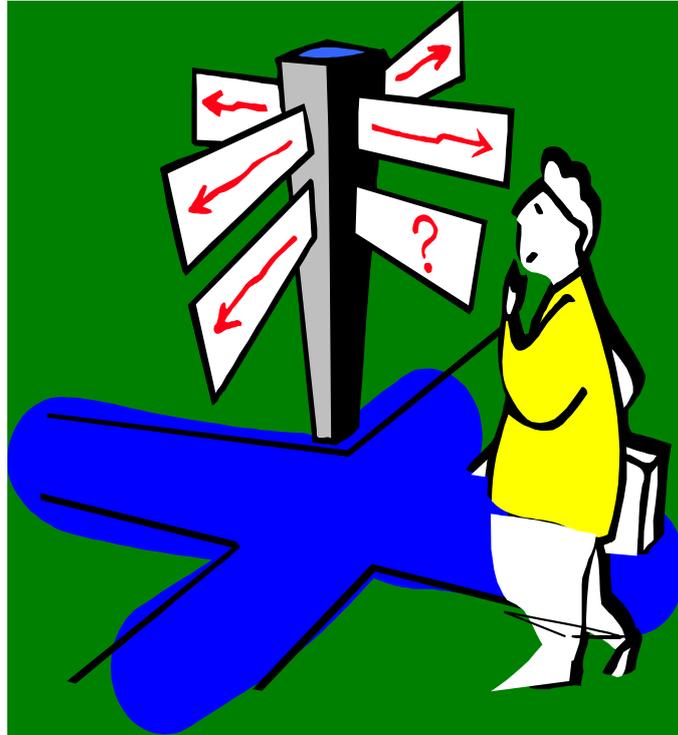


Lessons Learned

LIFE-NOPEST Project



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Acronyms

| | |
|--------|--|
| ANR | Agriculture and Natural Resources |
| BADC | Bangladesh Agricultural Development Corporation |
| BARI | Bangladesh Agricultural Research Institute |
| BRI | Bangladesh Rice Research Institute |
| CARE | CARE Bangladesh |
| CBO | Community Based Organizations |
| DAE | Department of Agriculture Extension |
| DFO | District Fisheries Officer |
| DoF | Department of Fisheries |
| DoL | Department of Livestock |
| EC | European Commission |
| EF | Extension Facilitator (partnership service delivery) |
| EU | European Union |
| FFS | Farmer Field Schools |
| FT | Field Trainer |
| HLS | Household Livelihood Security |
| LEIRP | Low External Input Rice Production |
| LEISA | Low External Input Sustainable Agriculture |
| LIFE | Locally Intensified Farming Enterprise (Project) |
| DoF | Department of Fisheries |
| DoL | Department of Livestock |
| M&E | Monitoring and Evaluation |
| NGO | Non Government Organizations |
| NOPEST | New Options for Pest Management (Project) |
| OD | Organization Development |
| ODM | Organization Development and Marketing |
| PC | Project Co-ordinator |
| PCBO | Partner Community Based Organization |
| PDO | Project Development Officer |
| PM | Project Manager |
| PNGO | Partner Non Government Organizations |
| PO | Project Officer |
| PSM | Project Support Manger |

| | |
|------|--|
| TCRC | Tuber Crop Research Center |
| TL | Team Leader (under partnership service delivery) |
| TO | Technical Officer |
| TOT | Training of Trainers |
| UAO | Upazilla Agriculture Officer |
| UFO | Upazilla Fisheries Officer |

Executive Summary

Background

LIFE-NOPEST project evolved through a merger of two independent projects of CARE Bangladesh funded by European Commission. The LIFE and NOPEST projects have demonstrated successes in diversifying rice field and whole farm production.

The project has been implemented in two delivery mechanisms - directly delivery through CARE staff and local NGOs partners. The partner NGOs implemented the program following CARE strategies and approaches and under its supervision.

The project is embarked upon FFS methods of agricultural extension. This approach sharpens farmers' critical and analytical thinking and promotes experiential learning. The project has transferred new options and technologies on diversified production and IPM to the participating farmers. It introduced a process of experiential learning that stimulates innovation by the farmers.

Organizational development is one of the main strategies of the phase II project. FFS that completes its learning cycle have been transformed as farmer organization to secure public services on a sustainable way. The farmer organization envisaged to engage into broader social and economical issues for food security and social well being of its members. LIFE-NOPEST project has developed a systematic approach though organizational development to transform the FFS into organization of farmers that functions like CBOs

Marketing is another important strategy of the project. It has adopted non-interventionist marketing approach meaning that the project does not intervene in the market or conduct the marketing function per se. Rather the project develops and builds capacities of the small farmer so that they can maximize the price of their produce and earn profit from the agricultural activities.

LIFE NOPPEST project has embedded rights, gender and governance theme in its approaches and strategies for sustainable food security of the poor farmer through enhances access to services and opportunities. These issues are integrated in the FFS approach and later on further expanded in the organizational development process.

The project had impacted over 70,560 food insecure households, 50% of those are women. It has facilitated formation of 1,428 FFS covering approximately 32000 participants. It was envisaged that targeted 30, 000 primary participants will enable similar number secondary participants to adopt at least one innovation made by them. Project record suggests that this number is significantly surpassed to 35, 544. About 90% of these secondary adaptors were involved in experimentation with crops, which they learned from their participants as BUDDY farmer.

In addition, 120 FFS that completed their learning cycle into community-based organization to address wider livelihood issues. During the extension period the project is nurturing another 400 FFS groups towards community based organizational development. The project has established about 100 women market corners in the local markets.

Lessons Learned

LIFE NOPEST has learned a number of lessons. These lessons are derived through self-evaluation, internal monitoring and reflection as well as external evaluation. Following are the key lessons that project has learned over the years. The learning are presented according the various strategies and approaches the project has adopted.

Farmer Field School (FFS)

The project is embraced upon the FFS approach to experiment and innovate technological solution to the farmers' problem and enhances their food security. This approach is widely accepted and implemented in various contexts including Bangladesh. However, the project has learned few specifics that may enhance efficacy of FFS approach.

