. Female farmers can also make a substantial contribution.

Gender and other social aspects:

Lesson 3: It is possible within Bangladesh, through rather simple but targeted FFS interventions, to effectively involve and benefit large numbers of women (including young women, female-headed households, widows and women from indigenous populations), increasing their confidence, ability to earn an income, to contribute to food security and participate in decision-making on smaller production issues. However, **women's income** remains relatively low and they still do not participate equally in important household decisions. This is largely due to the household approach in FFS which does not explicitly address intra-household relations.

Recommendation 3: Future FFS interventions in Bangladesh should be planned with a view to exploring its potential to build on the achievements, and aim at bringing about more significant changes through more explicit attention to intra-household issues as an integral part of livelihood and farming systems (e.g. it could be considered to incorporate aspects from some other proven methodologies, like the Gender Action Learning System (GALS), where farming is seen as a family business and where gender inequalities are addressed in a cooperative manner with women and men).

Lesson 4: FFS interventions, with their current household-level focus, are not sufficient to notably influence traditional restrictions on **women's mobility**, nor do they effectively challenge socio-cultural problems and harmful practices within the villages. This is because these gender/socio-cultural issues are perceived as add-ons and not an integral part of addressing poverty.

Recommendation 4: Future FFS interventions should be much clearer about the inter-relationships between different dimensions of gender, social inequality and household poverty and aim at incorporating gender analysis into the technical training. Some of the more in-depth training and supporting activities might need to be taken up by other interventions (e.g. awareness raising through non-governmental organisations (NGOs)).

Lesson 5: If no additional preventive procedures and mitigations are taken, FFS may in some cases cause **negative, unintended social and environmental impacts** within and outside the villages.

Recommendation 5: Future FFS interventions should include a participatory pre-assessment of the potential social and environmental risks related to FFS interventions and, based on this assessment, an Action Plan should be prepared on how to prevent and mitigate these risks.

Organisational issues:

Lesson 6: **Farmer organisations** have proved to be useful entry points for production/distribution of various forms of input supplies (quality seeds, vaccines etc.) to the farmers and they possess a strong potential for further expanding their role in marketing and partnerships with private enterprises. Special attention will be required to ensure sustainability of these processes. Sustainability does not come automatically from forming groups and organisations and providing block grants/seed money.

Recommendation 6: Future support to the agricultural sector in Bangladesh should pay attention to consolidating and expanding the role and involvement of farmer organisations (CBOs and UNFAs) in terms of input supplies, marketing and further processing of agricultural products (produced within the villages). The more developed CBOs (from RFLDC) could be used as ‘mentors’ for the UNFAs. There needs to be much more focus on including women in decision-making and planning/implementation of women activities.

Lesson 7: There is a risk that farmer organisations established from FFS turn into exclusive clubs for the **village elite**, possibly leading to increased polarisation and exclusion of the poorest households and women. Limited absorption capacity in the CBOs and obligations of payment of regular membership fees are barriers for the poorest FFS members, including many women, to become members of the farmer organisations.

Recommendation 7: It is recommended that current procedures and criteria for selection of participants for FFS and membership of farmer organisations be reconsidered, in view of the potential risk for exclusion of groups of women and men from participating in FFS/farmer organisation related activities.

Lesson 8: When farmer organisation offices (CBO/UNFA offices) are located outside the village neighbourhood, **women’s participation** is dramatically reduced. Having physical access to, and being member of the organisation does not automatically promote women’s leadership and give them voice or benefits, equal to those of their male counterparts.

Recommendation 8: As an interim measure to address this, it should be considered establishing temporary quotas for women’s participation in farmer organisations and leadership/leading positions in the executive committees (e.g. established in by-laws). This should be accompanied by explicit discussion of ways of enabling more active involvement and benefitting of women in farmer organisation activities.

FFS approach and facilitation:

Lesson 9: There is not only one ‘**blueprint**’ FFS approach that works. Rather, it is possible, through a demand-driven focus, to adapt the traditional FFS approach efficiently and effectively to different contexts and target groups.

Recommendation 9: Future FFS curricula should be developed with sufficient flexibility to ensure that each FFS can be adjusted to different target groups and local conditions (e.g. in the case of the most resource-poor groups of households, including women, it

may be possible through an initial use of demonstration-oriented methods to improve the participants' FFS 'skills' to a level where they subsequently can be treated topics using a 'full' FFS methodology). The curricula should also be flexible enough to address different climate change and other risk parameters within the main agro-ecological zones. More attention should be paid to the potentials for increasing the value-added to the agricultural production through FFS (e.g. through introduction of other, higher valued, crops than rice). Explicit attention to the gender dimensions of these issues needs to be incorporated.

Lesson 10: The preparation and performance of the Farmer Trainers/Facilitators is of key importance to the **quality of the FFS**. Personal attitude, facilitation skills, previous FFS experience and gender sensitivity are more important skills for the trainers/facilitators than formal education. Female trainers/facilitators, especially young women, find it often hard to work in a male-dominated society.

Recommendation 10: During the training of the Farmer Trainers/Facilitators more explicit attention should be given to improve their facilitation skills, including how to work with illiterate women and incorporate gender issues as an integral part of other training. Possibilities to increase the incentives for women to become trainer/facilitator should be further explored (e.g. use of married couples).

Institutional arrangements and M&E:

Lesson 11: It is difficult to assess **sustainability aspects** and extract learning as long as financing, technical support and backstopping is still in progress. Supported organisations/institutions are not able to demonstrate their ability to continue activities until interventions are completed.

Recommendation 11: Future FFS interventions in Bangladesh should address more explicitly sustainability aspects, including increased country ownership and financial sustainability. Different models for sustainability (e.g. establishing of FFS networks, commercialization of services and income-generating activities for the organisations to become self-financing) and stronger collaboration and harmonisation with other extension service interventions should be explored at an early stage through the GOB. Strengthening peer training networks should also be considered a key element in sustainability.

Lesson 12: When the **M&E framework** is not properly designed or in place on time, this limits the opportunity for continuous extracting of learning and experiences from FFS interventions with the aim of improving the services provided.

Recommendations 12: In relation to planning future FFS interventions, it is recommended to carry out the following in terms of M&E: i) an assessment of experiences and best practices for designing the baseline studies and M&E frameworks for FFS interventions, including gender disaggregation and indicators; ii) a proper evaluation of the current pilot IFM phase before final decision on possible up-scaling, including gender analysis; iii) a systematic assessment of the experiences and learning from the support provided to the CBOs in Noakhali/Barisal (through RFLDC); iv) establish a system for tracing Farmer Trainers/Facilitators that leave their position; v) establish a common UNFA/CBO/Farmer Club performance monitoring system based on a few, easily collected indicators ; and vi) better monitoring of potential employment and spill-over effects from FFS.

1 Introduction

1.1 Purpose

In March 2011, the Danish Ministry of Foreign Affairs (MFA) commissioned Orbicon A/S to undertake an “**Evaluation of the Farmer Field School (FFS) Approach in the Agriculture Sector Programme Support, Phase II (ASPS II), Bangladesh**” (the Evaluation).

According to the ToR (Appendix 1), the **main purpose** of the Evaluation was: *“to analyse and document – in a gender perspective – the results and the lessons learned from using the FFS approach in the ASPS II in Bangladesh”*.

The Evaluation was expected to ensure documentation on lessons learned and provide inputs for preparation of a third phase of Danish agricultural support to Bangladesh, during which continued support to the FFS approach is being considered. According to the ToR the Evaluation should, in particular, provide information about whether and to which extent the FFS approach is contributing to increased income and food security at household level, as well as to women’s involvement in development processes in Bangladesh.

The Evaluation has been carried out by an independent team of international and Bangladeshi experts; none of the experts had been involved previously with the activities being evaluated.

This report presents the findings, conclusions and recommendations of the Evaluation.

1.2 Scope

The Evaluation has assessed FFS implementation within two ASPS II components: i) the Agricultural Extension Component (AEC); and ii) the Regional Fisheries and Livestock Development Component (RFLDC). A literature study (Annex 3) on experiences from FFS interventions in other countries and from Bangladesh supported by other donors, has been undertaken as part of the Evaluation in order to put experiences with FFS from ASPS II into perspective. It has not been within the scope of this Evaluation to compare FFS with other extension approaches.

In meeting the purpose of the Evaluation, the following focus areas will be emphasised:

- The **training mode** for improved production: extent to which the training approach is useful for various types of agricultural and livestock production systems (agriculture, horticulture, poultry, ruminant livestock and aquaculture) in various contexts.
- Possible effects on **access to production inputs and services including credit and marketing**: extent to which the group formation under FFS is facilitating access to credit, common procurement and marketing, and future extension services, including access to services from both the public and the private sector.
- **Intra-household relationship**: extent to which women’s participation in the training (fully or partly), is influencing the social relationships at household level, in-

cluding women's status, their ability and confidence to make decisions and their greater adaptability in the face of challenges and opportunities.

- **Other income generating activities:** extent to which group formation within FFS is facilitating other joint income generating activities among the group members.
- **Improved livelihood:** extent to which the FFS approach has influenced the livelihood of households: economically and in terms of household nutrition, as well as in terms of resilience to negative changes and ability to take advantage of opportunities.
- **Institutional arrangements:** extent to which the funding, monitoring and other institutional arrangements used by the components are appropriate and efficient, and contributing to the success and sustainability of the FFS approach.

The Evaluation included fieldwork within three different geographic locations in Bangladesh: north and northwest Bangladesh, Greater Barisal, and Greater Noakhali. In addition, during the inception mission it was decided to include fieldwork in the Chittagong Foothills, in order to capture experiences from the experimental nature of the FFS approach applied in this area, characterised by its large indigenous population.

The fieldwork was carried out during May 2011. A Stakeholder Validation Workshop, with presentation and discussion of preliminary evaluation findings, was held in Dhaka in September 2011.

1.3 Organisation of the Report

The report is organised as follows:

Chapter 1 provides an introduction to the Evaluation.

Chapter 2 outlines the evaluation methodology and approach.

Chapter 3 provides the relevant background and context for the Evaluation.

Chapter 4 includes a presentation of the key findings from application of the FFS approach within AEC.

Chapter 5 includes a presentation of the key findings from application of the FFS approach within RFLDC.

Chapter 6 presents a comparative assessment of FFS institutional and cost-benefit issues.

Chapter 7 includes a presentation of the conclusions.

Chapter 8 includes a presentation of the lessons learned and recommendations.

The report also includes Appendix 1 (Terms of Reference) and Appendix 2 (Key References).

Additional annexes to the evaluation report can be viewed on the website www.evaluation.dk:

Annex 1: Bangladesh context

Annex 2: Methodology and approach

Annex 3: Literature study

Annex 4: Persons interviewed

2 Evaluation Methodology and Approach

The methodology applied by this Evaluation is underpinned by Danida’s Guidelines for Evaluation (MFA/Danida, 2006) and the Organisation for Economic Cooperation and Development (OECD)/Development Assistance Committee (DAC) Evaluation Quality Standards¹. The Evaluation’s definition of the OECD/DAC Standard Evaluation Criteria (Table 2.1) is in accordance with the ToR for the assignment.

Table 2.1 Definitions of OECD/DAC Standard Evaluation Criteria

Evaluation Criteria	Definition
Relevance	“The extent to which the objectives of a development intervention are consistent with beneficiaries’ requirement, country needs, global priorities and partners’ and donors’ policies”.
Efficiency	“A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results”.
Effectiveness	“The extent to which the development intervention’s objectives were achieved, or are expected to be achieved, taking into account their relative importance”.
Impacts	“The positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended”.
Sustainability	“The continuation of benefits from a development intervention after major development assistance has been completed. Probability of long-term benefits. The resilience to risk of the net benefit flows over time”.

The overall approach to data collection and analysis has been based on a **mixed-methods approach**, combining rigorous quantitative data analysis with qualitative data collection and study of literature. Consequently, the evaluation analysis is based on three complementary elements:

- analysis of existing (secondary) quantitative data;
- qualitative fieldwork and analysis of data/information; and
- a FFS literature study.

One clear benefit from combining qualitative fieldwork with quantitative data analysis and extensive literature study is that data triangulation can be used as a main tool for the validation and analysis process. Through data triangulation, the Evaluation has verified findings from different sources and methods to increase the credibility and robustness of the analysis.

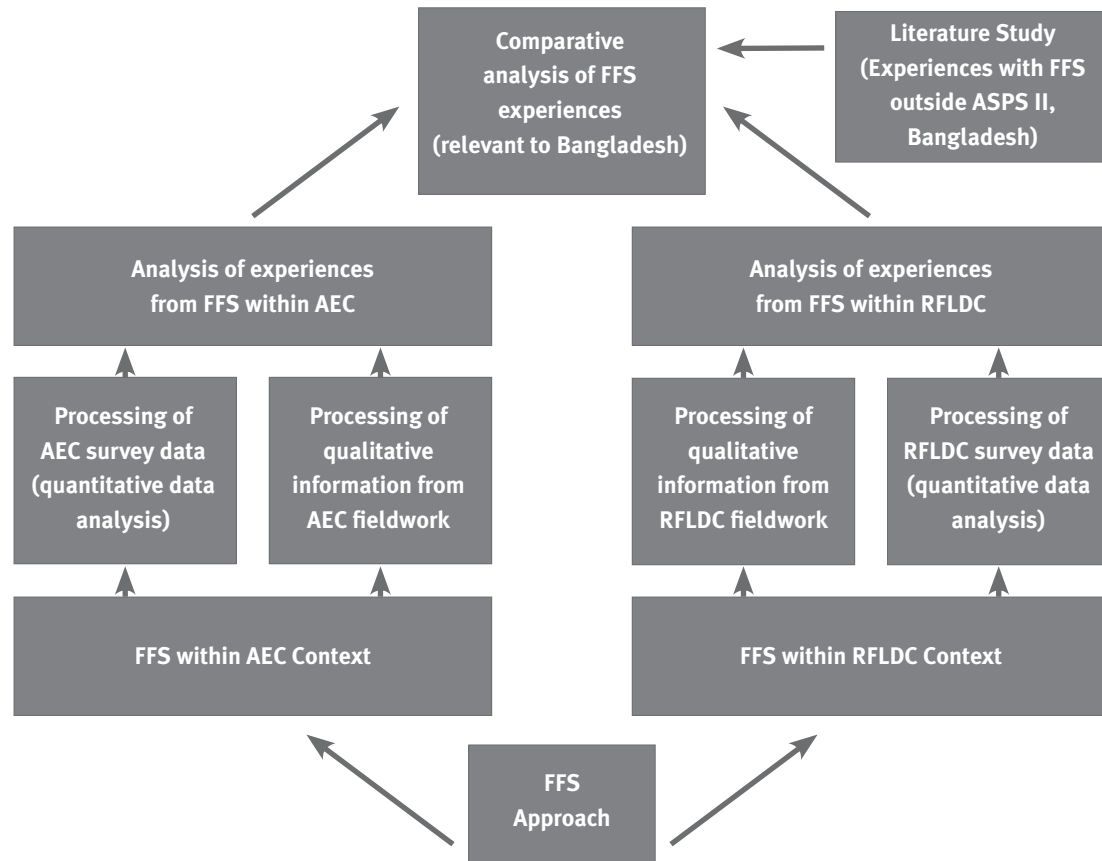
In the following Section 2.1 the overall analytical framework, is presented. This is followed by brief descriptions in Sections 2.2-2.4 of the specific methodologies and approaches applied for each of the three above mentioned elements. For more details on the methodology and approach applied for data collection and analysis, please refer to Annex 2.

1) www.oecd.org/dac/evaluationnetwork.

2.1 Analytical Framework

Figure 2.1 below illustrates the overall logic of the analytical frame.

Figure 2.1 Overall Analytical Framework



The FFS approach is applied within both AEC and RFLDC, however, the modalities through which FFS are implemented differ across the two components (see Chapter 3). As a consequence of this, the processing of data and information, as well as the first step in the analysis, will be undertaken separately for AEC and RFLDC (as illustrated in Figure 2.1).

Based on the individual analyses of FFS experiences from, respectively, AEC and RFLDC, and key findings from a literature study on experiences from FFS outside ASPs II (see Section 2.4), a comparative analysis of institutional arrangements and cost-benefit aspects of FFS, with particular relevance to the Bangladesh context, has been carried out.

Finally, conclusions have been drawn from the individual and comparative analyses, leading to formulation of a number of lessons learned and recommendations.

2.2 Quantitative Data Analysis

The quantitative data analysis is mainly based on data collected by independent survey teams as part of two recent external Mid-Term Evaluations carried out for, respectively, AEC and RFLDC:

- Data for the **AEC Mid-Term Evaluation** were collected during February 2011 through a comprehensive questionnaire (survey instrument) covering a number of outcome variables as well as a series of control variable indicators for general household characteristics (including gender, age, marital status, education level, occupation, household size and land ownership). The data collected consist of information on 1,088 FFS participating households and 228 control village households. This means that control village households have been severely under-sampled, creating potential ‘common support’ (overlap condition) problems when applying statistical matching methods to the data set². The AEC Mid-Term Evaluation does not include estimates on the ‘before-FFS’ situation and, unfortunately, it does not link explicitly to an AEC Baseline Study carried out in 2007.

Based on the available data, the Evaluation has to the extent possible used a *post-intervention propensity score matching approach* to carry out an econometric analysis for AEC. The rich information on general household characteristics in the data set has been used fully in the matching approach pursued.

- Data for the **RFLDC Mid-Term Evaluation** were collected during June 2010 and are comparable to those described in the AEC case. The control variables collected in terms of general household characteristics are useful, and the questionnaire is also quite comprehensive in terms of appropriate outcome variables. The questionnaire includes recall questions to establish the baseline (before-FFS intervention level). The RFLDC Mid-Term Evaluation data consist of information on 640 FFS participating households and 224 control village households. Since the amount of control village household is less than 1/3 of the total this again raises potential challenges in terms of fulfilling the overlap condition in matching procedures.

The inclusion of recall questions in the questionnaire, together with a comprehensive set of control variables (household characteristics), has made it possible for the Evaluation to carry out an econometric data analysis for RFLDC based, to a large extent, on a *matched double difference approach*.

The robustness of the results from the econometric data analyses has been tested at the 1% (most significant), 5% and 10% (least significant) significance level.

In addition to the above-mentioned externally collected data set, a large amount of internal monitoring data and studies has been provided by AEC and RFLDC and used for the analysis.

2.3 Qualitative Fieldwork and Studies

A key concern for the Evaluation, in relation to planning of the qualitative fieldwork, was to get the opportunity to study the full ‘chain’ of selection processes in the FFS approach

2) The overlap condition ensures that observations from FFS participating households have control village observations ‘nearby’ in the propensity score distribution. Specifically, the effectiveness of matching depends on having a large and roughly equal number of participant and control observations so that a substantial region of ‘common support’ (overlap) can be found. Participating units will have to be similar to control units in terms of observed characteristics unaffected by participation; thus, some control units may have to be dropped to ensure comparability.

(i.e. from the selection of Unions and Villages down to selection of trainers/facilitators and, ultimately, the beneficiaries and topics for the FFS sessions), including the rationale and consequences related to these choices. A clear practical understanding of these selection aspects is important in order not to over or under estimate the potential impacts from FFS interventions, as well as for the analysis of various social and qualitative aspects.

The qualitative fieldwork was based on half-day studies of four FFS village ‘cases’ within each region (north and northwest Bangladesh (AEC), Noakhali (RFLDC) and Barisal (RFLDC))³. Each FFS village ‘case’ study included a visit to a FFS village as well as to a ‘control village’ (where FFS sessions had not been undertaken) within the same Union. Table 2.2 provides an overview of the number and type of villages visited during the fieldwork.

Table 2.2 Overview of village coverage for qualitative fieldwork

	AEC	RFLDC-Noakhali	RFLDC-Barisal
FFS villages (completed FFS)	4	4	4
Control villages	4	4	4
FFS (ongoing)	2	2	2
FFS Indigenous villages	1	1	

Given the practical and logistic limitations of the fieldwork coverage (four days in each main geographic area), the Evaluation aimed at selecting a diversified sample of villages to be studied. The parameters for the village case selection included:

- **FFS methods:** different methods applied for implementation of the FFS approach within ASPs II.
- **Geographical area:** FFS activities implemented in different provinces (rich/poor) and within different agro-ecological zones within the regions.
- **Status/length of implementation:** activities that may already have been completed some time ago (potential impact and sustainability issues), as well as more recent activities (more focus on relevance, efficiency and effectiveness aspects).
- **Performance status:** activities that are performing well and less well.
- **Practicability of travel:** travel logistics within the regions provided limitations for how much and what could be covered during the four-day visit to each region. Likewise, it was necessary to balance the time between visits to farm sites, Focus Group Discussions (FGDs) and interviews with different stakeholder groups.

The following main qualitative methods and tools were applied during the fieldwork mission for collection of data and information:

- FGDs and/or individual interviews** with key stakeholders at Upazila and Union level:

- In addition, a one day visit to the Chittagong Foothills was included to observe the FFS experimental activities carried out here.

- extension services in relevant departments (male and female);
 - farmer organisation members (male and female); and
 - NGOs, private service providers and traders.
- ii) **FGDs and/or individual interviews** with key stakeholders at village level:
- FFS facilitators/trainers (male and female);
 - FFS participants from completed and ongoing FFS (male and female); and
 - control groups: farmers from control villages and non-FFS farmers from FFS villages (male and female).
- iii) **Direct observation of FFS sessions;** FGDs with FFS participants in the field (male and female).
- iv) **Direct observation of FFS technologies/activities being implemented by graduates.**
- v) **Direct observation of Training of Trainers (ToT) and Season-Long Learning sessions.**

An evaluation matrix with key evaluation questions and indicators was used to prepare standardised ‘checklists’ for the FGDs with different stakeholder groups (FFS farmers, control farmers, facilitators/trainers, CBO/Farmer Club leaders etc.) to ensure that similar type of data and information would be collected across the components and geographic areas.

A total of approximately 750 FFS participants (500 completed and 250 ongoing, half male and half female) and 500 control village household members (half male and half female) have been consulted by the Evaluation through the FGDs. The men and women selected for the FGDs have been of different age and socio-cultural background, reflecting the composition of the FFS groups.