- *Critical analysis of the participant's well being with a combination of agricultural land, RPA, social security, health condition and non-agricultural income criteria can make appropriate participants selection*
- *FFS size should be flexible for effective group functioning. Professional group should be exception in size limit*
- *Farmer day observation is one of the most effective strategy to persuade community members for FFS formation and promote technology dissemination*

Organizational Development

Organizational development process was endeavored in this project for the first time within CARE. The whole process has been a new experience for not only the project but for CARE as well. FFS formation provides the basis of organizational development. However, the evolution of farmers' organizations from FFS is a learning experience within its architecture and process.

- *Farmers' organization is an effective approach in terms of sustainable access to resources, livelihood security and social capital development. Whereas FFS focuses only on food security through technological solution to farming*
- *Leaders developed through group dynamics with external facilitation tend to be most effective in terms of participation, accountability and transparency, and ensures leadership diversity within the organization*
- *Providing responsibility with smaller group with particular interest and/or expertise such as gender, marketing, technology increases ownership, enhances implementation and develops alternative leadership*
- *Mixed group provides better representation while addressing larger issues such as accessing resources, livelihood security, and rights*
- *A gradual process with facilitation to develop constitution evokes participation and ownership among the member, and enhance constitutional compliance in farmer organization*
- *Organization can implement their projects more effectively if they involve their members as well as other stakeholders including community members and local institutions during planning*

- *Economic activity taken up with members savings command high degree of monitoring and accountability from the members. These projects functions better and repayment is high*
- *Federation with the representation of the primary organization poses stronger voice and command importance from the mainstream service providers where primary organization find it difficult.*

Gender

The project envisages empowering the women through its approaches and strategies. In that, the gender dimension of the project is embedded. Gender objective within the agricultural extension project permeates some social agenda that specifically affects women.

- *It is necessary to work with male and female together to improve gender situation*
- *It is important to work on strategic issues encompassing existing social system rather than only on the immediate needs of the target women to solve their problem*

Governance

The project envisages governance from the perspective of the farmers organizations and their access to public services. Farmer organizations functioning, practices, leadership etc encompasses the key governance issue

- *Community people provide cooperation and support to the organisations when they are well informed about the organization and its accounts*
- *Women member can exert leadership through participation in local governance, social and community development activities*
- *Leadership selection by the group members through a democratic process, without external imposition, resolves conflicts, enhances inclusive decision making within the organization and thereby increases community acceptance*

Rights

A right over the land is a key issue for enhancing food security of the poor and food insecure farmer. The project has taken a pilot initiative to enhance farmers right over the public land and in particular over Khas land.

- *CARE needs to be equipped with information, appropriate approaches and strategies, and operational procedures to facilitate poor peoples' access to Khas land*
- *Accessibility of small farmers to mainstream services enhances when they form their organization as it provides scale and strong voice to demand for services*
- *Community participation is imperative for the farmer organization to gain access to roadside land and water body*

Linkage

Establishing linkages with public service agencies is an important strategy in the project. It strived to establish linkages between the FFS and later on, the farmer organizations with the local level service agencies

- *Farmer organization provides the synergy and leverage for public service provider to accomplish their objectives*
- *Regular and effective communication with the administration and service providers enhances community access to mainstream services*

Marketing Approach

The project emphasize on capacity building of the farmers to fetch higher price from their produce. Towards that it has disseminated several methods and strategies on product quality improvement and their marketing

- *Farmer can procure agricultural inputs such as seed, fertilizer at lower cost in terms of lower transportation cost, whole sell market price when they purchase the inputs jointly in bulk quantity*
- *Farmers can fetch higher price through collective selling of their produce*
- *Grading and cleaning method are effective for agricultural produce to fetch higher price with certain exceptions such as potato*
- *Short term organizational loan to the farmer members is an effective strategy to prevent them from distress sell of their produce in lower price*
- *Consultation and participation of local leaders, religious leaders, market committee and influential people from planning to the implementation can promote WMC*
- *Women can run their business profitably when their shops are spread throughout the market not just concentrated in one corner. Only specialized store such as ladies tailor or confectionary can be in one corner.*
- *Product quality assurance through grading, cleaning generally fetch better price*

Technology Adoption

LIFE NOPEST project strived to promote agricultural technologies that suit the particular needs of the small farmer. In that, it encouraged the farmers to adapt agricultural technologies rather than innovating new technologies.

- *SRI technology is particularly difficult to adopt in small landholding because of high labour demand and rigorous water management*
- *IPM becomes effective when the methods are used by the community rather than few individuals*
- *Rice-fish cultivation reduces weeding and pesticide cost, increase total value of the produce and thus profitable. Curpu and Sharputi is particularly appropriate for its ability to survive in stretch condition*

Secondary Adoption

The original participant encouraged one buddy participant to adapt new technology in farming. S/he passed on information to the buddy participants on new and innovative agricultural methods. Buddy participants applied the new learning in their respective farms.

- *Community based secondary adopters are interested in pit crop, hand pollination, bait trap, ICM and line plantation as this technologies are profitable and easy to adopt*
- *Female SA prefer pit based vegetable such as bean, pumpkin, gourd, Korolla, spinach (Pui-shak), cultivation in the homestead*

Share Cropping

Share cropping is a common phenomena in our agricultural practices. By and large, small farmer cultivate on absentee landholder's land. Sharecropping arrangement and conditions has a major implication on food security. The project has experimented with a small scale pilot in Chapi Nawabgonj and learned the following

- *Improved agricultural technology is effective for food security for the small farmer only when they have rights on the land*
- *Sharecropper can negotiate for better terms and condition with the landlords when they are organized and raise voice unitedly*

Farmer Leader

Farmer leaders worked as project extension worker with a high degree of success. This is also an innovative approach to agricultural extension. The project has learn the following as far as FL are concerned

- *Leadership quality, community acceptance, work interest and younger age are the key features for selection of appropriate farmer leader*
- *Female are more attentive and effective as farmer leader than the male because they are committed to their work, conduct regular follow up and supervise FFS members closely*

Partnership

LIFE NOPEST project has introduced some innovative approach in the partnership arrangement. This aspects has made this project a special place for promoting partners role in program planning and implementation.

- *Partner NGOs participation in planning, budgeting and MoU formulation increase their ownership in the project*
- *Coordination meeting at the partner's site on a rotational basis ensures openness, critical reflections and competitiveness among the partner, hence is an effective mechanism for developing common understanding and resolving problem*
- *Joint learning and sharing program between CARE and partner NGOs increases mutual understanding of needs, staff capacity, and implementation quality*

- *CBO can be an effective delivery channel for project implementation provided financial and institutional capacity building elements are integrated in the partnership*

Project Monitoring

Project monitoring remains an integral part of the project. Monitoring itself is a management as well as an learning tool. Information and analysis drawn from the monitoring provides a authentic mechanism for CARE management and the field staff to locate problem and provide solutions.

- *Team based data analysis at the collection site enables frontline staff to assess and respond farmers problem quickly and more accurately*

Learning Dissemination

The project learning will be shared with the professionals and institutions involved in agricultural extension work. Lessons learned from LIFE NOPEST program may provide insights, strategies and approaches to design new projects or to be integrated into ongoing similar projects.

Specific learning packages will be developed to disseminate the learning based on the requirement and interest of the audience. These learning packages will be delivered using the most effective communication channel.

1. OVERVIEW OF LIFE/NOPEST PHASE II

LIFE/NOPEST Phase II project has evolved as a merger of two independent projects - LIFE and NOPEST of CARE Bangladesh funded by European Commission. It is, in fact, a combination of the most effective activities from each of these two projects.

The LIFE and NOPEST projects have demonstrated success in diversifying rice field (NOPEST) and whole farm (LIFE) production. The projects have been very effective in transferring new ideas and technologies on diversified production and IPM to the participating farmers. It introduced a process of experiential learning, a fundamental precept of modern pedagogy, which does stimulate innovation by farmers.

The LIFE/NOPEST Phase II is designed to build the capacities of food deficit rural households who are primarily dependent on farming to maintain their livelihoods. The Project is envisaged in increasing and sustaining farm production in an environment friendly manner that would eventually contribute to the food security for smallholder and marginal farmers. The target beneficiaries are low income, food insecure rural households - dependent primarily on agriculture for their livelihoods with particular attention to women-headed households. It is focused to build on farmer's knowledge and promote optimum and sustainable use of scarce resources at the farm level. It is expected that farmers would form sound strategies and assess available and new technologies to judge suitability within their own agro-economic conditions.

The primary approach of the project has been Farmer Field School (FFS) – a group of 20-25 poor farmers who have access to land between .15 and 5 acres. This approach sharpens farmers' critical and analytical thinking and promotes experiential learning. A pilot activity was built-in with the project to test approaches to explore the potential benefits to local Farmers Schools that might go beyond crop technology. These pilot activities include building the capacities of participating farmers to improve their marketing practices, as well as assisting Farmers Field School groups that have completed their learning cycles to evolve into community-based organizations that can address wider livelihoods issues. The no cost extension phase was particularly intended to capture the aforesaid areas and consolidate the achievements of the project. It was envisaged that the extension period would enhance FFS groups' sustainability towards community-based organizations (CBO). With the participation of wider community people in the CBOs, it would remove factors that hindered them from accessing common natural resources and mainstream agricultural extension services, and address livelihood issues that affect their ability to achieve food security. The project also intended to increase participation of small-scale farmers in local level institutions by promoting good governance and creating linkages.

1.1 Project objectives as laid out in LFA

The LIFE/NOPEST Phase II was initially designed for a period of two years and then revisiting its originally designed LFA without changing the overall goal of the project. The project purpose was slightly changed. Area wise Chapai Nawabgonj district was included instead of Comilla. Purpose statement of the extension phase remained focused on 25,000 food insecure farmers instead of 63,000. Again, out of 25000,

12500 were direct participants of FFS and the rest 12,500 were the secondary adopter – not FFS member.

With regard to strategies, pilot activities have been dropped. More emphasis has been put on marketing and organization development as a result of successful demonstration of these activities during the piloting. CBO development was formally introduced as a strategy towards mainstreaming agricultural extension services. Substantial importance was given to marketing strategy development. Innovative ideas like women market corner development were successfully initiated. Dissemination of project learning has been a creditable strategy adopted during the extension phase.

1.2 Results Achieved

The project had impacted over 70,560 food insecure households (50% of those are women) which is 12% more than originally planned out-reach target. The project has facilitated formation of 1,428 FFS covering approximately 32000 participants and carried-out regular learning sessions¹. In addition, the project had facilitated a transformation process to turn 120 FFS that completed their learning cycle into community-based organization to address wider livelihood issues. During the extension period the project nurtured another 400 FFS groups towards community based organizational development. These organisations now have their own constitutions, leadership structure and are able to generate profit ranging from 20 - 40% to be distributed among the members. The project facilitated adoption of better marketing options that enabled the farmer to earn higher income from their produces. Some of the marketing practices like collective procurement of agricultural inputs and collective sale of the produce to get benefit of scale effect have been proved to be most successful. Value additions to the produces like cleaning and grading have also been found effective for securing better price. The project successfully facilitated in establishing about 100 women market corners in the local markets. This is a step forward towards empowerment of vulnerable women to secure their rights to income and decision making, and enhance mobility of the women in the community and market place. The FFS groups and farmer organizations established meaningful linkages with mainstream service providers and sources of new innovation that is likely to bring about better solutions of their farming problem in the future.

With improved technological adaptation, participants have been able to increase their farm production by 21%. System of Rice Intensification (SRI) has got tremendous attention from the farming community. This technology has boosted up rice production by 20-30 % on farmer-managed demonstration plots, with equal or lower input investment. Facilitation for linkages successfully helped FFS groups to establish effective relationship with the mainstream service providers like DAE, DoF, DoL and many other GO and NGO offices in the locality. For instance, linkage with DoF, made about 550 farmers groups trained on improved fish culture techniques. About 30,000 cattle and 50,000 poultry birds were vaccinated with the support from DoL.

It was envisaged that 30, 000 primary participants will enable similar number of secondary participants to adopt at least one innovation made by them. Project record

¹ Statistics of achievements or result mention in this section are taken from the two Annual progress reports for the project year 2001-2002 and 2002 –2003.

suggests that this number is significantly surpassed to 35, 544. During the extension period, the project has reached to another 10,000 secondary adopters. Each of these secondary adopters have indeed applied more than two practices on average. About 90% of the secondary adaptors are involved in experimentation with crops, which they have learned as BUDDY farmer.