A total of 57 trainers/facilitators (39 male and 18 female) were consulted; 24 (17 male and seven female) from AEC and 33 (22 male and 11 female) from RFLDC.

2.4 FFS Literature Study

While searching for solutions to the identified FFS topics, or for improvement of earlier efforts in the ASPs II components, the Evaluation deemed it very useful to study lessons learned on challenges and opportunities from other FFS initiatives that have been presented and discussed in different formal, and informal, publications and fora.

A FFS literature study is therefore included as an integrated part of this evaluation (Annex 3). The study includes a scrutiny of existing relevant information from Bangladesh, the south and southeast Asian regions, as well as experiences from Africa where comparable problems have been faced, questions been asked and solutions been sought.

The literature study focuses on four main areas: i) mainstreaming and sustainability of FFS interventions; ii) marketing and farmer organisations; iii) cost-benefit and monitoring/evaluation of FFS; and iv) suitability of the FFS approach for non-rice topics and resource-poor rural populations.

3 Background and Context

The Government of Bangladesh (GOB) and the Danish Government (through the Danish International Development Assistance – Danida) initiated the first phase of the ASPS in July 2000 based on a long history of bilateral cooperation in agriculture, livestock and fisheries. ASPS I comprised components within the crops, fisheries, livestock, seeds and horticulture sub-sectors, as well as support to policy development. It had an overall development objective of optimised, integrated, and sustainable smallholder agricultural production for improved living conditions.

During the implementation of ASPS I, the two countries agreed to continue the cooperation into a second phase (ASPS II), starting from late 2006 with five-year duration⁴ and a budget of Danish Kroner (DKK) 610 million⁵.

3.1 Strategy and Policy Context

ASPS II has been implemented in a period during which Bangladesh has experienced a remarkable drop in poverty levels and improvement in living standards since 2005 (see Annex 1), despite the global economic shock and natural calamities.

Agricultural policy development

Agricultural extension in Bangladesh has followed an evolutionary process of experimentation, with components of several recognised extension approaches. The Training and Visit Approach, which was established during the late seventies, formed the backbone of the extension practices applied by the Department of Agriculture Extension (DAE) within the Ministry of Agriculture in Bangladesh.

To increase its effectiveness and efficiency DAE has sought to develop its own more pertinent approach to extension, the Revised Extension Approach (1999), which specifically embraces the Department's Mission within the context of the New Agricultural Extension Policy (1996). DAE is committed to a full role in implementing the policy. The DAE has been implementing the New Agricultural Extension Policy principles through different programmes/projects funded jointly by the GOB and donor agencies like Danida, World Bank, the Food and Agriculture Organisation (FAO)/United Nations Development Programme (UNDP) and the International Fund for Agricultural Development (IFAD).

The Revised Extension Approach has retained many of the primary elements of the Training and Visit Approach, in combination with relevant features developed locally with Bangladesh extension partners. The result is an approach to extension which is largely demand driven, reliant on client participation, based on working with groups and integrated among different extension providers. The Revised Extension Approach is designed to continue to change in appropriate ways over time. It encourages flexibility and adaptation, incorporating the process of continuing change as an integral part of the extension approach.

4) The implementation period has since been extended for another two years.

5) DKK 531 million as Danida contribution and DKK 79 million as GOB contribution.

Government strategies

The GOB started implementation of the second Poverty Reduction Strategy Paper (PRSP II)⁶ in 2010. The PRSP II is promoting food diversification for the poor. In addition, the GOB has recently (April 2011) completed the formulation of the ‘Country Investment Plan (CIP) – A road map towards investment in agriculture, nutrition and food security’. It is called the ‘Mega Plan’ for the country with a total budget of USD 7.0 billion. The present GOB Vision 2021 envisaged the CIP for poverty reduction. GOB has announced its willingness to finance around 50% of the total CIP budget, from which more than 50% resources will be allocated for agriculture sectors.

Denmark remains committed to assist Bangladesh achieving the 2015 Millennium Development Goals, implementing the Paris Declaration, and fulfilling Bangladesh’s own growth and poverty reduction strategies and plans. Since ASPS II was formulated there has been a reorientation of priorities and focus for Danish development assistance, with an increased emphasis on economic growth and employment, through private sector and business development. However, poverty reduction, gender equality, empowerment of women, support to poor and marginalised groups and indigenous people, sustainable development and good governance, all remain within the overall goal of Danish development cooperation⁷.

3.2 FFS within ASPS II in Bangladesh

ASPS II is composed of three Programme Components: i) AEC; ii) RFLDC; and iii) the Rural Roads and Market Access Component (RRMAC). Only FFS interventions under AEC and RFLDC are covered by this Evaluation⁸.

AEC aims at developing improved extension systems to support poor, marginal and small farmer households, by using FFS and group development concepts. AEC is mainly targeting the poor, marginal and small farmer households cultivating 0.2-1 hectare (ha) of land in the northern and north-western region, although with a national coverage.

AEC is implemented by the DAE as lead agency in collaboration with three associate agencies: the Seed Wing within the Ministry of Agriculture, the On-Farm Research Division within the Bangladesh Agricultural Research Institute (OFRD/BARI) and the Agricultural Information Services.

RFLDC focuses on fisheries and livestock development in the District of Greater Noakhali and Barisal Division in the southern coastal area of Bangladesh⁹. RFLDC builds on previous efforts under ASPS I in the same region, with an added focus on the

6) Steps Towards Change: National Strategy for Accelerated Poverty Reduction (FY 2009-11)’.

7) The Danish strategy for development assistance: ‘Freedom from poverty – freedom to change’ (2010).

8) The FFS sessions for RRMAC participants are carried out as a separate activity within RFLDC, and represent a somehow special, added-on case. In addition, the RRMAC FFS sessions compose only a relatively minor proportion of the total amount of FFS’ carried out within RFLDC and they have only been implemented more recently, which would make it difficult to assess any results yet from these interventions.

9) Although differences appear between FFS in respectively, Barisal and Noakhali, for the analytical purpose of this evaluation, FFS within RFLDC will be considered as one. Reference to possible differences between Barisal and Noakhali will be made during the analysis if deemed necessary and important for interpretation of results.

more remote and marginal coastal and char lands, characterised by high concentrations of poverty. RFLDC is implemented by the Ministry of Fisheries and Livestock as lead agency. Line departments, the Department of Livestock (DLS) and the Department of Fisheries (DOF), are responsible for monitoring and managing of RFLDC activities.

The FFS approach is being implemented within both AEC and RFLDC and is intended to contribute to achievement of the overall development objective of ASPS II: *“Improved living conditions of poor, marginal and small farmer households through enhanced, integrated and sustainable agricultural productivity”*. Through FFS, ASPS II aims at incorporating a demand driven and integrated approach to agricultural extension, focusing additionally on involving rural poor women as well as on promoting farmer organisations and presenting a holistic perspective to the sectors covering primary producers as well as processing and marketing. Moreover, the FFS approach within ASPS II has a solid emphasis on nutrition issues, which links ASPS II efforts in terms of agricultural diversification, in particular into livestock and fishery/aquaculture with increased awareness about production, food use and nutrition linkages.

The **overall purposes of FFS** are common for both programme components in ASPS II (AEC and RFLDC):

- to provide an environment in which farmers acquire the knowledge and skills to improve production and income from their agricultural field crops, homestead (vegetables, fruits, livestock, poultry) and fish cultivation through application of sound farm management decisions;
- to sharpen farmers’ abilities to make critical and informed decisions that make their farming activities more profitable and sustainable;
- to improve farmers’ problem solving abilities;
- to allow farmers to discover the benefits of working in groups and encourage group activities and group formation, including the development of farmers organisations for input and output deliveries and advocacy roles; and
- to empower farmers to become ‘experts’ on their own farms and to be more confident in solving their own problems.

FFS within the two components follows the same principles (Box 3.1)

Box 3.1 Key Principles followed in FFS within AEC and RFLDC

1. **Farmer centred:** the FFS consists of field studies and special topics, based on farmer-identified problems.
2. **Group-based discovery learning:** FFS is a group-based learning process using the farmers' own experience. The learning is done in the field in small groups doing comparative studies/experiments (discovery learning). Farmers learn together and from each other.
3. **Learning focused:** FFS is not top-down technology transfer but is learning focused. The field is, and provides learning material. Farmers' experimentation is part of the discovery learning. Farmers are encouraged to experiment in their own fields.
4. **Facilitators:** FFS requires competent, skilled facilitators, able to facilitate the learning process; no teaching. Facilitators create a suitable learning environment, provide back-stopping and facilitate learning by asking questions. Competent facilitators should have good technical knowledge but also a certain attitude. It requires good mentoring, on-the-job training and experience to become an expert facilitator
5. **Empowerment:** farmers make all decisions in FFS by collecting data – analysing data – making decisions – reaching group consensus. Participants have the right to make mistakes, and learn from their mistakes. Farmers develop confidence in their abilities and local knowledge. FFS improves farmers' communication, conflict and problem solving abilities, leadership and discussion skills.
6. **System approach:** FFS is a system approach: it considers the farm and the whole agro-ecosystem in the learning process. Agro-Eco-System Analysis (AESA) or Farm Management Analysis (FMA) is applied to assess the system.
7. **Community based:** FFS is participatory and community based. Success depends on involvement of individual farmers and the community. Activities have to continue over a long period of time to be effective. Key for sustainability is farmer ownership of the process at all levels.

Even though the same FFS approach is followed in the components (same purpose and key principles) there are important differences in the methods used for FFS implementation within AEC and RFLDC. These will be discussed in Section 3.3 and 3.4.

3.3 FFS Methodology in ASPs II

The FFS methodology was originally developed in conjunction with the Integrated Pest Management (IPM) programmes with the objective of helping farmers to understand the ecological interactions in their crop production system, to enable them to manage this system, making use of the natural resilience of the system and limiting the disturbing influence of outside factors.

FFS started with rice, in order to promote the use of biological and integrated pest management as an alternative to chemical control, but has gradually been applied to other crops, livestock, fisheries, non-'agricultural' production, general livelihood issues and

environmental management. The curricula of agricultural FFSs has broadened to include all aspects of farm management e.g. soil and nutrient management, post harvest management and marketing.

Mastering those skills requires a learning process, which is best/only achieved 'on the spot' using an experiential learning cycle methodology. To achieve this, thorough observations in the 'field' over a substantial period of time (the 'production' season) at regular intervals and with continuous analysis of developments and effects of management interventions is required. As the learning takes place in the field, and the field provides the learning opportunities, the term 'Farmer Field School' was introduced. To guide this learning process in the field the AESA methodology was developed¹⁰.

As the FFS is a group-based learning approach, a strengthening of the group and social skills is important, also in view of the intention of the FFS approach to encourage group formation for continuation, sustainability and further development of the acquired knowledge and skills of the individuals and the community.

Although transfer and introduction of improved technologies take place during FFS sessions, FFS is primarily considered a learning methodology, whereby the 'extension agent' acts as facilitator of the learning process rather than as trainer.

FFS within AEC

FFS in AEC within ASPS II is a continuation of the FFS approach as applied and developed during the previous programme support phase, ASPS I, where the FFS Integrated Crop Management (ICM) was piloted focusing on a Season-Long Learning using one (field) crop, such as rice (different seasons) and vegetables.

In AEC there has been a continuation with ICM-FFS on rice, but the curriculum has been adjusted to include sessions related to homestead activities of women and the formation of Farmer Clubs as a structure where the farmers can continue group dynamics and interaction on ICM related activities. The clubs also provide opportunities for organising income generating and social activities within the communities, as well as possibilities for group saving and provision of loans to the farmers¹¹. AEC applies the AESA as Experiential Learning Cycle methodology in the rice sessions and, to a lesser extent, in the homestead related topics.

Towards the end of the season each FFS organises a Field Day where the FFS farmers get the opportunity to show what they have learned to other farmers in their community. Often they also invite some key persons (e.g. local politicians, school teachers, etc.) who can help promote IPM/ICM and who can play a role in assisting the Farmers Club.

After completion of the FFS sessions, AEC continues to support the FFS farmers/Farmer Clubs with five follow-up sessions throughout the next season on topics selected by the

-
- 10) AESA includes a series of learning methods and tools to guide the participants through the learning process to master the skills of observation, evaluation, analysis and decision making. Methods, activities and tools applied in the AESA are carefully and purposely selected and are based on non-formal, participatory adult education principles. AESA is not only practiced in the field: processing the collected information, discussions on the observations and analysis of the outcome is a group process generally performed in the 'classroom' (a shed, a big tree or just an open space close to the field/pond/stable/pen). Usually, an AESA will take 1.5-2 hours per FFS session.
 - 11) Requirements for club membership vary from club to club and are set by the members with guidance from AEC.

farmers themselves (e.g. livestock, poultry, fish-farming) during the previous club sessions of the FFS. In AEC the 'households' are the FFS members¹², addressing both the female and male members (generally husband and wife)¹³.

In those Unions where there are at least three Farmer Clubs, the AEC supports the formation of Union Farmer Associations (UNFAs), with the objectives to continue activities generated by the FFS process, to build local institutions for FFS implementation, to strengthen marketing activities and to benefit from becoming a larger voice in articulating farmers' demands (economy of scale).

Three different categories of trainers are responsible for FFS training within AEC:

- i) Eight **Master Trainers** who are among the key technical staff contracted and financed by AEC. They are responsible for monitoring FFS activities, training of the Departmental Trainers, and they take part in the development of curricula and supervision of the FFS activities.
- ii) 684 active **Departmental Trainers**, of whom only 22 are women. Departmental Trainers are all local (Upazila/Union level) DAE staff¹⁴. In ASPs I and during the early days of AEC, the Departmental Trainers ran FFS, but presently they are mainly backstopping the Farmer Trainers and in charge of Upazila and District level coordination.
- iii) 1,390 active **Farmer Trainers**, of whom 200 are women. The Farmer Trainers are all previous FFS participants. They are selected by the Departmental Trainers during the FFS and stand out on performance, enthusiasm, eagerness and initiative. After they have been proposed by the Departmental Trainer, the potential Farmer Trainer is interviewed by the Master Trainer who then makes the final selection. AEC aims at giving preference to women to become Farmer Trainers.

FFS within RFLDC

There are different historical experiences with FFS within Noakhali and Barisal, which have influenced the development of FFS in the two sub-components.

In **Noakhali**, the Greater Noakhali Aquaculture Extension Component (GNAEC) started in 2002 with a Participatory Action Learning method on Integrated Prawn Farming with Integrated Prawn Farming Groups. Although called FFS, the learning sessions did not follow the above-described FFS AESA methodology and were open for any member of the community. Along with the development of the participatory extension method, GNAEC also experimented with group/organisation formation, resulting in the establishment of Community Based Organisations (CBOs) as service providers.

The main difference between the FFS implemented by GNAEC and the one being implemented by RFLDC-Noakhali from 2007 has been the learning scope. The FFS implemented in RFLDC-Noakhali started with common planning sessions for men and women, including needs assessments. The curriculum offered four main technical modules mainly related to homestead opportunities: poultry (chicken and ducks), livestock (cattle,

12) This is different from FFS in ASPs I where it was one member per household only.

13) The AEC requirement of one male and one female participant may have, inadvertently, excluded female-headed households in the past, but, during the current and future seasons, AEC appears to be making efforts to change this bias and include female-headed households as well.

14) There are very few female staff at the field level of DAE.

goats and sheep), fishery/aquaculture and homestead gardening (vegetables and fruit). In addition, supplementary modules were offered on health, nutrition and social issues. Each module included three to 10 sessions. The total programme of up to 36 sessions was offered over a period of 18 months at bi-weekly intervals. When not relevant for the participants, certain modules were skipped or shortened. This means that group size and composition could vary according to the module. Only one of the household members (male or female) participated in each session, depending on the focus of the module.

In **Barisal** there were no formalised FFS activities prior to ASPS II, although Patuakhali and Barguna Aquaculture Extension Component (PBAEC) conducted, from 1998, Integrated Prawn and Gher Farming, which included the integration of participatory methods and practical demonstrations that resembled the FFS-principles. In 2007, RFLDC-Barisal began household production-system based FFS, addressing both male and female household members based on the experiences from the PBAEC. Although not identical to the one in Noakhali, the FFS curriculum used in Barisal covered most of the same topics. The nutritional issues module was separated in three sessions for both men and women, while the fourth session was solely for women (specific women health issues). Though not mandatory, in general the fishery/aquaculture module was offered to male participants, and the livestock module to female participants. The whole programme was offered over a period of 10-12 months.

From 2010, RFLDC-Barisal has developed a common curriculum with RFLDC-Noakhali, offered over 18 months and which basically follows the existing Noakhali curriculum. The approach has moved away from the household-based participation (one man and one woman from each household), into an individual-based approach (either man or woman from the household).

The FFS methodology used in RFLDC includes an Experiential Learning Cycle, but does not follow the AESA methods and structure as applied in AEC. Instead, it applies FMA, which is, according to the FFS guidelines, applied at each FFS session with the same objectives as AESA.

The FFS is facilitated by Local Facilitators. RFLDC-Barisal currently has a total of 432 Local Facilitators, of which 82 are women, and RFLDC-Noakhali a total of 465 Local Facilitators, of which 221 are women. All facilitators are from rural families, but normally they do not have personal experience as an FFS participant. Although men are still in the majority, priority is given to bring the team of facilitators more in balance with the composition of the FFS participants. The facilitators are employed by a CBO and apply for the job when it is advertised by the CBO. They then have to pass a written and oral test with the CBO representative and the Upazila Programme Coordinator.

3.4 Comparison of FFS Methods in AEC and RFLDC

As stated earlier, there is, in view of the Evaluation, no fundamental difference in the FFS approach (purpose, principles and even basic methodology) between the two components. However, they differ in the actual methods used. The main differences in FFS methods between the two components are illustrated in Table 3.2.

Table 3.2 Main differences in FFS methods between AEC and RFLDC

Topic	AEC	RFLDC	Implications of differences in FFS methods between the components
Season	The FFS season covers 20 weeks with 20 sessions	The FFS season covers 18 months with a maximum of 36 sessions	<p>AEC: FFS participants receive training and support during two seasons: the first season with intensive training and practice during weekly sessions, the following season through support for experiments, practising FFS learned skills on other crops, income generating activities and field studies.</p> <p>RFLDC: FFS participants receive training and support over an 18 month period, although not constantly and not for all members in the same intensity. The support consists of 'formal' FFS 'learning' sessions and advice during implementation in their own 'field'.</p>
Training	<p>One main crop addressed (rice) with 11 (bi)weekly sessions (for men) spread over the cultivation season, with six sessions using an intensive AESA. Participants are a 'fixed' group of 25 men.</p> <p>Four homestead sessions are attended by a fixed group of 25 women only and include a variety of topics, with emphasis on poultry, small livestock and homestead vegetables. There seems to be a limited AESA for the vegetable sessions.</p> <p>Five sessions on group formation and general and social issues are attended by all 50 participants from the 25 households</p>	<p>Six different modules¹⁵ offered with different topics. The duration of the individual modules varies between three and 10 sessions</p> <p>Each module is attended by a maximum of 25 participants from different households (men or women). The group is fixed for the duration of the module. Different modules may have different participants (but have to come from the member households)</p> <p>There are no sessions attended by all participating (male plus female) household members together.</p>	<p>The male AEC FFS participants have undergone an intensive, season-long training on improved rice cultivation and spend a substantial amount of time on mastering and practising through AESA; the female AEC FFS participants will have received only superficial experience with AESA and therefore will have had less opportunity to develop their problem solving and decision-making skills.</p> <p>The FMA, applied in RFLDC, is in theory applied in each session but, as understood by the Evaluation, in practice only at the beginning as participatory problem and opportunity analysis for the topic of the module, and at the end of the module to evaluate the suitability of what was learned during the module sessions.</p> <p>The RFLDC participants will, through FFS, have received training on several aspects of their household enterprise. The coverage will have been more superficial compared to the rice sessions in AEC.</p>

15) Since 2010, RFLDC-Barisal and RFLDC-Noakhali use a common curriculum, based on the curriculum already applied in Noakhali.

Hours	The FFS sessions last for 3.5-4 hours.	The FFS meetings are bi-weekly and last for 2-2,5 hours	Although the number of AEC FFS sessions is less than those of RFLDC, the duration of the AEC FFS sessions is longer. The total number of 'contact hours' is therefore similar for the two components.
Trainer/ Facilitator	The FFS is facilitated by a team of two Farmer Trainers ² (both men or a woman plus a man)	The FFS is facilitated by one Local Facilitator, either a man or a woman.	The AEC FFS communities can depend on, and have build trust with, two Farmer Trainers during the training and for support afterwards. The RFLDC communities have only one Local Facilitator they are familiar with (although each CBO has two Local Facilitators available).
Group formation	Group formation is integrated in the FFS curriculum and capacity building starts early in the FFS season.	Group formulation/ CBO is discussed as a sub-topic in one of the modules, but not in a systematic way and not with a focus on capacity building	AEC encourages FFS farmers to form Farmer Clubs at the end of the FFS season. The Farmer Club is 'owned' by the households who participated together in the FFS. The RFLDC graduates have (sometimes) the opportunity to join a CBO for which they feel less ownership as individual and as group.

Towards an Integrated Farm Management curriculum¹⁷

To address the interest and needs of the small, sometimes landless, Bangladeshi farmers, and to bring unity in the different FFS curricula used in the ASPS components, an IFM-FFS curriculum was developed by the AEC, RFLDC-Noakhali and RFLDC-Barisal¹⁸. The IFM-FFS is presently being piloted at 68 locations (AEC is implementing 25 in north and northwest Bangladesh; RFLDC-Noakhali and AEC are together implementing 28 in Noakhali; and FAO is implementing 15 in the area of Barisal). The objectives of the IFM-FFS are similar to the ongoing FFS.

The developed draft curriculum combines the existing AEC and RFLDC curricula and consists of nine modules with 58 sessions related to preparation, introduction and evaluation, club formation, nutrition, 'other social issues', and production related topics: homestead vegetables & fruits, poultry, aquaculture, cattle fattening, dairy farming, small ruminants and rice cultivation.

Farmers with the same resources will select those modules that are relevant to their needs. Common modules for all farmers include participatory baseline, monitoring and evaluation and food safety, health and nutrition. FFS participants will make a choice of 2-3 modules and an FFS will cover 20-25 sessions.