2. PURPOSE OF THIS LEARNING DOCUMENT

LIFE NOPEST project has completed its project cycle through a evolutionary process. Initially two separate projects have been merged on the premise of supplementary and complementarities. The lessons learned were integrated into the evolution of the project and they became part of the project. Few experimentations were also piloted in the project. The experimentations were based on project strategies, locations, geographic features, social characteristics, and project management and delivery practices. The very nature of the project is of experimentation and extension of agricultural technologies to enhance food security of the food insecure people. Internal monitoring, research and studies, and self assessment process have been built into the project to continually learn from the activities that can enrich the project design and possibly to contribute to similar projects and activities within CARE and other institutions. Apart from increasing food security of the target participants, the project also has a mandate to learn from its own activities and disseminate those learning to a wider audience.

This document was developed based on self-evaluation methods that were practiced in the project. Project staff from CARE and the partner organisations critically examined the project strategies and approaches and analyzed the impact. Self-evaluation was bolstered by internal monitoring findings, external review and studies, and management reflections. All these information were collected and reflected on to draw learning that were innovative and unique within the project context. This document in effect tried to capture those learning.

The project learning will be shared with the professionals and institutions involved in agricultural extension work, in particular with those who are actively working on food security program. The lessons learned from the LIFE NOPEST program is expected to provide insights, strategies and approaches to design new projects or to be integrated into ongoing similar projects. Thus, the whole agricultural extension program can be benefited from this document.

3. REVIEW OF PROJECT STRATEGIES AND APPROACHES

LIFE–NOPEST project embarked upon number of successful approaches and strategies. The project approaches provide the fundamental orientation and policy guides where as the strategies operates in more operational terms and provides the working procedures to accomplish the objectives. Following are the main project strategies.

1.3 Farmer Field School (FFS)

LIFE NOPEST project is embarked upon the Farmer Field School (FFS) methods. Some of the key features of the FFS formation include area survey, FGD, community meeting, well-being analysis and participant selection. They constitute the standard process for FFS formation. LIFE NOPEST project has come across some difficulties in the implementation of this standard process. In particular, area survey does not always provide accurate information. Elder people and UP office can provide more accurate information about the area. FGD can also be ineffective at times when people purposively give wrong information with an intention to become member of FFS. Sometime people with different background participate in FGD sessions and thus one can influence other.

Well-being analysis is done to determine the economic status of the potential participants. The criterion used in the project for well being analysis is not compatible with the farmer’s perspective. Only landholding does not depicts the true measure of economic condition of a household. Rather, all factors related to living condition need to be taken in consideration for measuring well-being of the participant. As far as the participant selection is concerned, people with similar background and profession can implement program more effectively.

Group size is an important aspect for the effective functioning of FFS. Twenty-five members is desirable group size but may not be ideal in all contexts. In that the group size needs to be flexible depending on the context and program plan. Bigger group size has specific difficulties such as inappropriate and less interested participants selection, distance between members, participation of all members etc. Group variations also have advantages and disadvantages. Homogeneous group such as male group or female group have contain advantages like easy to form, better participation and group cohesiveness. However, female groups are less inclined to communicate with external agencies. On the other hand, mixed group provides a forum to express opinion of male and female. They are better in communicating with the public service agencies. However, female members have less participation in learning sessions. They tend to sit together.

1.4 Organizational Development Process

LIFE-NOPEST project has adopted organizational development as a key strategy in the second phase. This strategy calls for transforming the FFS as local institutions to secure public services on a sustainable way. The farmer engages into broader social and economical issues for food security and social well being. LIEF-NOPEST project has developed a systematic approach though organizational development to transform

the FFS into organization of farmers that functions like CBOs. These organisations at a later stage form federations with their representation. The federation complements and supplements the role of the local organisations with more strategic motive.

The project has been quite successful in the approach to organizational development. The farmers are now more united to realize their objective and recognized in the locality. Some of them are taking on economic venture. The farmer organisations are also helping local people in many ways and are taking important role in local level litigation, activism and other social activities.

These organizations require significant facilitation to reach to an institutional shape. The rigorous and systematic process pursued by the project needs more time than it has been planned in the project. Leadership develop is an other important issue in the OD process. Concentration of leadership within few individuals does have a negative impact on the growth of the organization. In some cases, political leaders try to co-opt the organization in their favour.

The project has identified few practices that illustrate the strength of the organization. In fact these practices are promoted by the project. Some of them are:

- Practice of constitution
- Regular holding of yearly general meeting
- Successful implementation of joint project
- Bargain with others to protect their interest
- Development of alternative leadership
- Participation in various committees

1.5 Rights, Gender and Governance

LIFE NOPPEST project has embedded rights, gender and governance theme in its approaches and strategies. It has taken specific measures to create awareness among the participants in FFS approach. These are value added measures in FFS that are generally meant for promoting agricultural technologies and solution.

The project has achieved some success in these areas as revealed in the self-evaluation workshops. Organization of farmer is the key to ensure rights. The farmers have gained rights over the use of Khas land, wetland and the road side land for plantation and other agricultural uses. The project has disseminated information to the participants and the organization has enabled the farmers to remain united. Farmers also established effective communication with the concerned duty bearers to access these resources. They also regularly communicate with the potential opponents to gain their support and avoid conflicts.

Women members also participated alongside male in village-based litigation and conflict resolution and have been able to raise their voice. Their association and involvement with the organizational activities has given the impetus to take such social role. A degree of leadership quality has emerged among the female members. Group members' access to public services has increased due to enhanced communication and linkages. Public officials are more proactive to increase their services to the poor. This happens particularly in vaccination, DTW, sanitation and youth development. Program participants also gain some degree of success in

addressing social problem. Awareness building program in the form of training, meeting, motivational campaign have been very instrumental to increase women role in social events.

1.6 Linkages

LIFE NOPEST project envisages establishing linkages with various public sector services providers with the FFS and farmers organisations. This will enable the farmers to access to new innovations and technologies besides regular services.