The curriculum is offered to 25 households, whereby men and women can participate in mixed or gender separated groups. The maximum number of participants is 25 per module and the same person is expected to attend all sessions of one module. To run a specific module in a feasible manner a minimum of 12-15 individuals should participate.

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- 16) An approach started during ASPS I where selected previous FFS participants were gradually trained to replace the governmental Departmental Trainers.
- 17) Mainly based on available information from 'Draft Curriculum Framework FFS on IFM'.
- 18) Together with the technical support from FAOs regional office in Bangkok.

3 BACKGROUND AND CONTEXT

AEC has recently revised the initial IFM draft curriculum to a two-phase curriculum including a FFS phase (six months with 47 sessions) and a club phase (three months with 11 sessions), spread over a period of about nine months. AEC has started piloting this revised model of the IFM-FFS curriculum in north and northwest Bangladesh

Evaluation of the pilot IFM-FFS will have to show whether the implementation of FFS, with such a complex integrated curriculum, is feasible and practical. The AEC Farmer Trainers and RFLDC Local Facilitators receive a four week refresher course through Season-Long Learning sessions to prepare them for the new curriculum.

4 Key Findings from Application of the FFS Approach within AEC

4.1 Relevance

Bangladeshi and Danish policies and strategies for economic development and food security

The Evaluation finds that FFS, as implemented within AEC, is well in line with the national strategies for economic development and food security in Bangladesh. In particular, the FFS interventions are well aligned to the GOBs implementation of the PRSP II of Bangladesh (2010) and the Actionable Policy Brief (2004)¹⁹, especially on major issues such as pro-poor economic growth and improved human nutrition through agricultural development and related issues. Moreover, the AEC fully supports the GOB targets on increased rice production for achieving national food security.

FFS within AEC is also in accordance with relevant national policies, including the National Agricultural Policy. In particular, it is noted that the FFS approach is fully congruent with the suggestion in the New Agricultural Extension Policy, to apply a group approach for delivery of extension services.

Finally, the AEC FFS interventions are considered relevant in view of the CIP for Bangladesh, which gives priority to sustainable and diversified agriculture through integrated research and extension, addressing crop, livestock and fisheries sectors as key areas for increasing production, food security and nutrition assurance for the poor people in the country. Moreover, the FFS interventions also fit very well with the intentions of the CIP to extend the existing extension services through community based learning approaches for the farmers. The CIP is also giving thrust to value chain development.

In terms of Danish strategies and policies, the Evaluation finds that, to a large extent, the FFS modality applied in AEC is relevant, in view of the prevailing Danida strategies and policies at the time of programme formulation²⁰. Danida's overall goal at the time of ASPS formulation was poverty alleviation, which is clearly reflected in the AEC approach of targeting poor farming households, although the target group does not include the poorest people without access to land (such as day labourers).

In terms of gender equality, the Evaluation finds that strong efforts are resulting in progress being made by AEC to promote women's rights to education, new technology, and economic empowerment, on equitable terms with male farmers, through (non-formal FFS) education, savings and credits (through the Farmer Clubs), and by providing 'equal' job opportunities for local women and men as FFS facilitators. In practice however, there is still some way to go before the women are able to take equal advantage of these opportunities.

AEC implements FFS in a few ethnic minorities' and indigenous people's ('Adivasi') communities in geographical pockets in north and northwest Bangladesh, which is a small,

19) Prioritize immediate medium-term and long-term policy measures with respect to seed, fertilizer, land, irrigation, mechanization, marketing, agricultural research and extension with a view to increasing labour and water productivity, investment in agriculture and improve risk management.

20) Danida's 'Partnership 2000' strategy.

but important, attempt to meet key Danida principles and objectives of support to indigenous peoples, outlined in the 'Strategy for Danish Support to Indigenous Peoples' (2004). Likewise, as a support to Adivasi communities, AEC offered one of seven Adaptive Research Projects available to a project on 'Adivasi Livelihood Improvement' through development knowledge and conservation methods in the Barind region of Bangladesh through a local NGO.

FFS content

The Evaluation finds that in general the FFS content is appropriate for the objectives of AEC: i) it allows farmers to gain the knowledge and skills they need to improve their production and income through application of informed crop management decisions; ii) it improved the farmers' problem solving abilities; and iii) it allows the participants to discover the benefits of working in groups, and it encourages group activities and group formation. Recently, AEC has included few discussion points on climate change adaptation in club session. However, more attention to the climate change issue is given in the Farmers Clubs where OFRD/BARI is conducting adaptive research trials and demonstrations on new technologies with participation of the Farmers Clubs²¹. The addition of special sessions to prepare and assist the participants in club formation is considered an asset to the establishment of sustainable and effective groups and an improvement of the practices used under ASPs I.

Farmers' motivation for participation in FFS was claimed by farmers themselves to be a desire to become better farmers, learn new skills and technologies to improve their production and income, to reduce poverty, and to gain access to safe group saving facilities and attractive loans as members of a Farmer Club. The interest the farmers show in learning more after the FFS, on previously covered topics or on new topics, seems to be more an interest in further improving knowledge and skills, than a sign of lack of coverage of the topics in the FFS. The five allocated follow-up sessions in the following season are therefore an important addition to the FFS curriculum.

FFS technologies

The majority of the technologies presented and discussed during FFS appeared to be very relevant: almost all FFS participants stated that they apply/would apply what they have learned. An exception was the Improved Cooking Stove model, which is introduced to female FFS participants as a separate session. This had a very limited application and appreciation among the women: it was deemed to be technically inappropriate (wrong model not matching their needs) and too expensive. In addition, spare parts were not easily available and some husbands were against spending money on a stove.

4.2 Efficiency

FFS methodology

From the interviews carried out with Farmer Trainers it appeared that they have a clear understanding of the objectives of AESA and recognise the importance of it in the training of the farmers to become capable decision makers. When visiting the rice field with male FFS participants, it was evident that in the rice FFS sessions AESA was practiced and that the participants understood the concept quite well.

21) This was a recommendation from the "Climate Change Screening of ASPs II, Bangladesh", conducted by Orbicon A/S in 2009.

Training approaches

From the observations made by the Evaluation, it was found that AESA is ‘properly’ applied in, and applicable for, the 11-sessions lasting field crop (rice) FFS, but not in the short four sessions on homestead for women, where it appeared more difficult to apply the AESA. It appears that this is partly due to the set-up of the ‘women’ sessions, in which the content is too diverse and time allocated to each topic is limited, and partly due to limitations of the Farmer Trainers to ‘translate’ the rice AESA adequately for use in other topics²². Moreover, it is a limitation that the FFS approach is only thoroughly applied with male participants for rice and that no other crops are included, which may have a potentially high economic interest (higher than rice).

Selection of farmers for FFS

Discussions with Farmer Trainers and FFS households indicated that selection of FFS participants within the villages is mostly done through the following procedure: A village meeting is organised, conducted by the Farmer Trainers, with presentation and discussion of the possibility to become participants in FFS. This is followed by a listing of those village households that express interest in participating and fulfil the selection criteria. According to the Farmer Trainers and villagers, this process often leads to listing of exactly 25 households for the FFS. It was never fully clear to the Evaluation how significant the self-selection factor and the excluding factor (by other village farmers) were in these processes.

Given the AEC selection criteria for FFS participants there was some tendency during the first years of implementation of AEC within ASPS II, for young widows and other women from female-headed households, to be excluded from participating together with landless and some of the share-croppers²³. In addition, there appears to be an element of self-exclusion among the male day labourers who own small land plots, but cannot afford to allocate time to participate in FFS, themselves, and would not allow their wives to participate with other men in the rice FFS.

Trainers for FFS – selection and delivery

In terms of trainers, the current gender and ethnic imbalance in the team of Master Trainers, Department Trainers and Farmer Trainers is providing limitations to the FFS approach. The eight Master Trainers are all men and all from the government system. The fact that none of the Master Trainers are women and none from a private sector background is, by the Evaluation, considered to be a contributing factor to AEC’s challenges in terms of attracting female trainers and supporting marketing activities (see discussion in Section 4.3).

It seems inappropriate to have native Bangla speaking (Muslim male) Farmer Trainers for indigenous women (and their husbands) in the northern and north-western plain areas (such as the Hindu ‘Santal’ communities). Important messages may be lost in translation from Bangla to local languages, at least to elderly women that don’t understand and speak Bangla well, and important cultural/religious differences between the FFS participants and the Farmer Trainers may be hampering the results of the FFS sessions.

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- 22) In one of the attended FFS sessions the women went a few minutes into the vegetable plot and sat down to record their findings on sheets, but what they observed and what they recorded and reported was far from being a useful AESA: it definitely did not assist the participants to develop their observation and analytical skills, let alone presentation and discussion skills.
- 23) Since 2010 AEC is emphasizing the inclusion of women from female-headed households and also widows in the FFS.

Farmer Trainers

Many of the Farmer Trainers regarded their job as an opportunity to improve their personal agricultural production skills and to increase their status in the community and as a kind of (voluntary) service to the community. Female Farmer Trainers also considered the job an opportunity to expand their social life and mobility. Only very few women, however, show interest in becoming a Farmer Trainer. The main reason appears to be that women's household responsibilities do not permit them to spend the 5-6 hours per FFS day which are required if they want to become Farmer Trainers.

The condition within AEC that Farmer Trainers should be former FFS participants is considered positively by the Evaluation, as it appears to give them a clear advantage in the 'teaching' situation. The Farmer Trainers interviewed by the Evaluation were generally slightly better educated than the AEC requirements of "having at least grade 8, but not be too highly educated". Given the general level of education of the farmers in north and northwest Bangladesh (many of them had primary school) the actual level of education of the Farmer Trainers is considered to be appropriate here.

The Evaluation also fully agrees with the consideration of AEC that the personal facilitation, organisational and leadership skills are crucial for a good Farmer Trainer and are important selection criteria. As these skills and related personal attitudes can only be properly assessed by observations in real situations, the observations and opinions of the Departmental Trainers in charge of the FFS and a personal assessment by the Master Trainers are essential. This may introduce a personal bias, but in this case a positive bias towards assuring that the Farmer Trainers with most potential for success will be selected. The interviewed Farmer Trainers confirmed that this process was followed, and that their personal commitments and social skills had been important in the selection. AEC should be cautious though about potential personal preferences of Departmental Trainers and Master Trainers, in particular gender bias. However, the condition that each team should consist of a male and female Farmer Trainer forces the selection of women in case of remaining imbalance.

Farmer Trainers are expected to have a strong interest in, and be committed to, their community. AEC also encourages this by requiring the Farmer Trainers to be active Farmer Club members. All of the interviewed Farmer Trainers were Farmer Club members and were active in their community in general. They considered the service they provided to their community as an important incentive of the Farmer Trainer job.

The training delivered to the Farmer Trainers is found to be useful²⁴ and efficient. The Evaluation especially supports the set-up of having the Farmer Trainers, after a three week basic introductory course, enrolled in a season-long 'practice' FFS as apprentice to an experienced and highly qualified Departmental Trainer. The Farmer Trainers will only graduate, and receive the certificate, after successful completion of the apprenticeship. The basic course of three weeks may suffice to start with, as all Farmer Trainers are already familiar with the FFS approach and the used methodologies and methods. However, additional training is required for new topics and as a refresher of existing topics.

Departmental Trainers

The ToT for Departmental Trainers (conducted by Master Trainers) consists of 70 days intensive, residential training given during six 'spells' of two weeks each over a period of

24) The Farmer Trainer Survey (2009) and the District Trainer Survey (2009) pointed towards a large satisfaction with the training provided.

six months: (two weeks 'on', two weeks 'off'). The Evaluation finds this a useful set-up as it allows the DAE staff to participate in an intensive, season-long training, including a full season supervised practice FFS, and still allows them to do their other departmental duties in the off-weeks.

The ToT curriculum includes all aspects of preparing, running and evaluating a season-long FFS. One observation made by the Evaluation, however, is that the ToT curriculum appears rather technically biased, with limited focus on socio-cultural issues and facilitation skills. In terms of the latter, it was argued by the trainers that the participants all have received facilitation and communication training during their formal agricultural college or university education. Even though the Master Trainers themselves apply participatory facilitation skills as much as possible during the ToT, there is doubt whether that training really caters sufficiently for the specific participatory facilitation skills needed by the trainees in FFS. This is especially important as being a 'facilitator' instead of a 'trainer/teacher' is the most difficult skill for people educated in a traditional top-down schooling system.

The Evaluation observed that the programme for the ToT training only allocated half an afternoon (approx. 1.5 hour) to monitoring, backstopping and coaching of Farmer Trainers, which is considered very little compared to the importance of these aspects in the current and future tasks of the Departmental Trainers in the FFS implementation.

4.3 Effectiveness

Achievement of intended outcomes and outputs

Outcome indicators

The Immediate Objective of the AEC related to FFS interventions is: *Improved, demand driven, integrated, and decentralised extension systems developed to support poor, marginal and small farmer households*. The following targets have been established for AEC FFS interventions:

- income increase of target groups: 15%;
- percentage of households with food deficit in four deficit months of the year: 10%; and
- increase in crop yields in target households: 10%.

Based on the indicative results from the AEC Mid-Term Evaluation data (see below), the Evaluation finds good indications that the established targets for AEC FFS interventions at the outcome level will be met.

As an indicative result, the AEC Baseline Study²⁵ indicated that the average monthly income of farm households was BDT 7,102 compared to BDT 12,017 for FFS households in the AEC Midterm Evaluation. This gives an income increase of 69% (current prices)²⁶ as compared to the established target of 15%.

25) As mentioned in the evaluation methodology in Chapter 2 and further explained in Annex 2, the data collected through the AEC Baseline Study and the AEC Mid-Term Evaluation are not directly comparable in a strict statistical sense although indicative results may be drawn.

26) 36% in real terms (adjusted for inflation). According to the Bangladesh Bureau of Statistics, the Consumer Price Index rose by 24% between 2007 and 2010.

4 KEY FINDINGS FROM APPLICATION OF THE FFS APPROACH WITHIN AEC

The AEC Farmer Survey, carried out in 2009, included a question on whether the farmers' income had increased, decreased or stayed at the same level as it was before FFS. According to the survey, 95% felt that their income had increased after joining the FFS²⁷. In terms of yield, the Farmer Survey indicated that 87% of the trained farmers had increased their crop (rice) yield (no indication of the size of this increase). It must be noted that other factors than FFS have stimulated rice production development during this period, such as increases in rice prices and harvested land (see Annex 1).

In terms of food insecurity, while the AEC Baseline Survey indicated that 10% of the households had food insecurity in four deficit months (mid-September to mid-November and mid-March to mid-April), the comparable figure was 5% in the AEC Mid-Term Evaluation for FFS households. In terms of food supply at household level, the AEC Baseline Survey indicated that 37% of the households were secured of food supply from their own farm or from income they earned through economic activities compared to a proportion of 91% in the AEC Mid-Term Evaluation. This means that around half of the surveyed FFS households had improved their food security.

With regard to production, rice production was estimated to 22.5 kg/decimal in the AEC Baseline Survey compared to a figure of 24 kg/decimal in the AEC Mid-Term Evaluation, or an indicative 7% increase. From the AEC Farmer Survey it was found that production of rice had increased among FFS farmers, mainly due to the use of higher yielding varieties and more appropriate application of fertilizers and pest management. The FFS farmers also applied the new techniques to other crops, notably vegetables. It was also found that these cultivation practices were replicated by other farmers in the area to a large extent.

Output indicators

Table 4.1 provides an overview of the number of FFSs and farmers reached through AEC (targets and achievements).

Table 4.1 Number of FFS and farmers reached through AEC (by December 2010)

Indicators	Programme targets (AEC)*	Planned by end of December 2010	Achieved by end of December 2010
Total number of FFS established/completed	10,484	9,121	8,837
Number of male and female farmers trained through integrated Crop Management FFS for one cropping season (20 session days)	Male: 262,100 Female: 262,100	Male: 228,025 Female: 228,025	Male: 220,925 Female: 220,925

*Source: Data provided by AEC. *For the period 2006-12.*

According to AEC data from December 2010, AEC is only deviating slightly from the planned target numbers for established/completed FFS. The main reasons that the planned number of FFS has not been fully achieved include lack of facilitators, flood and disaster and cancellation by the Master Trainers of some FFS considered to be below standard. AEC is however expecting to catch up and be able to achieve the target by the

27) It should be noted that 36% of the surveyed farmers received ICM training while 64% received IPM training.

end of the programme period. This means that, by that time, more than 10,000 FFS will have been established and sessions completed.

In terms of the number of farmers reached through FFS, the progress has also been satisfactory so far²⁸. Progress is expected to continue, meaning that by the end of the programme period, more than 250,000 families will have participated in FFS organised by AEC. The programme target of 25 households per FFS has so far been achieved, with one male and one female participant from each household.

Group formation

Table 4.2 Number of Farmer Clubs and UNFAs (by December 2010)

Indicators	Programme target (AEC)*	Planned by end of December 2010	Achieved by end of December 2010
Number of new Farmer Clubs established and existing	Farmer Clubs: 7,338	Farmer Clubs: 6,384	Farmer Clubs: 6,367
Farmer Clubs organised into UNFAs	UNFAs: 2,000	UNFAs: 1,519	UNFAs: 1,469

Source: Data provided by AEC. *For the period 2006-12.

In total, 6,367 Farmer Clubs had been established by the end of 2010, and this was only a very minor deviation from the target. All Farmer Clubs formed from FFS during ASPs II include both male and female members.

Estimates from AEC indicate that on average 72% of the FFS will end up establishing Farmer Clubs (from which not all end up being sustainable, see also Section 4.5). The Evaluation has not found indications that other type of group structures than Farmer Clubs and UNFAs have been established due to FFS within AEC.

All FFS members, both men and women, are encouraged to become members of the Farmer Club. However, it appears that the clubs have not contributed significantly to gender equality in leadership and decision-making, except for a few women-only Farmer Clubs²⁹. Electing or appointing female members to chair, treasurer, secretary or ordinary member positions in the executive committees or boards, based on an established minimum 30% quota, does not necessarily give women more decision-making power. Nor is that quota fair to women and promoting gender equality.

The discussions carried out with Farmer Club members during fieldwork pointed clearly towards club activities mainly decided and driven by men. In case of the credits provided by the clubs, even though they are provided to the ‘households’ (and not specifically to either men or women), they seemed in most cases to be managed entirely by the men. The Farmer Clubs do not operate with ‘gender-budgeting’, which could have ensured a certain share for women activities, to be decided by women, for women.

It was observed from the qualitative fieldwork that those farmers from FFS villages that have not participated in FFS are not usually allowed club membership. This is supported by data from the AEC Mid-Term Evaluation, where only 12% of the Farmer Club mem-

28) There is no reliable data available on the actual number of participants per FFS session, but the impression by the Evaluation is that the actual participation rate is high for both men and women.
 29) 15-20 female Farmer Clubs were formed during ASPs I.

bers state that they have members in their own club, who have not participated in FFS. The (official) explanation for this exclusion is a presumed lack of discipline (e.g. for savings) and lack of technical knowledge that the FFS participants had obtained through their learning sessions.

Close to 1,500 UNFAs had been formed by the end of 2010. This was only slightly below the target. During the last couple of years the UNFAs have been established on a large scale simultaneously at the Union levels.

The Evaluation found limited progress in most of the UNFAs visited during the fieldwork. Although the UNFAs had existed for 2-3 years, the level of activities they were performing was rather basic and not adding much value to what the Farmer Clubs were already doing. Compared to the support that has often been provided by AEC to establishing, organising and, to some extent, also financing the clubs, the support provided to the UNFAs so far has been at a much lower and more ad-hoc oriented level.

In addition, the UNFAs visited by the Evaluation were strongly male-biased, reflecting that it is normally the President of the Farmer Clubs that attends the UNFA meetings.

Marketing

The AEC Mid-Term Evaluation data (Table 4.3) strongly indicates that FFS is being supportive to the farmers with information on marketing. A significantly larger share of FFS farmers than control farmers is referring to Agricultural Extension Officers and Farmer Trainers as a 'most common' or 'common' source of marketing information.

Table 4.3 Farmers sources of marketing information (%)

	Neighbours/friends		Agr. extension staff		Farmer Trainers	
	Control villages	FFS villages	Control villages	FFS villages	Control villages	FFS villages
Most common	41.3	48.0	14.5	19.0	18.9	28.1
Common	45.9	42.2	44.3	60.2	36.9	58.3
Rare	4.1	1.7	<i>20.6</i>	<i>14.4</i>	<i>9.0</i>	<i>5.7</i>
Never	8.7	8.1	<i>20.6</i>	<i>6.3</i>	<i>35.3</i>	<i>7.9</i>

Source: AEC Mid-Term Evaluation.

Note: Main significant (10% level) differences between FFS participating and control households highlighted with bold and italics.

On the other hand, FFS does not seem to have contributed significantly to establishing market linkages and/or joint product marketing/selling among farmers. The qualitative fieldwork revealed that nearly all farmers, FFS farmers as well as control village farmers, are selling their products on an individual household basis and not through, for example, the Farmer Clubs and the UNFAs. In some cases UNFA members' personal contacts have facilitated linkages to research institutions and larger companies for buying farmers production (better prices and more stable demand). In other cases, the UNFAs are still operating at a rather basic level, without any important market connections and functions.

Access to production inputs and services

From the qualitative fieldwork it was found that a number of the Farmer Clubs are involved in seed business. Members from 118 Farmer Clubs have been trained in production of quality seeds (by the Seed Wing within the Ministry of Agriculture) and this appears to have contributed to an increased availability of seeds within these villages, as well as being an income generating activity for the Farmer Clubs. Besides seed production, the Evaluation found no evidence of joint marketing of farmer products in the Farmer Clubs from the visits to AEC activities in north and northwest Bangladesh, although Farmer Club members have been trained in 'Organisation and Business Management'³⁰.

In general, it was found that the farmers, FFS farmers as well as control farmers, were very much aware of the importance of quality inputs and their sources. The FFS interventions often appear to have resulted in closer and better connections between FFS villages and government institutions, in particular the extension services from the Upazila Offices. A number of the Farmer Clubs consulted during the qualitative fieldwork, could provide examples of extensions officers assisting Farmer Clubs (after the FFS training had been completed) with relevant information and facilitating contact to input suppliers and service providers. However, in many cases the farmers are still unable to get hold of these inputs on their own. This is either because farmers lack easy access and money to pay for inputs and services, or, they have bad experiences of being cheated on the quantity and quality, when they approach service providers and pay for services.

The UNFAs could have the potential to become an entry point for input supplies and marketing for the Farmer Clubs and thereby providing incentive for maintaining and further developing these structures. However, for this to happen, a much more strategic and targeted approach towards the UNFAs will be needed in the future.

Education and awareness

According to the ToT and FFS curriculum, the FFS is supposed to address socio-cultural issues (such as child education, child-marriage, dowry, gender discrimination and women's rights, HIV/AIDS, family planning, domestic violence etc.) in the club sessions, which are attended by both men and women. The Evaluation found, however, that these issues were sometimes brought up and discussed in the women's 'nutrition' sessions, and not equally with the men's group.

The Evaluation found that the degree of awareness of the above issues varies among both male and female FFS participants, and seems to depend a lot on the attention and importance that the individual Farmer Trainer pays to those non-technical issues (and also on the importance paid to that during the ToT). The Evaluation also found that just bringing up the mentioned socio-cultural issues during the FFS sessions, has contributed to 'breaking the silence' and spreading the word on sensitive issues and taboos, which most rural women and children are very much victims of, or concerned about as part of their reality.

On the other hand, the Evaluation found no clear evidence from the information provided during fieldwork that FFS household members were notably more aware of these social and socio-cultural issues than household members from control villages. First of all, it was clear from the FGDs that awareness raising goes on at many different levels by many different means, such as radio, TV, newspapers, NGO programmes, schools,

30) According to information from AEC, there are a few UNFAs and Farmer Clubs in the southern part of the country doing joint marketing of their products.

markets, and any other exposure to the outside-village world of any family member. This obviously is impacting positively on the awareness of FFS and control village household members, and both referred to major increases in awareness taking place over the last few years due to improved communication, campaigns etc.

Even though the Evaluation found clear indications of increased awareness, there is obviously still a long way from awareness raising to changing practice and abandoning traditions. E.g. school enrolment is determined by many other factors than awareness (and income) of the parents, such as availability of nearby schools and teachers, parents attitude³¹ and willingness to invest in child education. Especially girls' secondary education is an issue, since the GOB pays scholarships for poor girls' lower secondary school education only, and parents' fear for their daughters' security on the road to school and in the schools, with good reason³².

4.4 Impact

Income and food security

The data show an average annual income of BDT 144,201 among FFS farmers compared to BDT 134,931 for control village households. The difference estimate is significant only without controls. When controls for household characteristics³³ are included, the estimate becomes statistically insignificant and the difference can therefore not be attributed to the FFS interventions. It is not possible, by using the AEC Mid-Term Evaluation data, to attribute observed income increases within AEC FFS households to FFS interventions (Table 4.4).

Table 4.4 Annual income and expenditures (BDT)

	Without controls	Without land/assets controls	Including all controls	Averages	
	ATE	ATE	ATE	FFS	Control
Total income	9,269*	7,043	1,692	144,201	134,931
Total expenditures	9,636*	8,049	4,892	111,416	101,779
Expenditures on education	1,510*	1,381	1,067	5,849	4,338
Expenditures on health	783**	777**	706	4,359	3,575

Source: AEC Mid-Term Evaluation.

Note: The Average Treatment Effect (ATE), indicates the effect from participation in FFS compared to those that have not participated (control village households). * and ** indicate significance at a 10% and 5% level, respectively.

- 31) Still, according to the latest Millennium Development Goal monitoring reports in Bangladesh, almost 50% of children in Bangladesh drop out of primary school for various reasons, and primarily, to work, get married or because of unsatisfying school facilities and services, or poor parents' lack of capacity/willingness to pay for books, pens, uniforms etc. Poor parents seem to prefer to save the money for the girls' marriage and dowry.
- 32) In Bangladesh, according to the media, police statistics, NGO reports and data from the Ministry of Women and Children Affairs, there is an alarming increase in verbal and physical sexual harassment of girls and young women in school and other educational institutions: rape of school girls on the way to school and by teachers and classmates, abductions, kidnapping, blackmailing of parents, and murder of girls after rape, harassment by mobile phone by 'boyfriends' etc.
- 33) See also Chapter 2 on Evaluation Methodology.

The same applies for total expenditures and the share of expenditures used for education and health purposes: as averages (without controlling for household characteristics), these estimates become statistically significant. However, when control for differences in household characteristics is carried out, the estimates become statistically insignificant.

The AEC Mid-Term Evaluation data also provide indications, although not significant, that the relative increases in terms of income and expenditures are higher for the poorer households than for the relatively better-off households.

The AEC Mid-Term survey data indicate a strong production diversification effect from FFS. The total number of agricultural products produced by FFS households is 3.7 compared to 3.1 within control village households. When these figures are controlled for household characteristics, the estimate becomes highly statistically significant (at the 1%) level. This provides a strong indication that the observed difference in diversification between FFS and control village households can be attributed to FFS.

Table 4.5 Sources of total household consumption and income (%)

	FFS villages	Control villages
Home consumption share	46.1	48.1
Crop share of household income	51.2	51.1
Vegetables/fruits share of household income	4.6	3.3
Livestock share of household income	5.4	3.4
Poultry share of household income	1.0	0.7
Wage share of household income	2.9	3.9

Source: AEC Mid-Term Evaluation.

In line with the above mentioned production diversification effect, the AEC Mid-Term Evaluation data also provide indications that FFS has contributed to a change in the relative contributions of sources to total household income (Table 4.5). The FFS households generate their income to a larger extent from livestock³⁴ and vegetable/fruit production than the control village households do. On the other hand, the wage share of household income is larger for control village households than for FFS households.

It is also observed, that while close to 50% of total household income is generated from crop production, both for FFS households and control village households, the income from sale of vegetable and fruit production only contributes 3-5% to total household income.

The results from the AEC Mid-Term Evaluation data are strongly supported by the findings from the qualitative fieldwork. The discussions conducted with both male and female FFS farmer groups confirmed that main household income still comes from the field crop and that the income generated by the women (mainly from vegetable/fruit production) is extra, but still small. It was reported however, that income of the women had increased more than income of the men and that the contribution of women's income to the family income had increased percentage wise.

34) Based on relative few observations.

The qualitative fieldwork also provided indications that FFS households have more cash available and higher capability of spending more cash than before FFS, because they can now save money that they would normally spend on buying food; they are likely to have fewer loans to repay because they earn more money and take less loans (or they take more attractive loans with lower interests, from the Farmer Club), and they can afford to invest more in production or meet urgent consumption needs, such as medical treatment, repayment of debt, child education, and social obligations in the family and community.

Migration/off-farm labour

The qualitative fieldwork provided indications that FFS in AEC has had two (opposing) direct effects on seasonal male labour migration and off-farm employment among some of the FFS households. On the one hand, for those who have managed to lease more land for production or have increased production on the land (due to FFS), this has contributed to reducing male labour migration and off-farm day labouring, because male farmers can now earn the same or more income from rice production on their own land than they earn from labouring. On the other hand, the most successful FFS households, which have increased their land-leasing and production, are employing day labourers, seasonally. This can be considered a positive spin-off effect on the community, in general.

It was confirmed, from the FGDs with control village households that local employment opportunities had increased over the last years. Sometimes, poor ethnic minority and indigenous people (Adivasis) and women are being employed to work in the field during planting and harvesting. However, it appears that the Adivasi female day labourers, like all female day labourers in Bangladesh, are paid less than men for working longer hours with the same work.

Food security

From the qualitative fieldwork, the Evaluation found clear indications that the increased food production (and the increased income from food production) within FFS villages is contributing to increased food security within the FFS households during the annual food deficit periods (mainly the monsoon period and before the rice harvest in October–November). Within the control villages, the Evaluation also found tendencies towards increased food security, however to less extent than within the FFS villages.

Work load and employment

The Evaluation found that for both FFS participants and control village households consulted, men's and women's work loads have increased due to increased production of rice and vegetables etc. Informants found the increased work load a positive thing, because it has led to a better life in terms of increased food security and income, and because before FFS, they were under-employed, the women in particular. Thus, a direct, positive effect of the increased production is increased work loads of farmers.

Status of family members

The AEC Mid-Term Evaluation data indicates strong impact from FFS on women's self-confidence and their role in household decision-making: 98% of the surveyed FFS participating women felt more confident in speaking publicly and that their role in household decision making had increased after participation in FFS.

From FGDs and interviews carried out during fieldwork, the Evaluation also found strong indications that FFS is contributing to increasing women's productive role, their self-confidence, and their status in the family and community. Becoming a member of a

group and being given the opportunity to learn, in itself is a major positive experience for the (illiterate) rural women in north and northwest Bangladesh.

Depending on how conservative the communities are, according to the female FFS participants themselves, the relationship with their husbands has improved and they now have more decision-making power in the households in general, especially over small scale investments in production, food, and children's issues, child education and other reproductive responsibilities, including family planning (in communities where family planning programmes have been launched). They explained that the main reason for this was that they now, after having participated in FFS, have more knowledge and can contribute to household income, food security and improved nutrition.

However, the FFS seem to have had minimal impact on the gender division of who gets the last word in 'big decision-making' on larger agricultural investments and land ownership, child-marriage, child labour, polygamy, male employment and migration. Men still make the final decision on those issues, although women seem to be more consulted now, than before.

There is no evidence that FFS has had any positive impacts, or led to any significant changes, regarding women's mobility and access to markets and the public sphere in general. To be able to participate in the FFS, the women had to be 'pulled' out of their comfort zone/home-stead and obliged to break conservative Purdah³⁵ rules, often initially against their husbands will, but still within the village. In fact most women said, that if FFS had been held outside their own village area, they would not have been allowed to participate.

Replication by members of the surrounding community

According to the AEC Mid-Term Evaluation data, more than 90% of the control village farmers reported that they had never attended a Field Day. This is an indication that field days are more effective in disseminating the FFS experiences among farmers in the same (FFS) village than to farmers in the further away control villages. From the FGDs it was clear that in villages where there had been a FFS, or in a neighbouring village, the interest of others to participate in a future FFS had definitely increased.

Table 4.6 Sources of agricultural production information* (%)

	Neighbours/friends		Agriculture extension staff		Farmer Trainers	
	Control villages	FFS villages	Control villages	FFS villages	Control villages	FFS villages
Most common	43.9	55.9	24.5	25.3	21.8	32.1
Common	<i>50.3</i>	<i>39.5</i>	37.8	58.3	25.5	60.3
Rare	1.2	0.9	18.2	10.2	8.2	3.4
Never	4.6	3.7	19.6	6.2	44.6	4.2

* E.g. fertilizer dose, selection of seeds/saplings, pest management, new variety, new technology etc.

Source: AEC Mid-Term Evaluation.

Note: Main significant differences between FFS participants and control households highlighted with bold and italics.

35) Muslim rules for female seclusion/women's restricted mobility.

The strong potential spill-over effects from FFS are again noted from Table 4.6. Neighbours/friends are referred as being either a 'most common' or 'common' source of agricultural production information by, respectively, 94.2% of the control farmers and 95.4% of the FFS farmers. Another interesting observation is that nearly 50% of the control farmers answered that they consulted the Farmer Trainers on a 'common' or a 'most common' basis. The fact that the FFS village coverage within some Upazilas in north and northwest Bangladesh is more than 50% helps to explain large spill-over effects within these areas.

Income and income distribution at intra, and at inter household level

From the FGDs and interviews carried out during fieldwork, the Evaluation found that women now contribute more to household production and income on a small scale. In some cases, among single women or some of the Adivasi, Hindu women, or the elderly Muslim women in better-off households, the women controlled their own small income. However, in the majority of the cases women were not allowed to control income from their vegetable production and needed permission from their husbands before spending it, or would have to hand over the income to their husbands, who would then decide how to spend it.

The Evaluation found clear indications that women, after participating in FFS, are becoming more involved in trading small quantities from their own production. Before FFS, women's production was often only for home consumption. After FFS, more women are able to produce for sale as well. As is the case for women in most of rural Bangladesh, FFS participating women are still not allowed to go to the markets (bazaar) themselves. Therefore, either their husband or sons will sell at the market, or the women will sell their products at the farm gate, to neighbours, other villagers, or vendors and traders passing by, or change their products to other products or services (non-monetary trading).

In terms of savings, relatively few of the FFS women consulted by the Evaluation were saving their own income with a Farmer Club in their own name. In most cases, women's income is spent on daily household consumption purposes, clothes, food, medicine, children's education. This very often leaves the women with no savings of their own, and still dependent on other people in case of divorce, or being abandoned or becoming a widow, although they now produce and earn cash income themselves and therefore could be more economically independent.

Likewise in terms of loans, the Evaluation found that, the women who are members of a Farmer Club, and can take loans from there, in most cases seem to take loans and hand them over to their husbands who decide how to spend the money. The only exception to this was the women in female-headed households. In the control villages women take loans for their husbands through NGOs (since no Farmer Club exists in the control villages). From the control villages it was reported that if husbands fail to return the loans to their wives, women are forced to take other loans to repay the defaulted ones to the NGOs. The Farmer Club loans appear more attractive to the farmers because there are more flexible in terms of repayment conditions, as compared to NGO loans.

Nutrition and health

Nutrition

Through the qualitative fieldwork, the Evaluation found good indications that, in comparison with women from control villages, women from FFS households showed remarkably more awareness and knowledge of improved nutrition, including better nutrition

for pregnant women and infants, improved cooking methods, and health among others. Basically all women consulted from FFS claimed to apply the different vegetable cooking techniques, such as rinsing vegetables before cutting them, use of lids, boiling drinking water etc. According to the FGDs with FFS women, the households' diet has changed from a diet of almost only rice (*bhat*) and lentil soup (*dal*) to a diet, richer in vegetables, (more vitamins, minerals, and iron).

There are also indications of positive replication and spin-off effects from nutrition and cooking sessions. Discussion with non-FFS households in the FFS villages indicated, that some of the women, who are related to FFS participants or have frequent interactions with women who participated in FFS, have learned and copied from them, concerning improved cooking techniques and also changed/improved diets. To the extent possible some have planted fruit trees or sown more vegetable seed on the homestead or land; seeds that they in many cases had purchased from FFS women.

Contribution to improved health

A number of the female and male FFS participants claimed during the FGDs that now there was less illness in their families than before, and that they have less medical expenditures. Others claimed that with the increased cash available in the households, they can afford to spend more money on medical care and medicine to maintain health, than before FFS.

Although other factors than nutrition and absence of hunger affect people's health, there seems no doubt that FFS is contributing to improved health among the target group due to the increased food security and improved nutrition. Indirectly, the improved nutrition and health status among FFS households have contributed to family members' improved work capacity (see also discussion under 'employment and work loads').

Unplanned/unintended impacts

In terms of child labour, the Evaluation found indications from fieldwork that the work load of the children has also increased, directly or indirectly linked with household's production activities. This was reported from both FFS households and from control village households. One reason given for this was that the size of the families is decreasing. In most cases, it appears that the children will help their parents when they come back from school. In some cases examples were provided of children (primarily boys) being taken out of secondary school to assist their fathers in the fields.

There were widespread indications, that child-marriage prevails among households, including female farmers households, in FFS and non-FFS villages, and that many families are willing to pay, and feel obliged to pay, an increasing dowry. It appears that FFS has not had any impact on changing these practices, at most only increasing awareness on the issues. Likewise, according to the FFS participants consulted, the level of polygamy, abandoning of women, divorces, sexual and gender-based violence, drug abuse among the youth and adult men, and suicide cases had notably not changed for the better since FFS began in their villages, despite increased awareness. Also from non-FFS villages, there were no notable changes reported in these indicators.

Land dispute and further exclusion of the poor

Access to land for production is a major issue in north and northwest Bangladesh (as all over the country), where landlords take advantage of the growing demand, and sell, lease or share-crop land out for very short periods at a time (often only one season at a time) to increasingly high prices.

From discussions with both FFS participating and non-participating households in the FFS villages, it was reported that those farmers who participated in FFS/Farmer Clubs have been able to take loans from the clubs and/or increase yields on small plots of land to an extent that they can sell off the surplus and afford to expand their cultivation area. This increases the economic and bargaining power of the FFS farmers vs. the landlords.

On the other hand, the Evaluation also found indications that the focus on improved rice production has had negative impacts on the land tenure situation in the FFS villages. There appears to be a risk for a potential polarisation of households within the FFS villages, where FFS/Farmer Club members compete with poor and non-FFS members for the same land. This may lead to a widening of the gap between the relatively (and increasingly) better off FFS farmers/Farmer Club members and the poorer non-FFS farmers/non-Farmer Club members.

Child care and safety

Another unintended negative impact of FFS was found to be child accidents during women's (mothers') participation in FFS sessions. In two of the FFS villages, the Evaluation heard about child drowning accidents that have taken place during women's FFS sessions, due to lack of proper child care and baby-sitting. In many cases, the women choose to bring the children to the FFS sessions. Interviews with the Farmer Trainers confirmed that children do indeed disturb the sessions, and when/if the children are chased away, they seem to be left on their own and are exposed to abuse and accidents.

Negative environmental impacts

A combination of factors, including the relatively high dryness in north and northwest Bangladesh, the current focus of the FFS on boro-rice production and the increasing expansion of FFS farmers' land-holdings and their production of irrigated boro rice, is reportedly having negative impacts on ground water levels and creating water shortage within some areas. It is noted that AEC has introduced water-saving monitoring devices in the rice FFS, to make more efficient use of the scarce water.

The GOB is realising the problem of increased drought. Therefore, more attention has recently been given to bring more land in the southern part of the country under rice cultivation (boro rice) and release more land in the north (Barind area) from irrigated crops for the cultivation of short duration and drought tolerant crops.

4.5 Sustainability

The Evaluation found indications of a number of positive sustainability aspects from the modality of the FFS approach currently applied within AEC. In particular, it found that the FFS approach, to a large extent, is leading to increased knowledge among the farmers on the topics covered and that the knowledge is being applied and practiced afterwards.

AEC has trained effectively a large number of Farmer Trainers who constitute an important pillar in terms of future sustaining the FFS approach, in a scenario without Danida and/or GOB staff and funds. The establishment of the Farmer Clubs is having a positive effect on maintaining and further developing the skills of the individual FFS farming households. Many have attended additional training. Some Farmer Clubs have even introduced a system where they actively look for training opportunities for members, based on their interest and previous training.

From the discussions with Farmer Club members, it was the impression of the Evaluation that the clubs, in many cases, constitute rather solid organisational structures within the villages, although with some gender issues. While most of the male members would continue to be active in the clubs, typically only around 15-20% of the female club members remain actively involved. One positive aspect of the Farmer Clubs in relation to women's participation is that the club house is located within the village which will not limit women's participation because of mobility restrictions.

It appears, first of all, to be the motivation and resources of the Farmer Club members that sustain the clubs. Apart from the FFS participants 'snack' money³⁶, which are in some cases used for joint buying of inputs, the clubs have only access to limited financial support from AEC, including a 'seed' money contribution³⁷.

It can be argued that the use of 'snack' and 'seed' money is not contributing to the financial sustainability of the Farmer Clubs. On the other hand, the 'snack' money seems to have some positive aspects in terms of sustainability. Firstly, it appears to positively influence the group dynamics of the farmers through common discussions on how to invest the 'snack' money most effectively. Secondly, it allows the farmers to buy a limited amount of inputs to practice, on their own land, the skills they have learnt on FFS. Although no official data is available on this, the general opinion is that the majority of the FFS participants are using their 'snack' money for buying inputs.

Less than 10% of the clubs (1,000 out of more than 10,000 IPM/ICM Clubs) are registered. The process of registration is very cumbersome and lengthy, and in most cases the Farmer Clubs cannot meet the official and unofficial requirements of the registration authorities³⁸. In terms of registration, which may be important for sustainability of the clubs in the future, AEC is currently assisting the clubs with the registration process. However, for a future scenario (without AEC), it will be necessary to consider how these registration processes can be made less complicated for the clubs to handle. The clubs seek official registration mainly for two reasons. Firstly, without an official registration the clubs would be at risk for being harassed by the government, in particular in a future scenario without AEC as 'protection' mechanism. Secondly, registration is important for the clubs as it will provide additional and better opportunities for applying for different types of services/support from private and governmental institutions and service providers.

An important incentive for the farmers to maintain the Farmer Club structures and continue with regular club meetings appears in many cases to be the participating farmers' possibility to obtain loans through a saving plan established by the clubs. The savings are generated from club members own weekly/monthly contributions (member fees) and from a limited number of income generating activities organised by the clubs. Besides being invested in activities within the communities, including some social activities, the

36) Each FFS participant is entitled to BDT 15 per FFS session he/she participates in.

37) Each club can request a BDT 8-10,000 'seed' money contribution from AEC. In order to qualify for this seed money the club need to fulfil certain criteria to demonstrate that it is functioning well. This includes that the club should document that it is planning and organising meetings regularly, that it has participation and that the club has a bank account. The Upazila Agricultural Officer will then decide on whether the club qualifies for the seed money. In addition to the seed money, AEC offers follow-up training (for an amount of BDT 4,000) and training in business management to the clubs.

38) Recently the Social Welfare Department issued a circular to all of their district and Upazila officers not to give registration to any IPM/ICM clubs.

savings are mainly used to provide (small) loans to club member households, mainly to support financing of production related activities. The terms and conditions for repayment of the Farmer Club loans differ from one club to another, but do normally include a kind of interest rate, which could be either in cash or in kind.

For the farmers, the loans from the club appear to be preferable to loans obtained from other sources like NGO and money lenders, where they often have to pay higher interest and have shorter and less flexible repayment conditions (see impacts, above). An added advantage of the Farmer Club loan system is that the interest paid by the farmers remains within their own club instead of going to people/organisations from outside the community. This helps to ensure the cohesion and sustainability of the clubs. The clubs appear to have a high capability in terms of collecting and administrating the member fees.