The project has been able to gain access to public services for the participants. In particular, program participants receive better services from livestock department, youth departments and Fisheries department. Program participants have received vaccination services and training from the livestock department. Trained vaccinator has developed from the local community and thus this service become easily accessible to the community people. Participants also received training on various trades from Youth Development Centre. However, participants' accesses to agricultural extension services (DAE) have been limited.

The success of linkages can be attributed to some factors. Communication and interaction with the public services providers to clarify the project is very important to gain their support. Coordination meetings at district and sub-district level provide good opportunity to clarify the project goal and achievements. On the other hand, public service organization also likes to work with organized group instead of individuals. For group provides a structure and service point to deliver their services conveniently to many people in short period with lower logistical involvement.

The level of linkages is also dependent on the strength of the organization. Organization with strong leadership finds it easy to establish linkages with the public agencies. Federation of farmer organisations commends much respect from the service agencies than individual organisations.

1.7 Marketing

LIFE NOPEST project has adopted non-interventionist marketing approach that suggests the project does not intervene in the market or conduct the marketing function per se. Rather the project intends to develop and build capacities of the small farmers so that they themselves can operate gainfully in the market through taking advantages of market opportunities and avoiding risks.

LIFE NO PEST did not impose any marketing methods to the farmers. Rather the project has exposed various options of marketing to them and let them decide. The farmers have become aware of various marketing channel and improved communication skills. They are getting market information and as a result are bargaining more effectively to get fair price.

Marketing approach of the project also suffered from some limitations. A section of the participants are not involved in business activity. Apart from that most of the participants do not have adequate education to internalize the marketing skills quickly. It requires long term coaching and assistance to equip these less educated people with marketing skills specially when they are not involved in business activity.

LIFE NOPEST project has developed marketing group. The group has been quite instrumental to disseminate the marketing concept among the members. However, the group has not worked quite effectively as expected. For some of the group members are not involved in business.

The project also prepared a cropping calendar to plan crop production. This calendar provides relevant information to the farmers to plan their production to get maximum price in relation to their respective agronomic context. The farmers were able to fetch better price for their produce. But for some farmers the calendar was not quite clear as they felt it complex. It needs more systematic approach to clarify the calendar to the farmer and the calendar itself can be simplified further.

The project also disseminated information related to quality control to optimize product price. Grading, cleaning and packaging were the main quality control features of the recommended marketing approach. Except packaging, the farmers have obtain better price through adoption of quality measures. Spot marketing and collective marketing approach seems to be beneficial to the farmers in fetching better price. But many group could not benefit from this as they could produce require volume (scale) for such marketing approach.

Women market corner is a especial feature of the LIFE NOPEST project. The project has been successful in some area and not so successful in other areas. Women market has created earning opportunity for the women and ensured better price for their produce. WMC is particularly attractive to the women who are important earning member of the family. Apart from that WMC has been very instrumental in improving women's access to the market, self-esteem and social position. Their business skills also improved. However, WMC also encountered significant opposition and constraints from social, political and other vested interest groups. In the name of religion and tradition, these groups have put strong institutional and process barriers for the WMC to succeed. In that many WMC started with great potential has later on slipped to some extent. In some cases WMC has stopped functioning due to enormous opposition and unfavorable business condition.

1.8 Farmer Leader

LIFE NOPEST project has used farmer leaders to form and facilitate FFS group. They have worked with intensive guidance, assistance and supervision of CARE staff. They played the role of field trainer/field facilitator to develop FFS group with required technical competencies. The farmer leaders are selected from the FFS members. They have some level of education and leadership quality. They are technically sound and have good facilitation skill. About 60% of the farmer leaders are male and the rest are female. Female representation is low because of less educational qualification and social barrier. However, in reality, female farmer leader have performed better. Because they are more serious as they consider it as a profession and important source of income. They give more time to their work and can mix with the member easily.

Farmer leaders have established 10% FFS within their own village and 90% FFS in the neighboring villages. Women farmer leaders works with FFS in their close proximity and those FFS have performed better. Intensive follow up and monitoring by the female farmer leaders has made those FFS performed well. Following are some of the features that has made the FL successful:

- Acceptability by the farmers
- Regularity of learning session
- High degree of facilitation in the learning session
- Effective follow up

1.9 Partnership Strategy

LIFE –NOPEST project has been implemented in two ways. Firstly, direct delivery where CARE implements the program through its own staff and system. Secondly, part of the program has been implemented through local NGOs with a framework of partnership with CARE. The partner NGOs implemented the program following CARE strategies and approaches and under its supervision. Capacity building of the partners to enable them to implement program has been an integral part of the partnership strategy.

The partnership brings up great benefit to the project. This has made possible for CARE to outreach to the beneficiaries who are in desperate need to the project support and services. Local NGO partners have developed significant capacity to implement agricultural extension projects. Their capacities were gained through regular training program, cross visits, workshops and joint meetings. Joint planning and implementation has enabled the NGO partners to expose to professional quality of CARE, which they in turn have implemented in the field. The second phase of the project has brought special significance to the partnership. Partners have more involvement and control over staff recruitment, budgeting and program planning and implementation. This has contributed to their capacity building, ownership development and thus improved quality.

The Chief Executives of the partner NGOs gave considerable amount of time to this project as their time have been compensated by the project. Their involvement greatly enhanced the implementation. However, there are some drawbacks to the partnership. Partners still lack required technical and institutional capacity. In particular, financial management is weak and most partners do not have standard management system in place. In most cases, senior management involvement to the project is not up to requirement and thus the decision making process affects the implementation. The sustainability of the partnership project is also in dilemma. After project phase out partner NGOs lack required finance to continue the project activities.

CBOs also comprise an important element to the partnership strategy. Alongside local NGOs, some CBOs also implement LIFE-NOPEST project. CBOs and PNGO have comparative advantages as well as disadvantages. PNGO are more institutional and run other program that gives sustainability to the project. They have better linkages and access to other resources and institutions. On the other hand, CBOs are better accepted in the community and enjoy more cooperation from the program participants. CBOs are economic as they employ local people. However, CBOs lack technical and institutional capacity to comply with the project requirements.