Estimates from AEC suggest that around half of the FFS lead to sustainable Farmer Clubs³⁹. Since AEC is only 'encouraging' and not 'demanding' that the FFS will lead to establishing of a Farmer Club, it is obviously not all FFS that turn into clubs. During the discussions carried out with UNFA and Farmer Club members, it was emphasised that the sustainability of the clubs was largely dependent on the leadership within the group. In order to be successful, it was considered very important for the clubs to have members, who could take a lead in planning and organising of activities. Another critical factor for the sustainability of the clubs seems to be the extent to which they manage to avoid becoming politicised.

39) In some cases it can be difficult to define whether a club is sustainable or not, since some clubs may still formally exist although they, in practice, don't organise regular meetings or carry out club activities. In relation to this unofficial estimate from AEC, the term 'sustainable' refers to clubs that are deemed to be 'well functioning'.

5 Key Findings from Application of the FFS Approach within RFLDC

5.1 Relevance

Bangladeshi and Danish policies and strategies for economic development and food security

The Evaluation finds that FFS within RFLDC is very well in line with the PRSP II in Bangladesh, which places emphasis on activities that are targeted to benefit the extreme poor, women in poverty, landless poor and other vulnerable groups, as well as the focus on protecting the poor from falling into deeper poverty (through social safety net programmes and include food security). RFLDC also links up with the National Fisheries Strategy, the National Livestock Development Policy and the National Fishery Policy, as well as the New Agricultural Extension Policy, which covers not only the crop sector but also considers the fisheries and livestock sub-sectors, which aim to promote more integrated services.

The FFS approach and target group of the RFLDC are highly relevant in view of Danida's overall goal of poverty alleviation and its priority areas of supporting the poor and marginal, including indigenous people. RFLDC is pro-poor and focused on promoting gender equality and empowerment of women and women's rights to education, production and income.

On the other hand, the current RFLDC implementation set-up is not in line with Danida's policies and strategies on sustainable development or commitments on country ownership and alignment⁴⁰. RFLDC is implemented through a project-like modality, which can be seen as a continuation and a left-over from previous times, when Danida implemented projects directly, parallel to, or independent of, the government of the recipient country, and extensively paid top-up allowances and salaries of project stakeholders and beneficiaries. It is noted that the original RFLDC document was designed to give DoF and DLS an active role as implementers, but as no allowances have been paid from the Danida budget to Government staff, the willingness of DoF and DLS staff to contribute has been limited.

FFS content

The Evaluation considers the content of the FFS relevant for the target groups: participants select topics according to their needs, even though the choice is mostly already pre-defined by the facilitator based on her/his experience and understanding of the most common needs of the participants.

FFS technologies

In general, the FFS participants appreciated the hands-on, practical approach of the FFS, with demonstrations in gardens and ponds, and the use of live samples and drawing, which makes it easy to understand and memorise. Poultry was considered the most useful session and was very popular. In vegetable production, making raised beds and the preparation and use of compost were well received and widely implemented, as well as the use of bio (botanical) pesticides for pest management.

40) As reflected in the Paris Declaration (2005) and in documents on aid effectiveness made prior to this declaration (e.g. Rome (2003) and Marrakech (2004)).

In both Barisal and Noakhali, the Evaluation found that the FFS participants seem to readily apply what they have learned through the FFS sessions, although sometimes the (improved) inputs are difficult to acquire and vaccination of chickens is not always effective. The motivation and expectations of the FFS participants were to learn (new) technologies, increase their production and consequently increase their income, produce more vegetables and poultry for home consumption and ultimately reduce poverty (have more to eat and sell). Some FFS participants mentioned the potential access to new inputs (seeds, vaccine) as a motivating factor.

In Noakhali, in the majority of the cases, the women are the 'principal' FFS participants, however, the men also expressed that they found the content relevant for their household (their wives) and partly for themselves as far as they were involved in agricultural activities themselves; most are day labourers or occupied with non-agriculture jobs, and are not engaged in production on their own land plots or ponds.

A group of men interviewed in the Char area in Noakhali mentioned that due to the knowledge and use of compost making they were now able to cultivate rice on previously saline land. The same men (who had some land) attended training provided by other projects and they mentioned that the advantage of FFS is that it is practical, in the field and integrated all their resources, including homestead, the year round.

5.2 Efficiency

FFS methodology

Most of the visited FFS sessions provided examples of top-down demonstration sessions of rather simple production improvement methods. As a demonstration exercise they were good: well prepared, appropriate materials and use of it, nice sitting arrangement and the questions (for knowledge, understanding and recapitulation) were generally addressed to several participants.

The applied methodology may therefore have achieved the objectives of improving the production and livelihood of the participants, but not yet the development of farmers as skilled, informed independent decision making experts. However, for the level of existing knowledge and experience of the participants as well as their actual need for rather simple, easy to implement production improvement technologies the used methodologies were adequate and effective.

The main limitation to the methodology applied is that the level of experience of the farmers may not be sufficient to make effective use of the Experiential Learning approach and/or the fact that this approach was not adequately used. The educational level is low and illiteracy, especially among the women, high. Most men are not full-time farmers and have to divide their time between wage-paid labour and work on their own farm.

Training approaches

In both Barisal and Noakhali the Evaluation observed that the FFS was generally participatory demonstrations that included field and pond visits, but without intensive and recurrent AESA/FMA. This approach may be very well suited for the target group to demonstrate a simple technology and may, for the female participants with limited own experience and resources, constitute a first introduction to the FFS approach. As the participants from previously completed FFS batches were very eager to expand their (ag-

ricultural) activities and were interested in learning more, the development of their more advanced FFS evaluation and decision-making skills could be achieved in a future FFS module of appropriate duration and content.

The observed Season-Long Learning session was very practical and participatory. However, the Evaluation is concerned that the attention given to facilitation and communication skills is too limited⁴¹. Another concern of the Evaluation is that the 'practice' FFS, run by the individual Local Facilitators, may not be supervised intensively enough. It was understood that the trainers and RFLDC staff visit the practice FFS, but the frequency of these visits was unclear. It was also unclear whether facilitation skills are being assessed to the same extent as technical issues are.

Every two months the Local Facilitators of one Upazila attend a (de)briefing meeting/refreshers course. From the discussions however, it appeared that these meetings were mainly used for organisational and coordination matters and little time was being allocated for discussion of additional training issues.

The Evaluation found it encouraging that several Local Facilitators mentioned that they would like to have more training on facilitation/non-formal education skills, gender related issues and on Participatory Rural Appraisal (PRA). Some male facilitators wanted to have more knowledge on crop cultivation (rice, soybean). This indicates that the Local Facilitators are critical about their own performance and their required additional training needs.

Selection of households for FFS

As in the AEC, the criteria for selection of households for FFS within the villages are not clear. They depend a lot on the Local Facilitators and may be influenced by different socio-cultural, religious and economic forces in different places (see also discussion in Section 4.2).

Local Facilitators – selection and delivery

Overall the Local Facilitators met in Barisal and Noakhali showed commitment and enthusiasm for their jobs. They were well liked and their skills and knowledge highly appreciated by the FFS participants. The 'Tripura-speaking'⁴² Local Facilitator in the FFS for Tripura women in the Chittagong Foothills, was highly appreciated by the illiterate FFS participants, who spoke very little Bangla.

The Evaluation observed Season-Long Learning sessions in both Barisal and Noakhali, and found that the relatively young trainees showed much commitment and enthusiasm for their job. The technical level of the training and the facilitation of the Season-Long Learning were of high quality. However, the PRA tools discussed during the sessions appeared to be too complicated and too theoretical for the FFS participants. There was too much writing in Bangla, given the high rate of illiteracy and the Adivasi FFS participants of some FFS.

In both Barisal and Noakhali, the Evaluation found that in general the Local Facilitators matched the selection criteria⁴³. In the guidelines the minimum qualification is stated

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- 41) In the received copy of the curriculum only two out of the 52 learning sessions in the Season-Long Learning address those competencies and it was not indicated how they are dealt with.
 - 42) An indigenous language of the indigenous people in the Chittagong Hills.
 - 43) i) being a local person (resident in the area); ii) being a good motivator; iii) having good social abilities; iv) being experienced in agriculture; v) being committed; and vi) being educated.

as Secondary School (grade 10) although High School is preferred. It appeared that in practice most facilitators interviewed by the Evaluation had High School level education or even higher. According to RFLDC the requirements for educational levels will be reduced to allow for inclusion of more women and promising former FFS participants, who generally have a lower level of education. The Evaluation fully supports this move and considers primary education (being able to read and write) sufficient to be able to attend the Season-Long Learning Local Facilitator training. None of the interviewed Local Facilitators had previous experience as FFS participants, but more than half of them had previous experience as facilitator/promoter. This can be an advantage, but equally well be a disadvantage as they are generally used to more top-down extension methods than the participatory FFS methodologies.

For both Barisal and Noakhali, the Evaluation found that the main motivation of the Local Facilitators was the opportunity to develop their own agricultural production skills, and benefit from this in their own household. For some (young) men and women the job as Local Facilitator provided an opportunity to obtain a paid job locally⁴⁴. Only a few of the facilitators, mainly the older men, mentioned that as Local Facilitator they could help the development of their community.

In terms of gender, even though the CBO and RFLDC staff is mostly composed of men, the risk of gender bias in the selection procedure seems limited since the procedures require equal nominations of men and women. This also applies to the selection of members of ethnic minorities⁴⁵.

Another issue related to the Local Facilitator selection process, which is of some concern to the Evaluation, is how the CBOs will manage their role in this process in the future in a scenario without the presence of RFLDC for 'quality assurance'. Many CBOs seem to have reached a level now, where they can only absorb uptake of a few new members each year. They appear to give priority to new members that are 'educated' and can contribute to 'further development' of the CBO. This must be seen as a natural consequence of the gradual movement of the CBO's towards becoming community centres for linking of farmers to input supplies and, increasingly, also to marketing. This increases the requirements for the level of competencies and skills within the CBOs. In relation to the Local Facilitators, who are all supposed to become CBO members, there is an obvious risk that the CBOs may be looking more into these potential 'CBO developing' competencies in the future than into what is actually most needed in terms of becoming a good Local Facilitator. Attention needs to be paid to this issue.

It was found that facilitators find it difficult to explain the objectives of CBOs to the FFS participants and to encourage them to become members, even though they are employed by a CBO, some are members themselves, and have received training on CBOs. This could also be related to the fact that they anticipate that most of the FFS participants will not be interested in membership as they cannot afford the membership fees or are restricted by social norms. Especially in this case, they will need to strengthen their convincing skills.

44) This is an indication that young people could tend to see the Local Facilitator position more as a (temporary) job in preparation for a better job outside the community, including young women, who would in most cases leave the community after getting married.

45) As illustrated in the attended ongoing Season-Long Learning visited by the Evaluation: 13 out of 27 participants were women and the group of trainees included nine Hindus (seven women and two men).

5.3 Effectiveness

Achievement of intended outcomes and outputs

Outcome indicators

The immediate objective of the RFLDC is: *Improved and sustainable productivity of and returns from fisheries and livestock systems of resource-poor households.* The following targets have been established for RFLDC FFS interventions at the outcome level in terms of income, production and food security:

- at least 500,000 resource-poor households will have increased their yields and/or returns from fisheries and livestock enterprises by at least 100%; and
- percentage of household income from fisheries and livestock by at least 20%.

Based on data from the RFLDC Mid-Term Evaluation, the Evaluation finds that RFLDC is well on track to fulfil the outcome target indicators. Data show that at the time of the survey 143 FFS households (46% of those responding) had increased production yield by at least 100%. In terms of fisheries and livestock, 95 FFS households (24% of those responding) had managed to increase their yield by at least 100% so far. Finally, according to the data the share of total household income among FFS participating households from fisheries and livestock has increased from, on average, 18% before FFS, to 22% after FFS,.

Output indicators

Table 5.1 provides an overview of the number of FFS and farmers reached by FFS within RFLDC up to December 2010 (targets and achievements).

Table 5.1 Number of FFS and farmers reached in RFLDC (by December 2010)

	Programme targets (RFLDC-Noakhali and RFLDC-Barisal)	Planned by end of December 2010	Achieved by end of December 2010
Total number of FFS established	Total: 13,300	Total: 10,500	Total: 10,749
	Noakhali: 5,800	Noakhali: 4,000	Noakhali: 3,779
	Barisal: 7,500	Barisal: 6,500	Barisal: 6,970
Total number of FFS phased out	Total: 13,300	Total: 8,416	Total: 8,210
	Noakhali: 5,800	Noakhali: 2,563	Noakhali: 2,563
	Barisal: 7,500	Barisal: 5,853	Barisal: 5,647
Total number of households (FFS established)			Total: 256,245 Noakhali: 103,032 (principal participant: 28,728 male and 74,304 female) Barisal: 153,213 (292,813 farmers: 115,337 male and 177,480 female)

Source: Data provided by RFLDC-Barisal and RFLDC-Noakhali.

According to the component data from December 2010, RFLDC is slightly ahead of the planning in terms of number of FFS established. After a slow start, RFLDC-Barisal has caught up and is now fully on track with the targets. This means that more than 13,000 FFS will have been established within RFLDC by the end of the programme, covering a total of more than 300,000 households.

It is noted that the percentage of female participants is high: In Noakhali the 'principal' household participant is in 72% of the cases the woman. In Barisal, where men and women were following different sessions up to 2010, the women ratio is 61%.

Group formation

In RFLDC, FFS members' continuation with group activities after completion of FFS, has up till now primarily been related to their linkage to CBOs.

Table 5.2 Number of CBOs and members in RFLDC (by April 2011)

	Noakhali	Barisal
Number of CBOs	Noakhali: 171 (of which 85 already existed in 2007)	Barisal: 256
Number of male/female members in CBO's (incl. members of the Executive Committees)	Male: 6,120 Female: 4,292	Male: 23,425 Female: 16,106
Number of male/female members in CBO Executive Committees	Male: 601 Female: 148	Male: 2,326 Female: 442

Source: Data provided by RFLDC-Barisal and RFLDC-Noakhali.

In total, more than 400 CBOs are now functioning within the RFLDC area, with a current membership base of around 50,000 persons or, on average, close to 120 members per CBO (Table 5.2). Most CBOs are now either legally registered or in the process of becoming so. RFLDC is assisting in this process, which is reportedly quite demanding for the CBOs to come through⁴⁶.

Based on discussions with CBO members, and an attempt to understand how they perceive the role, function and mandate of the CBO, the Evaluation found that the 'CBO' name is inappropriate. Although the CBOs also fill a role for social protection and local decision-making within the community, the majority of the CBO members consulted considered the CBO to be more a 'farmer organisation' than a 'community organisation'. It was repeatedly mentioned by the CBO members that the driving force to become a CBO member was to get mutual benefit from existing farming practices and get access to better agricultural information/services.

Not all CBO members are FFS farmers. In fact, in the 'old' CBOs in Noakhali and Barisal, many of the members are not from FFS and few new FFS members are taken in each year. In Noakhali, there is no record of how many CBO members have joined from FFS. During the year 2010, a total of 1,223 (220 male and 1,003 female) FFS farmers became

46) It is not a legal requirement for the CBOs to be registered. However in a future scenario, without RFLDC to provide 'protection', it is considered useful for the CBOs to be registered in case any kind of conflicts should arise. Registration is also assumed to provide better possibilities to access some types of government support.

CBO members. In Barisal, within the CBOs established during PBAEC (especially for Patuakhali and Barguna district), there were no FFS conducted before ASPS II. However according to RFLDC-Barisal the share of FFS members in these CBOs should be approximately 50%. In the 'new' districts of Bhola, Barisal, Pirojpur and Jhalokati, there is a policy decision that selection of CBO members should be from FFS. The CBOs in these districts now have a total number of FFS members of 16,889.

A rough estimate would therefore be that maximum 80% of the CBO members are from FFS. In that case, less than 40,000 out of nearly 400,000 already phased-out FFS participants, or less than 10%, would have become general CBO members. There is no data within RFLDC on CBO member's ethnic/religious background. However, in all CBOs visited by the Evaluation the proportion of Muslim members to Hindu members was well-above the proportion between Muslims and Hindus living in the community. Only in a very few cases were Hindus members of CBO Executive Committees.

Despite the fact that the large majority of the principal FFS participants are women, within the CBOs the majority of the members (60%) are men. There is no official data available on CBO meeting attendance; however from the meetings carried out with CBO representatives during fieldwork it was informed that the relative attendance rate is much lower for women than for men.

In the CBO Executive Committees the gender imbalance is even more striking in favour of men: Out of a total of 3,517 Executive Committee members, only 590 members (17%) are women. From the 171 CBOs in Noakhali, there are nine (5%) female Presidents and 12 (7%) female Vice-Presidents⁴⁷.

The above data and findings on the CBO members, suggest that the group dynamic introduced through FFS is at high risk of being dissolved right after completion of FFS. In particular women appear to become excluded, or exclude themselves, from CBO membership to a large extent.

Given FFS female participants' relatively low representation in the CBOs, in particular in the Executive Committees, it seems that FFS in general has not contributed effectively to gender equality in leadership and decision-making of those organisations. Moreover, even powerful women in the executive decision-making bodies of the CBOs do not necessarily ensure that a fair share of CBO spending of block grants and savings will be allocated for activities, managed and decided by women.

In RFLDC, women's economical and organisational/political empowerment seems therefore in many cases to end at the FFS completion. There is not yet any natural organisational evolution of the FFS into CBOs that ensure women's equal opportunities and involvement. The qualitative fieldwork revealed that women are hardly informed about CBO activities and purpose. In other cases, they claim not to be interested, since they find it too inconvenient or they are not allowed to travel out of their homestead and village to attend meetings at the CBO Office, or have no time left over from reproductive or productive activities. Some households were not interested since CBOs do not offer loans to their members.

However, the challenge of getting a higher rate of FFS participants (in particular women) to join the CBOs, not only reflects a limited demand for membership, but is to some ex-

47) Similar information was not available from RFLDC-Barisal.

tent also linked to the CBOs limited absorption capacity. Due to the escalating number of FFS being implemented and phased-out within RFLDC during the last 2-3 years, the many existing CBOs have serious problems with increasing the intake of new members from FFS in line with the number of phased-out FFS participants 'produced'. This absorption issue still has not been sufficiently compensated for through establishing of additional CBOs.

In addition, the CBOs also reported strong interest from non-FFS participants (mainly men) to join CBOs. However, due to a combination of the above mentioned absorption issue and a clearly observed tendency among existing CBO members to prefer membership of FFS participants, it is only a very few non-FFS participants that actually manage to become CBO members. Likewise, most non-FFS participants are not allowed membership, although many reportedly are showing interest. According to the CBO leaders, the main reasons for not allowing non-FFS participants membership are that, since they have not been trained through FFS, they are not able to 'keep pace' with the phased-out FFS participants. Another reason provided is that the non-FFS participants are not 'disciplined' enough in terms of contributing to the CBO savings. Within control villages, farmers were in general not aware of the existence of CBOs.

As a result, many CBOs only allow a limited 'quota' to become new members each year. These new members are often 'hand-picked' by the CBO leaders, based on their abilities to contribute to 'further development' of the CBOs. This issue seems to become of even more importance at a time when the CBOs are increasing their role and involvement in a number of activities, including income generating activities, input supplies and marketing. New members are therefore often relatively educated people (see also discussion of this under the section covering selection of Local Facilitators) with financial capability to contribute to the CBO saving scheme (approx. BDT 100 per month). In this way, there is an obvious risk that in the future the CBOs will gradually turn even more into 'elite groups' within the communities.

A ranking system is being applied by RFLDC for assessing the performance of the CBOs. Data is collected once a year from the CBOs. The CBO Performance Assessment is a useful monitoring and management tool for RFLDC in several ways: i) for identification of needs for assistance to the CBOs (mainly in terms of capacity development); ii) for assessing the CBOs capacity/capability in terms of FFS implementation; and iii) for assessing the CBO's capacity in terms of receiving block grants.

Access to production inputs and services

When asked about the purpose of the CBO, the two most common answers from the CBO members were that the CBOs were for 'sharing of experiences and learning' and for 'easier access to support and inputs'.

The CBOs have gained increasing importance among its members and in some cases also for some non-CBO members, in terms of facilitating various types of inputs and services to the farmers. These services and inputs are often cheaper, of better quality and more reliable than when the farmers have tried to access them on an individual basis. During the discussions with CBO members, it was often raised as a key issue that since the Upazila central markets are located rather far away from the communities, it is very important to have a local supply facility.

In addition many CBOs are getting, beside other farm inputs, post larvae⁴⁸ through the market linkage with hatcheries and selling these to the community/local bazaar thereby becoming an important income generating activity for them⁴⁹.

Marketing and income-generating activities

The CBOs are increasingly getting involved with various types of income generating activities. This includes fish culture, nursery, vaccine, beef fattening, goat rearing and retailing of seeds. Recently, the CBOs have started to establish input selling centres in small scale (mainly fish feed, animal feed and seeds) as well as animal health centres (including vaccinations). These centres are also to some extent benefitting non-CBO members, who will also have access to buying these services from the CBO (if feed, seeds and vaccine are still available after the CBO members have got their share).

The Evaluation found that the concept of linking FFS up to CBOs for further developing of inputs and marketing channels has a lot of potential. The business orientation of the CBOs is clearly developing and they are eager to take on new projects to generate income for the CBO. The majority of the CBOs consulted during fieldwork seemed very confident that they could handle business processes such as provision of services and quality inputs to their members through buying from wholesalers.

CBO funds consist of monthly member deposits, revolving block grants (originally from RFLDC), CBO share selling, profit sharing and, most importantly, of income from input selling by the CBOs, inputs that the CBOs often receive from the CBO Association at district level. The fish culture projects are very popular among the CBOs and generate high income in this region. Besides, they have the scope of involving other community people for economic return.

The development of the role of the CBOs in terms of supporting its members farming production has focused mainly on the supply and input side, although RFLDC's major thrust since 2010 has been to diversify the activities of the CBOs into marketing. In terms of marketing however, from the discussions with FFS farmers during fieldwork it was clear that they are still very dependent on the local markets for selling their products and are lacking access and linkages to larger, more distant markets. The fact that the FFS farmers have improved access to better, cheaper and more reliable inputs, in addition to the training and knowledge they have gained from participating in FFS, has allowed them to increase production and selling of various products significantly (see Section 5.4 below). This obviously leads to the need for developing realistic marketing strategies and establishing mechanisms to make it possible for the CBOs, to support the farmers in reaching regional and national markets.