4. LESSONS LEARNED

LIFE NOPEST project in its various phases has gone through an evolutionary process. Self-evaluation has been an integral part of the project development and review. The staff members of CARE and the partner organizations actively participated in the self-evaluation process. Apart from it, external evaluations and monitoring were done to assess the project strategies, procedures and results at different junctures of the project's life cycle. Following section provides a vivid description of the lessons learned during the implementation of the project. The learning are presented according to the strategies and approaches employed in the project.

1.10 Farmer Field School (FFS)

The project is embraced upon the FFS approach to experiment and innovate technological solution to the farmers' problem and enhances their food security. This approach is widely accepted and implemented in many developing countries including Bangladesh. However, the project has learned few specifics that may enhance efficacy of FFS approach.

1.10.1 Participants selection

Critical analysis of the participant's well being with a combination of agricultural land, RPA, social security, health condition and non-agricultural income criteria can make appropriate participants selection

The project has established criteria for the selection of participants. These criteria are primarily based on the land holding. Landholding is undoubtedly an important determinant but does not always say about the overall economic and social well being status. Again, only landholding does not always portray food security status of a family. There are other factors such as alternative income, land productivity and so on so forth that are equally important determinant for household food security. The project needs to be flexible in terms criteria setting to select participants.

1.10.2 FFS size

FFS size should be flexible for effective group functioning. Professional group should be exception in size limit

The project envisages forming FFS with homogenous people in one part of the village. There is no standard size but it is desirable that a FFS size be around 20 with a range between 15 and 20. However, the project always follows a flexible approach to form the FFS. The experience suggests that bigger FFS size does not comply with participants' selection criteria and have difficulty in implementing program with quality. The project impact is affected if the FFS is not appropriate in size.

1.10.3 Project promotion

Farmer day observation is one of the most effective strategy to persuade community members for FFS formation and promote technology dissemination

The project has taken specific measures to induce the small farmers to participant in the project. Farmer day observation is one such activity that the project has perused to promote the FFS concept. This has a tremendous success in terms of arousing interest among the farmers to become member of FFS. Community people appreciated the

FFS concept and showed interest to form FFS. Formation of new FFS became easier and faster.

A Case on FFS Formation

FFS formation begins with the identification of appropriate farmers. "I started to build rapport with a group of poor farmers of a village and made few visits there. I organized a general meeting in the village and explained the purpose of LIFE/NO PEST project." Said Santi Rani, a FT of Mymensingh field office. She continued, " In the midst, I was accused by a group of villagers that CARE will cheat the poor people by grasping their savings money. I was told not to derail the poor people. They particularly warned me not to play with poor women. I then discuss the situation with my superiors and fellow colleague in our Team Office. "

She narrated further, "Afterwards, I organized community a meeting with the cross section of villagers and described how the farmers would be benefited from the project. I also organized a meeting with the husbands of poor women and told them the purpose of Farmers Field School. I explained them that CARE would not collect and savings money rather it would provide technical support and guidance on agriculture. Finally I overcame the situation and formed the FFS group. Through this process I learned some valuable lessons that made me possible to form others FFS smoothly." These are: a) meet cross section of people of a village and explained the objective clearly; b) while working with women participants, a pre-discussion with their husbands and/or guardian of female participants make it simple to avoid chance of mistrust.

1.11 Organizational Development

Organizational development process was endeavored in this project for the first time within CARE. The whole process has been a new experience for not only the project but for CARE as well. FFS formation provides the basis of organizational development. However, the evolution of farmers' organizations from FFS is a learning experience within its architecture and process. These are:

1.11.1 Organization Effectiveness

Farmers' organization is an effective approach in terms of sustainable access to resources, livelihood security and social capital development. Whereas FFS focuses only on food security through technological solution to farming

The farmer's organizations have evolved from the graduated FFS. During FFS, farmers are equipped only with competencies of agricultural productivity and technologies options and solutions. But in the organizational development process, the members are also exposed to various livelihood issues including health, education and social and political issues. They are also involved in many other social activities. Their organization not only contributes to increase income, access to agricultural inputs but also to enhance farmers' position in the community and command respect. They can participate in the local power structure.

1.11.2 Leadership Development

Leaders developed through group dynamics with external facilitation tend to be most effective in terms of participation, accountability and transparency, and ensures leadership diversity within the organization

Monopolization of leadership in the organization is a concern for the growth and development of neutral and purposeful farmers organizations. CARE has established a process where an executive committee function for 1 or 2 year. This is a facilitative

process. However, there are opposition views on this procedure largely expressed by the leaders. Few organisations followed the procedure in the beginning but altered that overtime. Some committees showed strong reservation for fixing terms for leaders. Most leaders see this as a question mark on their ability to lead. All these perceptions in reality affects leadership development in the organization. However, the need for facilitation is strongly argued for ensuring participation, accountability and diversity without hampering the natural growth.

Providing responsibility with smaller group with particular interest and/or expertise such as gender, marketing, technology increases ownership, enhances implementation and develops alternative leadership

Committee members are involved in the implementation of various programmatic issues. Committee members share the responsibilities among them. Responsibilities assigned among the committee members are based on their interest and expertise. Smaller committees are seemingly more effective to accomplish their task. This also helps develop sense of responsibility and leadership among the committee members. They have changed the working mechanism in smaller group that proves to be more effective.

1.11.3 Membership Composition

Mixed group provides better representation while addressing larger issues such as accessing resources, livelihood security, and rights

LIFE NOPEST project have both uniform and mixed group. Women members are very proactive in savings and credit realization. Solidarity is strong among them. They are also very instrumental in taking up issues related to household. Female groups are more proactive in addressing social issues. On the other hand male members are more effective in risk taking ventures and external communication. They take stronger role in demanding services from the public institutions. They are found to be effective in networking and linkage building. Mixed group with both male and female members are seen to be more representative in accessing services and economic activities. However, in our male dominant society it is important that mixed group maintains equity in terms of power, position and role in the organization.

1.11.4 Constitution development

A gradual process with facilitation to develop constitution evokes participation and ownership among the member, and enhance constitutional compliance in farmer organization

Each farmer organizations has their own constitution. The constitution is developed through a facilitative process. Initially the constitution was prepared in one long session. As a result, members did not realize the importance and meaning of the constitution and could not contribute to it. Later on, the project followed a step-by-step process to prepare the constitution. This has improved members understanding and contribution to the constitution. Evidently these organizations uphold the constitution more effectively in their regular activities and functions.

1.11.5 Planning and implementation

Organization can implement their projects more effectively if they involve their members as well as other stakeholders including community members and local institutions during planning

Farmers organization plan and implement micro initiatives. Some of these initiatives require support of other institutions and people to effectively implement the plan. Farmer organization at times plan things without the participation of other stakeholders such as community leaders, UP members or other important groups or individuals. During the implementation time, the members did not receive support from them that seriously impeded the project.

A case on Organizational Development

In the middle of 2003, Nandipur Farmer Field School (FFS) turned into Nandipur Rural Development Organization. This change has brought new meaning to it. The learning gained from participating in the NOPEST project has been the capital of the organization. Members have started savings to establish an organizational fund. It has developed a structure with leaders have specific roles and responsibilities. Community people are getting involved. It acquired a social value and pride within the village. It now plays an important role in Gram Sarkar, school committees and other social institutions in the locality. It has established linkages with local GO and NGO offices.

Unity and leadership quality of the group have made this possible. LIFE/NOPEST project facilitation for organizational development has been the key to this transformation of a project delivery structure into a social institution committed to develop them

1.11.6 Economic Activity

Economic activity taken up with members savings command high degree of monitoring and accountability from the members. These projects functions better and repayment is high

Farmer groups collect savings from the members and lend those savings to the members to take up economic activity. Other members of the group have both concern and ownership on the income generating activity as the security of their savings is dependent on the success of the project. Group members generally repay the loan in advance even by taking loan from other NGOs. The recovery rate is almost 100%. Members deem that organizational fund will provide security at their difficult time.

1.11.7 Federation of farmer organization

Federation with the representation of the primary organization poses stronger voice and command importance from the mainstream service providers where primary organization find it difficult

The project has facilitated the formation of federation at the Upazilla level. The federation has been formed with the representation of the primary groups. Federation provides a bigger forum and power base to represent to mainstream service providers. Service agencies give more value and give hearing at the representation of the federation than few individual leaders from a group. The federation has been quite successful to ensure services to the group members that otherwise would be very difficult to access by individual group.

1.12 Gender

The project envisages empowering the women through its approaches and strategies. In that, the gender dimension of the project is embedded. Gender objective within the

agricultural extension project permeates some social agenda that specifically affects women.

1.12.1 Gender Equality

It is necessary to work with male and female together to improve gender situation

The project has developed FFS exclusively with the female members in some areas. This strategy does help the women member to involve in the FFS at ease but the gender objective could not be realized fully. The female members are inhabited by the male guardians to participant in group activities. In some cases they could not participate even with the approval of the members due to the opposition of the male community leaders. However, the project has arranged joint meeting where both male and female had participated. This induced increased participation of the female members in group activities.

1.12.2 Address Women Problem

It is important to work on strategic issues encompassing existing social system rather than only on the immediate needs of the target women to solve their problem

The project has disseminated many awareness messages to the women members. The members have developed awareness on their rights and positions in the family as well as in the society. But the awareness message in most cases do not reach to the family members. On the other hand, adolescent girls do not know their rights. Later on, they are also fell victim of oppression and violation of rights. But the project kept its focus only on the members to improve the rights of the women. Indeed, women rights is a social issue and thus needs social motivation and change.

1.13 Governance

The project envisages governance from the perspective of the farmers organizations and their access to public services. Farmer organizations functioning, practices, leadership etc encompasses the key governance issue.

1.13.1 Organizational Transparency

Community people provide cooperation and support to the organisations when they are well informed about the organization and its accounts

The farmer organizations work within a social system. Other members of the community are curious about the organization. On the other hand, the organization also requires support from the community members to implement its program. When the community people are aware of the organization and its activities, they tend to provide support and assistance to the organization. On the contrary, community people can develop resistance to the organizational activities. Generally, farmers organization disseminate its activities and accounts through AGM. It ensures transparency of the organization toward its members and the community at large.

1.13.2 Women leadership

Women member can exert leadership through participation in local governance, social and community development activities

The project not only involves the female members in agricultural activities to improve their food security but also involved them in various social programs. Farmer leaders have participated in Union Parishad (UP), Gram Sarker, Ansar, VDP, School and Madrasa Committees etc. Their participation has ensured better access to the services provided by these institutions. The farmer leaders also represented to the government department on behalf of their locality. Their representation has ensured afforestation of their locality.

1.13.3 Community Acceptance

Leadership selection by the group members through a democratic process, without external imposition, resolves conflicts, enhances inclusive decision making within the organization and thereby increases community acceptance

The project envisages developing alternative leadership within the farmers organization to improve its effectiveness and sustainability. The members elect the leaders for a two years term through direct vote. Thus the leaders are emerged through a democratic process. The members have the opportunity to assess the quality of the leaders and the freedom to choose their leaders. Community people also accept the elected leaders with more credibility and respect.

1.14 Rights

A right over the land is a key issue for enhancing food security of the poor and food insecure farmer. The project has taken a pilot initiative to enhance farmers right over the public land and in particular over Khash land.

1.14.1 Access to Khas land

CARE needs to be equipped with information, appropriate approaches and strategies, and operational procedures to facilitate poor peoples' access to Khas land

The project has made a pilot effort to access Khash land or water body. Towards that the project disseminates information and provides awareness education to the participants. In reality, the local elites and influential people control these properties. There is a potential risk to involve in confrontation with the occupying people if the farmer tries to get control over these land. The project has not been very successful from this pilot effort in terms of giving access to Khas land. The project needs to be well aware of the real context of Khas Land issue and develop appropriate strategy, approaches and operational procedures to advocate and facilitate the participants to access to the Khash land.

1.14.2 Access to public service

Accessibility of small farmers to mainstream services enhances when they form their organization as it provides scale and strong voice to demand for services

Public service is very limited in the rural area. The capacity of the service agency is very limited in relation to the demand for services. It is almost impossible for the service agencies such as livestock department to visit individual house and give services. They look for bigger scale to service many people from one points. On the other hand, government servant does not listen properly with individuals. But they are more attentive to group and listen properly.