Since individual CBOs have limitations in terms of size and scope of their work, four CBO District Associations have been established in Noakhali and another four in Barisal. These associations are composed of representatives of the individual CBOs, either the CBO President or the Vice-President attends the meetings in the District Association. Since very few women have the position of either President or Vice-President in the CBOs the District Associations are almost entirely composed of men. The CBO District

48) The post larvae from the hatcheries are grown and acclimated in nurseries before being transferred into ponds, where the prawns are then fed and grown until they reach marketable size.

49) The prawn (and carp and tilapia) seed are mainly distributed through the Community Agriculture and Aquaculture Resource Persons who are attached to the CBOs as commission agents of the hatcheries.

Associations have been established with a particular view to play a role as wholesaler and facilitating services at a higher level. The individual CBOs pay a monthly contribution to the CBO District Associations. RFLDC assists the CBO District Associations with establishing of linkages and networking.

Education and awareness

The Evaluation identified no evidence of any direct effects (positive or negative) from FFS on the raising of awareness on socio-cultural issues within RFLDC. However, as it was also found in AEC, there is no doubt that simply raising these issues during FFS sessions with the women (and according to Local Facilitators and female FFS participants consulted that has actually happened), has contributed to breaking the silence in the villages and spreading the word on some very sensitive issues and taboos which are affecting women and children in their daily life. Please refer additionally to the discussion under Section 4.3.

5.4 Impact

Income and food security

Income

The RFLDC Mid-Term Evaluation data indicate that the observed increases in average household income can be attributed to the FFS interventions within RFLDC (Table 5.3). Both FFS households and control village households have experienced significant increases in household income since FFS started. However, the increases within FFS households are significantly larger (significant at the 1% level)⁵⁰.

Table 5.3 Changes in total annual household income (BDT)

	Before	After	Difference
FFS villages	51,919	71,713	19,794***
Control villages	46,877	56,621	9,744*
Difference	5,042*	15,092***	10,050***

Source: RFLDC Mid-Term Evaluation.

Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.

In addition, double difference estimates show that the income increases have been most significant for the poorest FFS households within RFLDC: while total annual household income increased by BDT 12,137 per year (significant) for the below median income it only increased by BDT 6,954 (insignificant) for the above median income.

A breakdown of total household income into different sources of income also shows differences between FFS households and control village households that can be attributed to the FFS interventions within RFLDC (Table 5.4). It is notable that changes in income from, in particular, fish farming, poultry and livestock are significantly higher for FFS households than for control village households (at the 1% and 5% level). The change

50) The amounts in Table 5.3 are not inflation corrected. This would however not alter the double difference estimate (10,050). Only the before-after estimates would be affected (the 9,744 estimate would become insignificant and the 19,794 less significant).

in crop income is also significantly higher for FFS households than for control village households (at the 10% level).

Table 5.4 Changes in annual household income for different sources of income (BDT)

Agricultural/crop income	Before	After	Difference
FFS villages	20,064	26,457	6,393
Control villages	14,591	17,461	2,870
Difference	5,473	8,996	3,523*
Livestock income	Before	After	Difference
FFS villages	5,162	9,593	4,431
Control villages	2,091	4,015	1,924
Difference	3,071	5,578	2,507**
Poultry income	Before	After	Difference
FFS villages	2,565	5,471	2,906
Control villages	1,356	1,988	632
Difference	1,209	3,483	2,274***
Fish farming income	Before	After	Difference
FFS villages	4,259	6,823	2,564
Control villages	1,894	2,493	599
Difference	2,365	4,330	1,965***
Wage income	Before	After	Difference
FFS villages	13,273	15,246	1,973
Control villages	17,956	20,735	2,779
Difference	-4,683	-5,489	-806

Source: RFLDC Mid-Term Evaluation.

Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.

The only income source that does not change significantly is income from wage. Data on wage income actually shows less increase within FFS households than within control village households which indicates an increased focus on agricultural productions within FFS households.

Labour migration and off-farm income

According to the RFLDC Mid-Term Evaluation data there is no evidence that the observed relative change between 'on-farm' and 'off-farm' income within, respectively, FFS

households and control village households, has been significant and can be attributed the FFS interventions.

The qualitative fieldwork provided indications that the FFS have had some impact on seasonal male labour migration among FFS households. There were indications that FFS participation has contributed to reducing male labour migration because male farmers now assist their wives in homestead poultry or aquaculture production on a larger scale. On the other hand, off-farm day labouring does not seem to have been reduced: The men are still doing day labouring to the same extent as previously, but they are at the same time assisting more in household production activities.

Consumption

The RFLDC Mid-Term Evaluation data (Table 5.5) shows that general increases in consumption cannot be credited to the FFS interventions.

Table 5.5 Total annual household consumption (BDT)

	Before	After	Difference
FFS villages	74,547	91,273	16,726***
Control villages	56,632	70,061	13,429***
Difference	17,915***	21,212***	3,297

Source: RFLDC Mid-Term Evaluation.

*Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.*

The increase in household consumption has been highly significant for both FFS participants and control village households (highly significant before-after estimates for both groups)⁵¹. However, when matched double difference is included the estimates suggest that the observed increase in consumption spending cannot be attributed to the FFS intervention.

Saving

With significant income increases and no effects on consumption it would be expected that FFS interventions would have had a well-determined effect on household savings. This is confirmed by the matched double difference estimate (Table 5.6). It is also noted that FFS interventions have had a positive impact on FFS household's vulnerability (climate) as well as on a number of financial indicators, related to changes in income.

51) Although less significant if correcting for inflation.

Table 5.6 Vulnerability and financial indicators (% of households that report of increased vulnerability/spending)

		FFS villages	Control villages	Difference	
Vulnerability	Fish catching	3.2	-11.7	14.9	
	Climate	0.2	17.9	-17.7	***
	Government actions	-15.9	-20.5	4.6	
Financial	Debt	-12.5	35.4	-47.9	***
	Loans	1.3	12.5	-11.2	*
	Educational expenses	78.5	56.1	22.4	**
	Festivals etc.	87.8	72.8	14.9	*
	Medical/health expenses	35.6	48.8	-13.3	*
	Expenses on clothes	91.0	80.2	10.7	*
	Savings	69.7	45.8	23.9	**

Source: RFLDC Mid-Term Evaluation.

Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.

The data also show that control village households have increased their debt to neighbours and NGOs to a relatively greater extent than the FFS participants. Both groups have increased spending for education and clothes.

Given FFS households' lack of access to loan and credit facilities in the RFLDC, the support through FFS has not directly provided loan alternatives to local money lenders, NGOs etc. However, the observed increases in household production and income appear to have led to decreased loan taking.

Food Security

FFS intervention has led to a significant reduction in the likelihood of being hit by food shortage (Table 5.7).

Table 5.7 Probability of experiencing food shortage (%)

	Before	After	Difference	
FFS villages	20.1	11.3	-8.8	***
Control villages	31.3	30.0	-1.3	
Difference	-11.1***	-18.7***	-7.6	***

Source: RFLDC Mid-Term Evaluation.

Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.

The FFS households report that their probability of being hit by food shortage has decreased from 20.1% before FFS to 11.3% after FFS. In comparison to the control village households this is a significant decrease, as they reported only a limited decrease in food shortage within the same period. It should be noted, that this result is mainly driven by the FFS households in the lower income levels: the double difference estimates are, respectively, 10% for below median income earners and 5% for above median income earners.

The qualitative fieldwork confirmed these findings: the control village households had not been able to increase food security to the same extent as the FFS participating households within the same time period.

Employment and workloads

In the RFLDC area the FGDs provided a mixed picture in terms of the impact from FFS on workloads: in some cases the work loads of poultry and aquaculture producers had decreased, due to the new methods and knowledge that the producers learned during the FFS. In other cases, the work load had increased for the better, depending on the level of income and reinvestment in agricultural activities, or the involvement of CBO.

Women empowerment

The RFLDC Mid-Term Evaluation data (Table 5.8) show that the FFS interventions have had a highly significant positive effect with regards to women's participation in income generating activities, family decisions, production decisions and in community activities.

Table 5.8 Women's mobility and participation (%)

		FFS villages	Control villages	Difference	
Mobility	Towns etc.	71.3	75.8	-4.5	
	Social calls	80.9	47.2	33.7	***
	Health centre	-3.2	1.7	-4.9	
	Zila offices	23.2	10.7	12.5	
Participation	Income generating act.	82.2	26.4	55.8	***
	Family decisions	84.9	37.6	47.3	***
	Production decisions	78.8	20.3	58.5	***
	NGO activities	43.0	18.6	24.4	**
	Community activities	78.5	43.9	34.6	***

Source: RFLDC Mid-Term Evaluation.

Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.

In terms of mobility of women in the RFLDC areas, there is no evidence that FFS interventions have had any significant effect in terms of increasing women's mobility and access to e.g. towns and health centres, though it has to be mentioned that the issue was not a direct part of the RFLDC mandate.

The qualitative fieldwork left no doubt that participation in FFS has been highly appreciated by the women of all ages, and that the FFS has contributed to increasing women's productive role, their self-confidence, and their status in the family and community.

Overall, there seems to be more gender equality in the poorest households; here generally, 'husband and wife are in it together'. Any support to women and any contribution from their side is highly appreciated by the men in the households; more so in the Hindu and Adivasi communities, than in the relatively better-off Muslim households.

Income and income distribution at intra, and at inter household level

The Evaluation found that men/husbands only controlled to a limited extent FFS women's/wives' increased income from homestead production within the RFLDC. This appears to be because income among RFLDC FFS households is very low in most cases, and because the RFLDC targets and reaches more of the poorest women from female-headed households, and from Hindu and/or tribal households, where husband and wife share decision-making more equally than in Muslim households. Women's poultry and vegetable production is relatively small, but the surplus from household production is in most cases sold in quite small quantities at the farm gate or in the village, and not by husbands or sons at the markets. This appears to give women slightly more control over their own income, compared to before FFS, where the women were mostly unable to generate any income at all. This effect is most notable within households where husbands are absent.

Nutrition

From the RFLDC Mid-Term Evaluation data, the Evaluation finds a significant positive effect from the FFS interventions on household food intake, in particular in relation to rice, dal, fish, meat, egg, milk, potato and vegetable (Table 5.9).

Table 5.9 Household food intake (% of households with self-reported increases)

	FFS villages	Control villages	Difference	
Rice	58.6	43.8	14.8	***
Wheat	39.6	26.9	12.6	
Potato	49.8	37.5	12.3	*
Dal	45.6	30.5	15.1	***
Fish	51.4	34.9	16.6	***
Meat	57.7	42.5	15.2	**
Egg	58.6	44.6	14.0	**
Milk	51.1	26.9	24.2	***
Dried fish	33.6	24.4	9.2	
Vegetables	53.7	41.3	12.4	**
Fruits	45.2	32.5	12.7	

Source: RFLDC Mid-Term Evaluation.

Note: *, **, *** indicate significance at a 10%, 5% and 1% level, respectively.

From the qualitative fieldwork, it was found that the FFS nutrition awareness sessions for women and the increased vegetable production were the main explanatory factors for the increased consumption of (purchased or home-produced) vegetables, fruits, eggs, meat and fish. FGDs with non-FFS households in the FFS villages also indicated some positive replication and spin-off effects from the FFS nutrition sessions.

Unplanned/unintended impacts

The Evaluation found increased incidence of child labour⁵² in some RFLDC areas, especially in the poor Char and hill areas, because there are few schools, except for 'Madrasas'

52) Children working instead of going to school.

in the Char areas (and free Madrasa classes are conducted in the early mornings, mostly). Please refer additionally to the discussion under Section 4.4.

5.5 Sustainability

In Noakhali a total number of 17 CBOs have closed, all of them established during GNAEC, and mostly due to problems among the members and the Executive Committee, and the fact that there was no support for them during an interim management period between ASPs I and ASPs II. All these 17 CBOs had closed before formal starting of RFLDC interventions. During the RFLDC period, no CBO has been closed so far.

In the case of Barisal, no exact record is available on possible inactive CBOs, though 234 CBOs out of 256 are considered active and functioning well for the time being (July 2011). This does not mean that the remaining 22 CBOs are not active, but there have been objections from the RFLDC-Barisal Office regarding their management. However, from an internal audit report, it was noted that three CBOs were inactive for reasons of, respectively, expiry of Executive Committee, no activity performed due to absence of local facilitators and conflict between the CBO President and the Local Facilitators.

The Evaluation found that Local Facilitators often continue to visit the homes and fields of the FFS participants after completing the training. This is an important aspect in terms of sustainability in a future scenario without RFLDC support.

However, while the Evaluation found that the CBOs in general have good Local Facilitators for conducting of FFS sessions and for any field advice and sharing of experiences and learning, a more critical challenge facing the CBOs seems to be in mobilising any required support from external experts on their own. An idea could be for CBOs to use the Local Facilitators in a post project situation as resource persons in income generating activities; for instance as managers of commercial CBO input supply centres, and thereby paid by the CBO business revenues.

Many CBOs seem reasonably well-established, organised and capable of planning and managing an increasing number of activities. The RFLDC block grants serve as an 'injector' to the CBO system to ensure funding for an increasing number and scale of activities, some of a more innovative nature. A lot of experimenting has been undertaken and the experience and learning from here could be used for planning of new CBOs.

In terms of developing the CBOs and CBO Associations, the importance of support and influence received from the RFLDC Offices must not be under-estimated. RFLDC technical and financial support has been important to get these CBO activities running and, even within those CBOs that are supposed to be among the most developed, the Executive Committee members still see a strong need for RFLDC technical support and back-up over the next years in order for their CBOs to develop further. It is very difficult at this point to assess real sustainability aspects of the supported CBOs, as long as these organisations are continuously provided with relatively large block grants and technical support from RFLDC.

It must also be noted, that the current system and procedure for allocation of RFLDC block grants to the CBOs is not necessarily ensuring sustainability of the CBOs, in case

the block grants are not used as seed money for revolving activities. According to the RFLDC Mid-Term Evaluation data, the block grant composes on average approximately 50% of the total income for the CBOs. According to the current procedures applied by RFLDC, if CBOs perform well, they are entitled to more block grants from the RFLDC. In this way it may be argued that the CBOs never learn to 'stand on their own two feet', but are instead becoming subject to increasing ambitions (more funding and larger projects, developed under RFLDCs 'protection').

Another issue raised by CBO Executive Committee members during the fieldwork was related to the increasing work load due to the expanding of CBO activities. It was anticipated that it would be necessary in the near future to offer some kind of remuneration to the Executive Committee members. This would obviously put additional pressure of the CBO funding.

The CBO Associations visited in Noakhali appeared to be at rather different stages in terms of sustainability development. While one CBO Association had now employed additional staff from its own resources and was renting transport to collect products from the CBO members, another CBO Association still had not reached this point, but was still referring to the need for support from RFLDC for their further development.

6 Comparative Assessment of Institutional and Cost Arrangements for FFS

This chapter provides a comparison of institutional and cost arrangements for FFS within AEC and RFLDC, with references to experiences from other FFS interventions within and outside Bangladesh.

6.1 Institutional Set-up

AEC and RFLDC

AEC is, to a certain extent, integrated with its counterpart institution, DAE, in the sense that it is operating through the normal structures of the department and its regular staff. Most of the AEC field activities are implemented by regular DAE staff through Upazilas down to the village level. On the other hand, AEC is still to some extent operating as a 'project' having its own procedures and a sizable additional staff at the central level for planning, administration and monitoring.

Component funds go directly from the Danish embassy to component accounts, managed jointly by the Project Director and the Danida Senior Adviser. AEC does not pay block grants and does not pay salaries and allowances of government staff and officers⁵³. From Danida funds, based on established criteria, AEC provides limited support to the Farmer Clubs (BDT 8-10,000) and UNFAs (BDT 3,000) as seed money for income generating activities or a small business as a way of sharing the risks in the introduction of new activities. AEC also provides honoraria to GOB staff from Danida funds when they act as a resource person or facilitator in a training course. This provision has been created by the Ministry of Finance and follows the practices of other donors operating in Bangladesh.

Although component activities are implemented by DAE staff in Upazilas and Unions, it is the impression of the Evaluation, that the current level of AEC activities could not be sustained within the present DAE set-up should Danida funding cease to exist. Currently the institutional sustainability of FFS within AEC therefore seems to lie mainly with the capacity that has been built at the local level with farmers, Farmer Trainers, Farmer Clubs, UNFAs and local level DAE staff that have been trained (e.g. trained Departmental Trainers will remain in DAE with their knowledge and skills on IPM/ICM-FFS and contribute to the farmers as and when required). Sustainability will also depend on the extent to which future FFS interventions will be able to harmonise strategies and build on existing installed structures and capacity.

The RFLDC-Barisal and RFLDC-Noakhali Offices have the overall responsibility for implementation of the FFS approach within RFLDC, with a considerable number of Danida financed technical staff assisted by Upazila Livestock Officers and Upazila Fisheries Officers. While the Upazila Fisheries Officers, to a reasonable extent, seem to be involved in planning and implementation of the FFS interventions, it appears to be more difficult to achieve the active involvement of the Upazila Livestock Officers. The RFLDC Offices are playing a prominent role in supporting and backstopping the FFS-related interventions, including the CBOs, both in terms of providing financial and technical support and for trouble-shooting. The Evaluation found that the overall RFLDC institutional set-up will be facing serious challenges in terms of sustainability. The relatively weak institutional linkages through

53) The GOB funds in the budget are used for paying salaries and allowances of GOB staff and officers.

the Upazila Offices provide limited possibility for continuation of activities in a future scenario without RFLDC support. The sustainability of RFLDC interventions will therefore need to come primarily from the local levels, i.e. mainly through the CBO structures (see also sustainability discussion in Section 5.5).

In both RFLDC-Barisal and RFLDC-Noakhali the transfer of block grants compose an important element in supporting further development of FFS farmers through the CBOs. However the approach to the block grant transfer differs between the two sub-components. In the case of RFLDC-Barisal, funds are disbursed directly to the CBOs from the RFLDC-Barisal Office while in the case of RFLDC-Noakhali the block grants are transferred to the CBOs through the Union Parishads (UPs), in those cases where these institutions are assessed to have sufficient capacity for managing the funds. According to the assessments carried out by RFLDC-Noakhali, the capacity of the UPs varies considerably. It is assessed that only 25% of the UPs are qualified to receive and manage block grants from RFLDC properly.

Other relevant experiences on FFS institutionalisation

After having been a forerunner with the prominent involvement of CARE until five years ago, Bangladesh has, at the moment, only limited involvement of NGOs in FFS activities compared to other countries in the region. In most other countries the implementation of FFS interventions has now been decentralised, and taken on by local authorities, NGOs, farmer or community organisations and even the private sector (e.g. cooperative producers unions). In countries like Indonesia, Cambodia, Vietnam Thailand, Pakistan and India local NGOs have become increasingly involved in the field implementation (running the FFS), but also in the development of target group relevant curricula and training of local FFS facilitators. Often these NGOs closely collaborate with government institutions.

Transfer of responsibility and capacity to local communities has been the backbone of the FAO Community IPM Programme in Asia, which supported the establishment of local farmer organisations capable of their own FFS implementation. In Vietnam the Farmer Union takes responsibility for FFS implementation at local level, including training of facilitators. The farmer organisations receive funds from outside sources (donors, government) or generate their own funds through contributions from members or own income generating activities. Facilitators are either staff or members of the organisation or are contracted by the organisation.

In East Africa the institutionalisation of FFS has, over the past 10 years, been shaped with the establishment of FFS Networks that serve as important vehicles for the expansion of the FFS⁵⁴. The FFS Networks could be compared with the UNFAs as initiated by AEC. With donor or self-generated funds the FFS Networks support other farmer groups in the area to start a FFS and assist them with contracting qualified facilitators. New FFS Networks will be established in new areas. The local networks are associated at national level (Kenyan, Uganda and Tanzanian) and at East African level. The networks organise exchange visits, refresher trainings, workshops and seminars together with research institutes and universities (e.g. on the development of participatory monitoring and evaluation). The East African FFS Network has become one of the main partners in the Regional FAO and IFAD FFS interventions.

Alternative funding of FFS interventions

Semi-financed FFS is an alternative to traditional government and donor support for

54) Okoth et al, 2006; Braun, Okot et al, 2007; Braun & Duveskog, 2008.

FFS⁵⁵. The expansion of FFS interventions in East Africa is partly or entirely financed from funds generated by the farmers themselves. The self-financing model was first piloted during the 2001-02 growing season by facilitators in the IFAD supported Integrated Production and Pest Management-FFS programme in Uganda, Kenya and Zimbabwe. Groups initially receive a grant of USD 4-500 for running FFS of 30 sessions over two seasons. Additional expenses are covered by proceeds of income generating activities of the group. The grant has to be repaid, either from the proceeds from the income generating activities or from a share of the benefits made by the participants after FFS completion. Generally the grants are repaid after 2-3 successive seasons.

This grant system is channelled through the FFS Networks. The repaid grant, sometimes with interest, is used to start FFS with other groups (an educational revolving fund). Initially, grants may be provided by donors (in East Africa IFAD has been a strong supporter), but when FFS Networks are well established the grants will be fully covered from own income: subscription fees, interest on revolving funds, bulk sales, registration fees, penalties, donations, shares from FFS members, profit from sale and farm inputs and commercial activities.

6.2 Costs and Benefits related to FFS Interventions

Cost issues

When trying to compile the costs for FFS it is important first of all to consider which costs to include. As illustrated in Table 6.1, the major FFS costs can be grouped into three categories: base costs, start-up costs, and recurrent costs, as the most commonly used in reference literature.

Table 6.1 Overview of FFS related costs within ASPS II

Base costs	General overhead costs for institutions at Upazila, district and project level (salaries, office costs, meetings, transport, communication etc.)
	Monitoring and evaluation (salaries of M&E staff, survey costs, transport etc.)
	Monthly meetings (salaries, transport, refreshments, overhead)
	Study tours and exchange visits
Start-up costs	Training of facilitators (basics, refreshments incl. hiring of resource persons)
	Preparation of (training) materials (salaries, development costs, printing costs)
Recurrent costs	Establishing FFS (preparation visits, village meetings, PRA)
	Running FFS (venue (shed, mats), training materials (locally available and from outside), stationary (flipcharts, notebooks), school (study) field (rent, inputs, maintenance), refreshments, caps/T-shirts, certificates)
	Field Day
	Trainer/facilitator: salary (for running and preparation), transport, communication
	Supervision/backstopping of FFS by Upazila, district and project-level staff (salaries, transport)
Follow-up costs	Assistance to Farmer Clubs and CBOs, CBO staff/facilitator salary, transport, communication, training materials, grants, other materials

55) Braun et al, 2006; Braun et al, 2007; Braun and Duveskog, 2008; Okoth et al, 2006; CIP-UPWARD, 2003.

The level of costs also depends on the development stage: **pilot, up-scaling** or **consolidation**. The **base costs** will typically be high in the pilot phase, especially if new organisations have to be established or an existing one strengthened. When FFS makes use of an existing 'infrastructure' (organisation, human capacity) these costs will be substantially lower, even in a pilot phase. The **start-up costs** will be high during the pilot phase when human capacity needs to be developed through ToT courses, often with assistance of national or international consultants. The actual costs will also depend on availability of suitable local experts and the required level and intensity of the training.

Recurrent costs will typically decline over time due to more efficient management, more farmer-led FFS, more experienced FFS facilitators (requiring less intensive supervision), reduced financial incentives for the trainers (related to the use of farmer facilitators) or abolishing (or reduction of) incentives paid to participants. In addition, scaling-up⁵⁶ can reduce the costs of inputs as a result of potential bulk purchases. The recurrent costs for an FFS are largely determined by the costs of the trainers/facilitators (salaries and transport) and the training venue (shed, mat, school field).

Further on, the value attributed to the costs is highly dependent on the topic (crop), the socio-economic conditions in the country and the geographical 'density' of FFS⁵⁷. This will affect the costs of inputs, salaries and allowances, transport costs etc.

FFS costs in AEC and RFLDC

Based on the budgets for FFS implementation within AEC and RFLDC, the recurrent costs per FFS have been calculated⁵⁸ as follows:

- AEC: BDT 36,500 (equivalent to USD 21/FFS household (25 households, two participants/household).
- RFLDC Barisal: BDT 35,000 (equivalent to USD 20/FFS household (25 households, 1-2 participants/household).
- RFLDC Noakhali: BDT 32,000 (equivalent to USD 19/FFS household (25 households, one participant/household).

As the figures are roughly of the same order, it can be concluded that the dissimilarity in FFS methodology, content and implementation methods between the (sub) components only results in marginal recurrent cost differences between the (sub) components.

56) Cost reductions during the scaling-up and consolidation phase are generally achieved by making more use of local Farmer Facilitators, who receive limited fees and do not require transport costs (in Kenya a reduction of 50% for farmer-led FFS compared to extension-led FFS was reported) and by the participants/community providing the venue costs (use of own shed or existing meeting place, use of the school field free of charge, maintenance of the school field either as communal activity, or from the (extra) income from the school field).

57) If FFS interventions are thinly distributed over a geographical area it will require more travel and also limit the number of FFS the facilitator is able to implement.

58) There is a difference in how the costs of the Farmer Trainers and Local Facilitators are incorporated in the calculations: within RFLDC, the Local Facilitators are employed by the CBOs (which receive funds for their payment from the RFLDC office). The Local Facilitators have a full-time contract and earn BDT 3,600/month in Barisal (based on 18 working days of BDT 200/day) and BDT 2,500-3,500/month plus bonus in Noakhali. In AEC, the Farmer Trainers receive BDT 150/FFS session which includes time for session preparation and transport costs. For establishment of the FFS an additional five days are paid. The Farmer Trainers also receive BDT 500 monthly for travel costs to the Upazila office and for FFS materials.

In the extreme case, that the whole AEC budget⁵⁹ (Danida and GOB contributions) would be used as basis for calculation of the total costs per FFS implemented (including base costs, start-up costs, recurrent costs and follow-up costs) the average cost would be of BDT 111,111/FFS (equivalent to USD 1,613/FFS (or USD 65/FFS household). It can therefore be concluded that the total cost per FFS/household within AEC is somewhere in the range from USD 21 (recurrent costs only) to USD 65 (based on the full AEC budget), depending on how much of the AEC budget that is considered to be directly FFS-related.

In terms of RFLDC-Noakhali, when including costs at Upazila and district level for co-ordination and monitoring of FFS and the costs of the Season-Long Learning courses for the Local Facilitators and motorbikes, the total costs increase to BDT 46,281/FFS (equivalent to USD 27 per FFS household)⁶⁰. To this should be added costs of national and international management and staff.

Comparing with cost calculations from other FFS interventions

International literature and studies referring to FFS costs are not consistent in their content, obscuring comparison even more: costs that are **generally** included in reports are the recurrent costs (e.g. Field Days and fees of permanent staff) but not always all; costs that are **sometimes** included in reports are start-up/maintenance costs (with or without costs of external consultants); and costs that are **rarely** included in reports are the base costs and international costs.

The average costs for other FFS interventions inside and outside Bangladesh appear to be somewhere around USD 20 (recurrent costs), which makes the costs of FFS within ASPS II in line with what is commonly spent per household on FFS implementation elsewhere. Costs from other FFS interventions within Bangladesh range from USD 10-35/household, depending on the crop, the number of sessions, phase of the project and whether start-up and supervision costs are included⁶¹. Cost data from FFS interventions in other countries (mainly from IPM-FFS programmes and projects related to different 'crops', in different years, in programmes in different stages of development and in different socio-economic situations) ranged from USD 7 for Rice IPM in Sri Lanka (only recurrent costs) to USD 77 for Cocoa IPM in West Africa (recurrent and start-up costs).

Benefits from FFS

Since FFS is an educational approach and not a simple, straightforward transfer of technology method, with activities and implications at different levels, the benefits are many-fold: economic, social, health, educational, environmental, organisational etc. The benefits can further be allocated to different stakeholders: individual FFS participants, participating households (including non-participating members), local community, implementing institutions, individual staff of the institutions, and societies as a whole (including consumers) etc.

Comprehensive assessments of cost-benefits from FFS interventions are rare, as it is often difficult to give a monetary value to a number of the benefits. Many of the benefits will be an indirect and/or long-term effect of the FFS and are difficult to 'measure'. Some of the FFS outputs will have more clear-cut indicators (e.g. income, production, yield).

59) There are activities under AEC which may not be considered directly related to FFS.

60) Overhead costs and costs of national and international staff were found difficult to include as the activities of the project are wider than the FFS implementation.

61) See literature study in Annex 3 for more details.

The assessments are therefore usually restricted to the financial analysis (at farm level)⁶², although attempts have been made e.g. to give a value to improved health, or reduced medical costs, as a result of reduced pesticide use⁶³.

Calculation of benefits from FFS

In order to calculate the cost-benefit of FFS, the costs of the FFS per participant are generally compared with the average change in profit of the FFS participants⁶⁴ over one, or a few years, after completion of the FFS.

Data from the RFLDC Mid-Term Evaluation allows making a rough calculation of the economic benefit from FFS within ASPS II: while the average annual income within FFS households increased from BDT 52,000 to BDT 72,000 in the period from 2007 to 2010, the average annual increase within control village household in the same period was only from BDT 47,000 to BDT 57,000. The FFS households, on average, had therefore increased their annual income BDT 10,000 (equivalent to USD 145)⁶⁵ more than control village households. When this figure is compared to the cost per FFS household within ASPS II (see above), there is a clear indication that the 'investment' in households through FFS is paid back in less than a year after FFS has been completed.

Somewhat similar experiences are found from other countries: based on available data it was concluded that the costs of the above mentioned IPM-FFS programmes were recovered by the increased production of the FFS households after 1-3 seasons⁶⁶. It was found that the pay-back period was very much dependent on the initial level of production and competency of the FFS farmers, the product, the value of the products, the access to the market and the socio-economic context of the FFS. Calculations from the FAO-EU IPM Programme for Cotton in Asia, implemented in six countries in South East Asia between 2000 and 2005⁶⁷, showed that the full cost of the five year project reached its 'pay-off' moment in the last, fifth year.

6.3 Monitoring and Evaluation of FFS interventions

Monitoring and evaluation within AEC and RFLDC

Overall, the Evaluation found that the approach for monitoring of implementation of FFS activities within AEC is building on appropriate arrangements. At field level, monitoring is taking place according to three distinct, but integrated systems: i) DAE monitoring by extension officers at Upazila level; ii) Master Trainer monitoring and technical backstopping and; iii) participatory monitoring by Farmer Trainers, as well as members of the Farmer Clubs and UNFAs.

The tools used for the monitoring include mobile supervision and supervisory visits to field activities. AEC also organises seasonal Review and Planning Workshops of which each Farmer Trainer attends one per year. During this planning workshop the past FFS season is analysed (especially problems and 'mistakes'), the executed field trials are analysed and evaluated, the planning of the next FFS season discussed and training given on

62) Van den Berg, 2004; Fleischer et al, 1999.

63) Ooi et al, 2005.

64) After correction for change in profit obtained by a control group.

65) It should be noted that this calculation does not take into consideration inflation.

66) Van den Berg, 2004; Van den Berg and Jiggins, 2007.

67) Ooi, et al, 2005.

additional or new topics. The Evaluation attended one of these workshops and found it well organised and constituted an important learning element in the monitoring process. It is however doubted whether sufficient time is available during these one-day events to cover new topics sufficiently⁶⁸.

AEC is not monitoring performance development within the Farmer Clubs and UNFAs. There is currently no system built-in within DAE to monitor performance development within the Farmer Clubs and UNFAs. However, with constant encouragement from AEC, contact is kept with some Farmer Clubs and UNFAs on an irregular basis.

After initially, in ASPs II, working through different monitoring and evaluation systems and separate reporting in RFLDC-Barisal and RFLDC-Noakhali, the two sub-components are now applying a common system for participatory assessment of the FFS interventions. Likewise, the RFLDC Mid-Term Evaluation carried out in 2010 was a joint study covering both Barisal and Noakhali. The two sub-components are still making efforts for further strengthening of coordination and coherence in this area and frequent interaction and visits are taking place among the responsible M&E Officers in the two sub-components.

In general, the Evaluation found that the M&E system currently applied in RFLDC is good. A considerable amount of relevant data is being collected, and often also used for targeting and adjusting the interventions. This is for instance the case in relation to the CBO Performance Assessments carried out yearly.

The Evaluation recognises the strong efforts within AEC as well as RFLDC to undertake two major FFS assessment and evaluation studies in, respectively, 2009 and 2010. On the other hand, the Evaluation finds that in terms of planning and implementation of the external assessment and evaluation studies, the AEC and RFLDC could have taken more advantage of possibilities for planning and coordinating these interventions (e.g. on selection of external firm/institution for conducting of the studies, sample design, methodologies, questionnaires, surveyors and methods for data analysis). In terms of sampling design, there has been a general tendency in the studies to under-sample the number of control village households and the questionnaires have had limited focus on gender disaggregation and exploring of socio-cultural, employment and spill-over effects from the FFS interventions.

Internationally, the M&E of FFS interventions is receiving much attention⁶⁹. Several international institutions (e.g. World Bank) and universities (e.g. Institute of Development and Agricultural Economics of the Leibniz University of Hannover) have published on the issue of FFS evaluation methodology. The FAO-EU IPM Programme for Cotton in Asia⁷⁰ was designed with a strong evaluation and impact assessment component to ensure proper set-up and implementation of the designed methodology throughout the programme. It may be useful to further explore some of these experiences in relation to designing of M&E frameworks for future FFS interventions.

68) In some cases the workshops are extended by a further day if there are new technical issues to be covered.

69) It was the topics of the International Learning Workshop on FFS held in Yogyakarta in 2002 and an International Workshop on 'Impact Assessment of Farmer Field Schools' in Garbsen, Germany in 2004

70) Ooi et al, 2005.

7 Conclusions

This Evaluation has come to the following major conclusions.

Results and impacts:

1. Since 2006, around **three million poor people** (representing more than 500,000 households) in rural Bangladesh have benefitted directly from new knowledge and techniques related to agricultural production and nutrition provided through FFS in ASPS II. To this should be added what seems to be quite large (but not quantifiable) spill-over effects from FFS farmers to non-FFS farmers.
2. The impact of FFS on household **nutrition and food security** is statistically highly significant, most notably among the households with the lowest income levels. FFS households have reduced their vulnerability and increased intake of most food items significantly more than control village households. Likewise, FFS households estimate that their probability of being hit by food shortage has decreased from 20% before FFS to 11% after FFS, compared to a slight decrease from 31% to 30% within control village households.
3. The impact of FFS on **household income** is statistically highly significant. While income in FFS households on average has risen from BDT 52,000 before FFS (2007) to BDT 72,000 after FFS participation (2010), the increase within control village households within the same period was only from BDT 47,000 to BDT 57,000. The income increase within FFS households is most significant for the households with the lowest income levels.
4. The impact of FFS on **production diversification** is statistically highly significant. The total number of agricultural products produced is significantly larger for FFS households than for control village households.
5. FFS as applied through ASPS II in Bangladesh has been demonstrated to be a very efficient development investment. When costs are compared with benefits from the FFS interventions at household level, it shows a **pay-back time of less than a year** from the investment. Compared to cost experiences from FFS interventions in other countries, FFS within ASPS II in Bangladesh appears to be at an average cost level.
6. FFS has become an **'eye opener'** for the FFS participating women, their husbands and families, for what women are capable of producing and contributing to household income and food security, if they are given the chance and permission.
7. The successful 'FFS women' and their husbands have become **role models** for other farmers in their neighbourhoods and for their children. FFS has been a major boost to women's self-confidence. FFS has contributed to improving inter-household relations between men and women and contributed to increasing gender equality in decision-making, at least on 'smaller issues', in relation to production and income.
8. There has not been any verifiable and measurable positive impacts or effects so far on persisting **socio-cultural problems** (e.g. child-marriage, child labour, dowry,

polygamy, drug abuse, sexual and gender-based violence, suicide, divorces, child accidents and abuse) in the FFS communities compared to non-FFS communities.

9. There are indications that some **unintended negative impacts** could be directly or indirectly linked to implementation of FFS (e.g. increased work load for children, reports of drowning accidents of small children during women FFS sessions, land disputes and further social exclusion of marginalised groups within the villages and negative environmental impacts related to boro rice cultivation).

Organisational issues:

10. The main **motivation** for farmers to join FFS is the possibility of obtaining new knowledge on farming practices and technology, based on the desire to increase production and, potentially, cash income.
11. The CBOs are in general operating at a **more advanced** level than the Farmer Clubs and UNFAs in terms of both input supplies and marketing. This is also a reflection of the rather different types and levels of support these organisations have received from, respectively, RFLDC (CBOs) and AEC (Farmer Clubs and UNFAs).
12. Both **Farmer Clubs and CBOs** are becoming increasingly organised and able to identify opportunities and needs as well as creating links to local government structures at the Union level. Several of the Farmer Clubs and CBOs are also successfully involved in production and distribution of quality inputs among farmers. Progress is more limited in terms of establishing linkages to marketing and processing of the products.
13. **Women's membership and participation** in Farmer Clubs (village level) is much higher than in the case of the CBOs, which often meet or are located outside the villages where the CBO members live. Traditional restrictions on women's mobility, combined with a generally decreasing absorption capacity for intake of new members in the CBOs and lack of proper information, is limiting women from participating in the CBOs. As for decision making and leadership of both Farmer Clubs and CBOs, it is a concern that the representation of women and minority groups in the executive committees is very limited, since this is where the more advanced marketing and other strategic activities are located. Women are therefore to a large extent excluded from these advanced activities.

Technical aspects and modalities:

14. The FFS approach has been implemented through **different modalities** within ASPS II, which in general has been appropriate due to the differences among AEC and RFLDC target groups and focus areas. In terms of AEC, the use of AESA has in particular been shown to be highly relevant and well applied for the male sessions on field crops (rice), although it is a limitation that no other field crops have been included. Given the relatively more limited initial level of own experience and resources among the FFS participants in RFLDC, the use of more demonstration-oriented methods appear to have been appropriate for achievement of the livelihoods and production targets within this component, but not yet for the development of farmers as skilled, informed independent decision making experts. The

current IFM piloting will provide useful experience from combining elements from AEC and RFLDC.

15. Time allocated to some of the topics in the joint male-female FFS sessions, in particular **awareness raising on different socio-cultural issues**, tends to be too short to generate notable impact. Presentations are too broad, Farmer Trainers/Facilitators are just ‘touching’ on the issues and there is no proper coverage. Socio-cultural issues are seen as an add-on in need of awareness-raising, rather than intra-household dynamics being seen as an integral part of livelihood management, which farmers need to analyse and address through FFS.
16. Farmer Trainers and Facilitators become **model farmers** who are appreciated as being easily accessible in the local areas where they are recruited and live. This ensures continued access for the farmers to training and knowledge on vegetable gardening, livestock and fish farming.
17. Practical demonstration skills are reasonably well developed among **Farmer Trainers/Facilitators**. However, their skills to ensure active contribution by all participants and stimulate interaction between participants are often limited, also with regard to gender sensitivity.

Policy and institutional aspects:

18. The application of the FFS Approach within ASPS II complies to a large extent with **Danida key strategies and policies** on household poverty alleviation and inclusion of women, indigenous peoples and minority groups. However, it only partially complies with the goal of full gender equality, mainly because the approach does not sufficiently take into account gender specific intra-household differences.
19. In terms of **GOB policies and strategies**, the FFS approach is well reflected e.g. in relation to the PRSP II which focuses on poverty alleviation through increased targeting of extremely poor and vulnerable groups, including women. The FFS approach is also well anchored in relation to the new CIP which focuses on sustainable and diversified agriculture through integrated research and extension, with particular importance given to crop sectors, livestock and fisheries. In addition, the FFS approach is fully congruent with the suggestion in the New Agricultural Extension Policy, to apply a group approach for delivery of extension services.

Institutional arrangements and M&E:

20. The potential **synergy effects** between AEC and RFLDC activities have only been achieved to a limited extent. Even within the two RFLDC sub-components, it has been difficult to coordinate activities.
21. Although the set-up of AEC is more linked to existing GOB structures than RFLDC is, both components are to some extent implemented as ‘projects’ with separate management units and procedures. The **institutional sustainability** of the FFS modality, applied within ASPS II, lies therefore mainly with the capacity that has been built at the local level with farmers, Farmer Trainers/Facilitators, CBOs/Farmer Clubs/UNFAs as well as the local level Department of Agricultural Extension staff that has been trained (within AEC).

23. After experiencing some initial constraints and shortcomings, the **M&E framework** for the FFS interventions has recently been improved within ASPS II. Data are now being collected more strategically within both AEC and RFLDC and are to some extent being used for analysis of progress. Limited efforts have however been made within the components to: i) gender disaggregate data; ii) collect data on socio-cultural, employment and spill-over effects from FFS interventions; and iii) trace Farmer Trainers/Facilitators.

8 Lessons Learned and Recommendations

The evaluation findings and conclusions lead to the following lessons learned and recommendations.

Wider implications from experiences with FFS in ASPS II, Bangladesh:

Lesson 1: The FFS approach, as practiced in ASPS II, is a **cost-effective mechanism** for lifting poor rural households, including landless and often excluded and marginalised population groups, out of poverty, hunger and malnutrition. In addition to the direct effects, the level of spill-over effects has been shown to be of large magnitude.

Recommendation 1: Future development interventions, aiming at reducing vulnerability and improving food security, nutrition and livelihoods among poor rural households should strongly consider using the FFS approach, incorporating the other recommendations given here. Although not directly evidenced by the Evaluation, the results from FFS may have the additional potential of contributing to social stabilisation within countries like Bangladesh, characterised by relatively high inequality and poverty.

Lesson 2: Increases in **micro-level growth and self-employment** (at the household level) due to FFS interventions in ASPS II, have been considerable. In addition to increased market production among small-scale farmers with land access, it has been demonstrated that, through FFS, even hard-core poor households with very little or no land are capable of increasing their income from producing for the markets.

Recommendation 2: Future development interventions aiming at stimulating growth and employment within the agricultural sector should target small-scale farmers as well as hard-core poor and marginalised farmers as core FFS members. Even among the poorest and marginalised farmers, there is a potential to contribute with a range of services and agricultural/food products to the markets and for value-chain and enterprise development. Female farmers can also make a substantial contribution.

Gender and other social aspects:

Lesson 3: It is possible within Bangladesh, through rather simple but targeted FFS interventions, to effectively involve and benefit large numbers of women (including young women, female-headed households, widows and women from indigenous populations), increasing their confidence, ability to earn an income, to contribute to food security and participate in decision-making on smaller production issues. However, **women's income** remains relatively low and they still do not participate equally in important household decisions. This is largely due to the household approach in FFS which does not explicitly address intra-household relations.

Recommendation 3: Future FFS interventions in Bangladesh should be planned with a view to exploring its potential to build on the achievements, and aim at bringing about more significant changes through more explicit attention to intra-household issues as an integral part of livelihood and farming systems (e.g. it could be considered to incorporate aspects from some other proven methodologies, like the Gender Action Learning System (GALS), where farming is seen as a family business and where gender inequalities are addressed in a cooperative manner with women and men).

Lesson 4: FFS interventions, with their current household-level focus, are not sufficient to notably influence traditional restrictions on **women's mobility**, nor do they effectively challenge socio-cultural problems and harmful practices within the villages. This is because these gender/socio-cultural issues are perceived as add-ons and not an integral part of addressing poverty.

Recommendation 4: Future FFS interventions should be much clearer about the inter-relationships between different dimensions of gender, social inequality and household poverty and aim at incorporating gender analysis into the technical training. Some of the more in-depth training and supporting activities might need to be taken up by other interventions (e.g. awareness raising through NGOs).

Lesson 5: Additional preventive procedures and mitigations are, in some cases, needed to avoid FFS causing **negative, unintended social and environmental impacts** within and outside the villages.

Recommendation 5: Future FFS interventions should include a participatory pre-assessment of the potential social and environmental risks related to FFS interventions and, based on this assessment, an Action Plan should be prepared on how to prevent and mitigate these risks.

Organisational issues:

Lesson 6: **Farmer organisations** have proved to be useful entry points for production/distribution of various forms of input supplies (quality seeds, vaccines etc.) to the farmers and they possess a strong potential for further expanding their role in marketing and partnerships with private enterprises. Special attention will be required to ensure sustainability of these processes. Sustainability does not come automatically from forming groups and organisations and providing block grants/seed money.

Recommendation 6: Future support to the agricultural sector in Bangladesh should pay attention to consolidating and expanding the role and involvement of farmer organisations (CBOs and UNFAs) in terms of input supplies, marketing and further processing of agricultural products (produced within the villages). The more developed CBOs (from RFLDC) could be used as 'mentors' for the UNFAs. There needs to be much more focus on including women in decision-making and planning/implementation of women activities.

Lesson 7: There is a risk that farmer organisations established from FFS turn into exclusive clubs for the **village elite**, possibly leading to increased polarisation and exclusion of the poorest households and women. Limited absorption capacity in the CBOs and obligations of payment of regular membership fees are barriers for the poorest FFS members, including many women, to become members of the farmer organisations.

Recommendation 7: It is recommended that current procedures and criteria for selection of participants for FFS and membership of farmer organisations be reconsidered, in view of the potential risk for exclusion of groups of women and men from participating in FFS/farmer organisation related activities.

Lesson 8: When farmer organisation offices (CBO/UNFA offices) are located outside the village neighbourhood, **women's participation** is dramatically reduced. Having physical

access to and being member of the organisation does not automatically promote women's leadership and give them voice or benefits, equal to those of their male counterparts.

Recommendation 8: As an interim measure to address this, it should be considered establishing temporary quotas for women's participation in farmer organisations and leadership/leading positions in the executive committees (e.g. established in by-laws). This should be accompanied by explicit discussion of ways of enabling more active involvement and benefitting of women in farmer organisation activities.

FFS approach and facilitation:

Lesson 9: There is not only one '**blueprint**' FFS approach that works. Rather, it is possible, through a demand-driven focus, to adapt the traditional FFS approach efficiently and effectively to different contexts and target groups.

Recommendation 9: Future FFS curricula should be developed with sufficient flexibility to ensure that each FFS can be adjusted to different target groups and local conditions (e.g. in the case of the most resource-poor groups of households, including women, it may be possible through an initial use of demonstration-oriented methods to improve the participants' FFS 'skills' to a level where they subsequently can be treated topics using a 'full' FFS methodology). The curricula should also be flexible enough to address different climate change and other risk parameters within the main agro-ecological zones. More attention should be paid to the potentials for increasing the value-added to the agricultural production through FFS (e.g. through introduction of other, higher valued, crops than rice). Explicit attention to the gender dimensions of these issues needs to be incorporated.

Lesson 10: The preparation and performance of the Farmer Trainers/Facilitators is of key importance to the **quality of the FFS**. Personal attitude, facilitation skills, previous FFS experience and gender sensitivity are more important skills for the trainers/facilitators than formal education. Female trainers/facilitators, especially young women, find it often hard to work in a male-dominated society.

Recommendation 10: During the training of the Farmer Trainers/Facilitators more explicit attention should be given to improve their facilitation skills, including how to work with illiterate women and incorporate gender issues as an integral part of other training. Possibilities to increase the incentives for women to become trainer/facilitator should be further explored (e.g. use of married couples).

Institutional arrangements and M&E:

Lesson 11: It is difficult to assess **sustainability aspects** and extract learning as long as financing, technical support and backstopping is still in progress. Supported organisations/institutions are not able to demonstrate their ability to continue activities until interventions are completed.

Recommendation 11: Future FFS interventions in Bangladesh should address more explicitly sustainability aspects, including increased country ownership and financial sustainability. Different models for sustainability (e.g. establishing of FFS networks, commercialization of services and income-generating activities for the organisations to become self-financing) and stronger collaboration and harmonisation with other extension service

interventions should be explored at an early stage through the GOB. Strengthening peer training networks should also be considered a key element in sustainability.

Lesson 12: When the **M&E framework** is not properly designed or in place on time, this limits the opportunity for continuous extracting of learning and experiences from FFS interventions with the aim of improving the services provided.

Recommendations 12: In relation to planning future FFS interventions, it is recommended to carry out the following in terms of M&E: i) an assessment of experiences and best practices for designing the baseline studies and M&E frameworks for FFS interventions, including gender disaggregation and indicators; ii) a proper evaluation of the current pilot IFM phase before final decision on possible up-scaling, including gender analysis; iii) a systematic assessment of the experiences and learning from the support provided to the CBOs in Noakhali/Barisal (through RFLDC); iv) establish a system for tracing Farmer Trainers/Facilitators that leave their position; v) establish a common UNFA/CBO/Farmer Club performance monitoring system based on a few, easily collected indicators ; and vi) better monitoring of potential socio-cultural, employment and spill-over effects from FFS.

Appendix 1: Terms of Reference

Evaluation of the Farmer Field School Approach in ASPS II, Bangladesh

1. Background

Farmer Field Schools (FFS) is a very popular extension and education approach worldwide. 78 countries are implementing this method (Braun et al, 2006), although in different forms and with varying focus depending on e.g. the national context. The Farmers Field School approach started in Indonesia. In Bangladesh, the method was first used in the early 1990's through a UNDP funded, FAO implemented Integrated Pest Management (IPM) programme.

Denmark has supported the agricultural sector in Bangladesh for three decades. The support has included FFS activities since the mid 90's, and in the ongoing Agriculture Sector Programme Support II (ASPS II), FFS activities are a substantial part of the implementation approach.

The ASPS II supports the government of Bangladesh to implement the Poverty Reduction Strategy Paper (PRSP). Major issues in the PRSP are pro-poor economic growth as well as improved human nutrition. In relation to agriculture these were envisaged to be achieved through diversification and by providing support to crop, livestock and fish production. One of the important aspects of poverty is the high rate of malnutrition caused by limited access to diversified food. ASPS II focuses on promotion of food diversification for the poor. The ASPS is in accordance with national policies and strategies, including the National Agricultural Policy, National Livestock Development Policy, the National Fishery Policy, and the New Agricultural Policy.

ASPS II was initiated in 2006 and during 2010 was given an extension up to June 2013. This will be followed by a third phase of support. The overall budget of ASPS II is DKK 610 million of which DKK 531 million is Danida contribution while DKK 79 million is contributed by the Government of Bangladesh. The budget allocation for FFS related activities in ASPS II amounts to DKK 93.2 million excluding international and national adviser support and capital investment.

The ASPS II comprises three components: 1) *Agricultural Extension*, 2) *Regional Fisheries and Livestock Development*, and 3) *Rural Roads and Market Access*, which involve three ministries. Ministry of Agriculture (MoA) has responsibility for the crop production sub-sector, the Ministry of Fisheries and Livestock (MoFL) has responsibility for the fisheries and livestock sub-sectors and the Ministry of Local Government, Rural Development and Cooperatives (LGRD&C) has the responsibility for the rural roads, and marketing facilities.

The FFS approach is utilised in all the three components of the ASPS II, however with variations: The *Agriculture Extension Component* comprises 20 fixed sessions, covering integrated crop management of rice as well as homestead activities, health and nutrition sessions and sessions on club formation. The target group for the 20 sessions is gender specific. Under the *Regional Fisheries and Livestock Development Component* farmers and

fishers may choose from a menu of 38 modules in aquaculture, poultry rearing (chickens and ducks), small ruminant (goat and sheep) rearing, cattle fattening, dairying, home-stead gardening (winter and summer vegetables, tree crops), and nutrition, including health and sanitation and social issues. The 38 modules are not targeted from a gender specific point of view, but the selection of the target group is ensuring a gender balance. The FFS approach has been utilized in *Regional Fisheries and Livestock Development Component* since 2007 only. In both components FFS is based on season-long training that takes place in the field or by the fish pond, covering the different stages of the crop (crop calendar), livestock or aquaculture system and giving opportunities for experiential learning. The institutional and financial structures differ between the components (ministries), which may have influence on the sustainability of the results and impact in general.

In September 2010, the Embassy in Dhaka suggested that the Danida Evaluation Department (EVAL) should initiate an evaluation of the Farmers Field School approach as applied in ASPS II. The evaluation should ensure documentation on lessons learned and provide inputs for preparation of the third phase of the programme during which continued support to the FFS approach is being considered. It is expected that the evaluation will in particular provide information on the level to which the FFS approach is contributing to increased income and food security at household level and as well as to women's involvement in development processes in Bangladesh. In a wider perspective the proposed evaluation of the FFS approach is also relevant in terms of assessing the extent to which the approach used in Bangladesh may underpin the Danish Development policy goals of supporting economic development and promoting gender equality (cf. Denmark's new development policy strategy "*Freedom from Poverty – Freedom to change*", 2010).

The evaluation will be conducted as a joint exercise with the Ministry of Agriculture, Extension department representing Bangladesh in the management group for the evaluation. A reference group comprising key stakeholders, such as Ministry of Fisheries and livestock will also be established. Efforts will also be made to involve other development partners (bilateral and multilaterals) in the evaluation process e.g. during country field work and/or evaluation workshops.

2. Scope of Evaluation

The FFS approach is today used worldwide, but whereas the approach originally was used as a method for extension work related to Integrated Pest Management in Indonesia, it is today used for a wide range of thematic issues in very many different settings. The FFS approach may even have different major objectives – from an interest in purely agricultural technical improvements to being an entry point for including social and community development into agricultural development. This expansion of the use of the approach is likely to continue.

In Bangladesh, the FFS approach differs even within the various components of the ASPS II. The point of departure was extension work related to Integrated Pest Management in rice, which was later transferred to other crop production activities in ASPS I. In ASPS II, the approach formed the basis for extension work related to integrated crop production, and the FFS approach is now further developed under the Regional Fisheries and Livestock Development Component. The development of the approach has been in

terms of technical issues as well as different institutional and financial frameworks. These various approaches have developed over a period of some years and have not yet been evaluated in terms of their technical effectiveness and cost efficiency or their influence on the sustainability of the outcome of the support. In order to get the best picture (pro's and con's) of the extension approach, the evaluation will focus on the results (including longer term effects and, to the extent possible, also impacts) from the use of FFS in ASPS II. Where reliable and relevant data exist from ASPS I and other programmes and projects in Bangladesh, such data will be made use of. A literature study of results of other programmes/projects in the region (and from Bangladesh supported by of donors) will be undertaken as a pre-study to the evaluation⁷¹.

The FFS approach utilized in the *Rural Roads and Market Access Component* (carried out as part of the *Regional Fisheries and Livestock Development Component*) will not be evaluated separately, but as a part of the evaluation of the *Regional Fisheries and Livestock Development Component*.

3. Main Purpose

The main purpose of the evaluation is:

- To analyse and to document – in a gender perspective – the results and the lessons learned from using the Farmer Field School approach in the ASPS II in Bangladesh.

The outcome of the evaluation will feed into the preparation of the expected ASPS III.

4. Evaluation Focus

The analytical part of the evaluation needs to be context specific and in particular to take into account differences in the way the FFS is practiced in different components of the ASPS.

In meeting the objective of the evaluation the emphasis will be on the following focus areas:

- a) **The training mode for improved production:** The extent to which the training approach is useful for various types of agricultural and livestock production systems (agriculture, horticulture, poultry, ruminant livestock and aquaculture) in various contexts. The assessment will include the production as a whole as well as various specific aspects of the production (integrated pest management, soil fertility, pond preparation, modes of housing livestock, feed and fodder, etc.)
- b) **The FFS approach and its possible effects on access to production inputs and services including credit and marketing:** The extent to which the group formation under FFS may have facilitated access to credit, common procurement and marketing, and future extension services, including access to services from both the public and the private sector.
- c) **Intra-household relationship:** Extent to which women's participation in the training (fully or partly), has influenced the social relationships at household level,

71) For example Danish environmental support to FFS in Cambodia has reached more than 80.000 farmers 2000-05.

including women's status, their ability and confidence to make decisions and their greater adaptability in the face of challenges and opportunities (see also e).

- d) **Other income generating activities:** Extent to which group formation within FFS has facilitated other joint income generating activities among the group members.
- e) **Improved livelihood:** Extent to which the FFS approach has influenced the livelihood of households: economically and in terms of household nutrition, as well as in terms of resilience to negative changes and ability to take advantage of opportunities.
- f) **Institutional Arrangements:** Extent to which the funding, monitoring and other institutional arrangements used by the components have been appropriate and efficient, and have contributed to the success and sustainability of the FFS approach.

5. Specific Evaluation Criteria and Questions

The OECD/DAC evaluation criteria (relevance, efficiency, effectiveness, impacts, and sustainability) will be applied. In order to address these criteria a list of possible questions are provided in the table below. The inception report should include an elaboration of these questions, and how they will be addressed and investigated.

Table 4.1 Proposed Key Evaluation Questions in relation to the OECD/DAC Criteria

Evaluation Criteria	General relevance of the evaluation criteria (Danida)	Specific questions in the Evaluation of the FFS approach in Bangladesh
Relevance	<ul style="list-style-type: none"> • “The extent to which the objectives of a development intervention are consistent with beneficiaries’ requirement, country needs, global priorities and partners’ and donors’ policies”. 	<ul style="list-style-type: none"> • To what extent is the FFS approach relevant vis-à-vis a) Denmark’s policy/strategies for development cooperation in general, and Danish cooperation with Bangladesh, in particular, b) national policies and strategies for economic development and food security in Bangladesh. • To what extent have the technologies discussed in the FFS sessions proved to be relevant and adaptable to the needs of the participating (male and female) farmers? • To what extent do the Ministry of Agriculture, the Ministry of Fisheries and Livestock or other agricultural programmes use FFS approach(es) outside the ASPS II, and which other methods – and for what reason – are utilised in Bangladesh? • What are the advantages and disadvantages of various training approaches for different sub-sectors and different target groups?

Evaluation Criteria	General relevance of the evaluation criteria (Danida)	Specific questions in the Evaluation of the FFS approach in Bangladesh
Efficiency	<ul style="list-style-type: none"> • “A measure of how economically resources/ inputs (funds, expertise, time, etc.) are converted to results”. 	<ul style="list-style-type: none"> • Have the activities been implemented as planned (including time wise) and have allocated resources been put to good use? • To what extent have the intended beneficiaries (gender disaggregated data) participated in the various modules and sessions? • To what extent have the funding, monitoring and other institutional arrangements been appropriate and efficient? • How do the costs per FFS participant compare with costs of other extension programmes? • Cost/efficiency: What are the total costs involved per household per FFS compared to increased household benefits?
Effectiveness	<ul style="list-style-type: none"> • “The extent to which the development intervention’s objectives were achieved, or are expected to be achieved, taking into account their relative importance”. 	<ul style="list-style-type: none"> • Have activities carried out led to the intended outputs and outcomes of the programme in terms of increased income and food security (or are they on track to do so, considering the time frame), including the gender perspective? • How many, and who, within the household have participated in FFS and which activities have they participated in? • To what extent has the FFS approach had limitations (including gender aspects) and for what reason? • To what extent has the FFS approach influenced participants (women/men) and others in the community (women/men) to improve access to production inputs and services? • To what extent has the implementation of FFS facilitated identification of markets, improved marketing methods and/ or influenced sales prices? • To what extent has the FFS led to the formation of sustainable groups, and if and where this is the case how have these groups benefited the members and the community more widely? • To what extent are groups formed as a result of FFS activity an avenue for provision of services to farmers?

Evaluation Criteria	General relevance of the evaluation criteria (Danida)	Specific questions in the Evaluation of the FFS approach in Bangladesh
Impacts	<ul style="list-style-type: none"> • “The positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended”. 	<ul style="list-style-type: none"> • To what extent has the involved households experienced an increase in income, and food security? • To what extent have other household activities been influenced by the FFS approach and what has been the result? • To what extent has there been a change in family member’s status within the family? • Has the FFS formation resulted in other group activities, and if so have all previous FFS group members participated? And if not, why not? • Have FFS inspired other groups to form, and if so, which (economic) activities have these undertaken, and what are the outcome of these activities? • Have FFS forums, field days and other activities such as cross visits lead to replication of technical or other concepts learned during the FFS by members of the surrounding community • To what extent has the FFS approaches resulted in change in income and income distribution at intra, and at inter household level? • To what extent has the FFS approach influenced the nutritional status (and possible health status) of family members and in the community, in general? • To what extent has the FFS influenced other developments, like education and awareness? • Are there any other unplanned impacts of the FFS activities from the point of view of the participants or implementers?

Evaluation Criteria	General relevance of the evaluation criteria (Danida)	Specific questions in the Evaluation of the FFS approach in Bangladesh
Sustainability	<ul style="list-style-type: none"> • “The continuation of benefits from a development intervention after major development assistance has been completed. Probability of long-term benefits. The resilience to risk of the net benefit flows over time”. 	<ul style="list-style-type: none"> • How many FFS have been established under ASPSII, how many have been phased-out (according to plan and prior to planned)? How many farmers/HHs have been reached? • How many of the programme initiated FFS group structures continued, in which form (Farmers Associations, CBO, clubs, others), for which type of activities, and with what level of programme support if any (including national/international adviser cost)? • Have there been constraints in terms of replication and/or continuation of group activities? • Which institutions have been used to promote FFS in Bangladesh and are such institutions likely to be able to continue after Danish support has been terminated?

6. Approach and Methodology

Evaluations of Danish development activities are carried out in accordance with the OECD/DAC Evaluation Quality Standards which requires, *inter alia*, that a sound methodology for all evaluations be used and explained in the evaluation report. The purpose of the methodology, and the basis on which its soundness is assessed, is to produce reliable data that allow for valid evaluative judgments that are useful for learning and making decisions (MFA, 2006, p.66)⁷². The validity of the individual evaluation however will depend on the data available.

The proposed evaluation of the FFS can be considered a ‘thematic’ evaluation, i.e. with a focus on how, when, and in which context FFS is an appropriate extension method in Bangladesh and how, when and in which context this approach may lead to other activities influencing the livelihood on village level in Bangladesh. The FFS evaluation will be a real-time ‘learning evaluation’ since the support to FFS is ongoing and since the evaluation will provide inputs for the planning of further support.

The evaluation will build on existing documentation as well as on primary data, to be collected by the evaluation team. In early 2010 a Joint Technical Review of the ASPS II was completed. The review highlights – *inter alia* – the overall status on the programme institutional setting, financial management aspects and monitoring and reporting, as well as aspects of these on component and sub-component level. One of the recommendations of the joint technical review is to look into the FFS and community approach utilised in the components. Impact studies are taking place as part of the regular monitoring of the programme. In 2010, impact studies on development objectives of the Regional Fisheries and Livestock component have taken place, and

72) Evaluation Guidelines, Ministry of Foreign Affairs/Danida, October 2006 p. 66: Inception: Methodological considerations.

an impact study of the Agricultural Extension components is expected finalised in early 2011.

The methodological approach of the evaluation of the FFSs is expected to include the following main elements:

- Desk study of programme documents, including technical review reports, impact studies, progress reports, PPO's, etc.
- Desk study of relevant national statistics (including health statistics) of Bangladesh.
- Stakeholder analysis through structured interviews with: a) focal groups and individual participants and non-participants of FFSs, b) relevant ministry staff, c) embassy staff d) programme staff, e) selected CBOs, regarding the outcome within the relevant focus areas.
- Survey and/or in-depth qualitative and quantitative analysis of XX selected cases of FFSs in the three geographically areas North West Bangladesh, Greater Barisal, and Greater Noakhali).
- Presentation of preliminary findings in Bangladesh (validation workshop).

A thorough context analysis (including analysis of institutional issues related to the utilization of the FFS) and programme theory based evaluation thinking will constitute important elements of the analytical framework for the evaluation (to be developed by the evaluation team). The analytical framework for the evaluation must also ensure proper consideration of gender issues to facilitate the specific analysis of the gender aspects of the FFS approach.

The methodology must ensure that the question of attribution versus contribution is addressed in a systematic manner. If data allows, use of matching techniques to identify comparison groups (with and without FFS interventions) should be included. Data triangulation and validation of information shall be considered in all aspects of the evaluation.

The evaluation team shall comment on and develop the analytical framework and the methodology further as part of their proposal (bid) and as part of the inception phase. Proposals for improvements/consolidation of the suggested methodology will be welcomed.

To ensure proper use of available data and a realistic design of the evaluation, it is suggested that the inception phase includes a pre-visit to Bangladesh by selected members of the evaluation team. The visit should include an assessment of available data and identify the sites to be visited during the main field work.

7. Time Table

It is the intention that a contract for the evaluation of the Farmer Field School approach can be signed by the end of February 2011 and, that a final draft report can be ready by September 2011.

8. Composition and qualification of the Evaluation Team

The Evaluation Team shall consist of international and regional/local consultants with experience in evaluation of development assistance (i.e. evaluations that conform to the DAC evaluation definition⁷³).

The organisation of the team's work is the responsibility of the consultant and should be specified and explained clearly in the tender. The Team Leader should be an international consultant.⁷⁴ The Team Leader is responsible for the team's reporting to and communication with the Evaluation Management, and for the organisation of the work of the team. The Team Leader will participate in the Evaluation Reference Groups' meetings and other meetings as required.

The full text of the ToR can be found at www.evaluation.dk.

73) Only evaluations according to OECD/DAC Guidelines carried out for evaluation clients such as evaluation departments of development organisations are accepted.

74) 'International consultants' are defined as persons with an international background, i.e. a degree from an internationally recognised university and professional experience from assignments within developing and developed countries.

Appendix 2: Key References

Strategy and policy documents:

Danish Ministry of Foreign Affairs (2000) *Partnership 2000*.

Danish Ministry of Foreign Affairs (2004) *Strategy for Danish Support to Indigenous Peoples*.

Danish Ministry of Foreign Affairs (2004) *Gender Equality in Danish Development Cooperation*.

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Government of Bangladesh (2011) *Bangladesh Country Investment Plan (CIP) – A road map towards investment in agriculture, nutrition and food security*.

Government of Bangladesh (2010) *Poverty Reduction Strategy Paper-II*.

ASPS II-related documents:

Danish Ministry of Foreign Affairs and Government of Bangladesh (2006) *ASPS Phase II 2006-2011, Bangladesh, Programme Document*.

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