1.14.3 Use of public land

Community participation is imperative for the farmer organization to gain access to roadside land and water body

The project encourages the participants to use roadside land and water bodies for productive use. However, influential people oppose the participants for such use. Farmer organization becomes successful to access public vacant land when they involved community people in planning and implementation. In most cases community people also provides support to these initiatives.

1.15 Linkage

Establishing linkages with public service agencies is an important strategy in the project. It strived to establish linkages between the FFS and later on, the farmer organisations with the local level service agencies.

1.15.1 Access to public resource

Farmer organization provides the synergy and leverage for public service provider to accomplish their objectives

LIFE NOPEST project encourages the participants to access to the public services. Farmers organization is particularly very instrumental to receive public services such as livestock vaccination, training, agricultural services etc. Government service providers are located at the Upazilla level and they rarely come to village to provide service due to inadequate human resources and logistics. They prefer to give services to a group of people from one point rather than visiting door to door. Farmer group provides them with this scope to accomplish their target with available resources.

Sherpur Experience in Linkage and Networking

Sherpur is one of the areas of LIFE NOPEST project where networking and linkages has been found more effective than others areas. Facilitating for creating linkage between farmers' organization and different government/private service providers is an important approach of OD strategy. CARE Sherpur team has been very proactive in maintaining goal-oriented relationship with district level administration in general and in particular with DAE, DFO, DLO, JU and social welfare departments. The district offices then informed Upazilla officials to support CARE facilitated groups with information, logistics and technical knowledge. Regular participation in the monthly district and Upazila development coordination committee meetings played a crucial role to make bridge between development work of CARE and government departments. Beings a member of such forum CARE Sherpur Team members highlighted the importance of LIFE NOPEST's networking and linkages advantages in the meetings.

Mutual cooperation and interest have been imperative from the service providers and receivers. Departments like Livestock, Fisheries, Agricultural Extension etc are to achieve their departmental targets of serving people. In this respect, CARE facilitated the village organization to express their need to the respective service providers and made a match between them. The village organizations of Sherpur area organized meetings and training programs in the village and invited resource person from service providing organizations to attend as well as to provide technical support. CARE team also organized exposure visits and information sharing sessions among the FFS groups, which contributed to a successful networking and linkage building between the FFS and service providers.

1.15.2 Local resource development

Regular and effective communication with the administration and service providers enhances community access to mainstream services

Farmer organization maintains regular contact with the local service providers. This has created a relationship between the service providers and the farmer group. As a result, small farmers through the group receive various services including materials, donations, and registration, ID card etc. Farmers' federation has been particularly very instrumental in establishing an effective relationship between the farmer and the service providers.

A case on linkage and access to public services

"Linking Farmer organizations with BADC should be a simple task. But while I was trying to make link between poor farmers organization with BADC, it was not that easy." Said Taiab Ali, FT of Rajshahi. Rice Research Officer of Rajshahi instead asked CARE has to apply formally. The officer did not understand that the poor farmers had an organization of their own and that the link should be between BADC and the farmers organization, not with CARE. "Another day I met the Officer with two farmer leaders, who invited him to have a visit in their village to see the development in agricultural area." the FT continued. The Officer finally agreed and made a visit. He was impressed to see the technological knowledge of the farmers and their organizational strength. The officer instantly invited the leaders to his office and promised to make all necessary arrangements so that they get high quality rice seed at BADC price. The link was finally established and the poor farmers are now directly getting rice seed from BADC in time without paying any extra money.

1.16 Marketing Approach

The project emphasize on capacity building of the farmers to fetch higher price from their produce. Towards that it has disseminated several methods and strategies on product quality improvement and their marketing.

1.16.1 Collective Input Purchase

Farmer can procure agricultural inputs such as seed, fertilizer at lower cost in terms of lower transportation cost, whole sell market price when they purchase the inputs jointly in bulk quantity

Farmer has to procure inputs to produce. These includes seeds, fertilizer, pesticide etc. As the members are small farmer, they need small quantity of inputs. The input cost them quite high to buy small quantity in terms of higher unit cost, transportation cost as well as loss of labour (opportunity cost). When they buy collectively with bigger volume, the unit cost goes down, transport cost also reduces considerably. The benefits of reduced cost is shared by the members collectively.

1.16.2 Collective Output Marketing

Farmers can fetch higher price through collective selling of their produce

Farmer normally sell their produce in the primary or secondary market. The buyer of their produce normally sell to the next level in higher price. These middle men skim a portion of the profit from the exchange. But the farmer can not access to the secondary or tertiary market due to their volume. They can go to the required volume only when a group of farmer sells their produce jointly. Then the volume attracts the middlemen to come down to them to buy or they can take the produce to higher level of market where price is high.

1.16.3 Price Maximization

Grading and cleaning method are effective for agricultural produce to fetch higher price with certain exceptions such as potato

The project has introduced grading and cleaning methods as part of quality control. Good quality produce are separated from the bad ones and sold in different prices. In totality, grading method with certain exceptions fetch 30 – 40% more value than bulk selling. Potato is an exception where grading actually loses value.

1.16.4 Distress sale

Short term organizational loan to the farmer members is an effective strategy to prevent them from distress sell of their produce in lower price

Small farmers are always in need of cash to meet their daily expenses. They are forced to sell their produce as soon as they harvest. Price remains far below than the normal rate is the harvesting period. Thus the small farmer loses money as they do not have alternative source to get cash other than selling their produce at a very low price. Farmer organization are providing the members with loan to prevent them from selling their produce during the harvesting period. Farmers are preserving the grain for some time and later on sell that at normal market price. Thus organizational credit saves the farmers from distress sales.

1.16.5 Women market corner

Consultation and participation of local leaders, religious leaders, market committee and influential people from planning to the implementation can promote WMC

The project has established number of women market corner in the local markets. This has faced tremendous opposition from the powerful people including market committees, religious leaders and vested group. Some successes have also been achieved. This achievement has been possible when the project has adequately involved the market committee and local leaders in the implementation of WMC. The project management has consulted with them from the beginning and involved them during the implementation. Thus project has overcome resistance and become successful.

1.16.6 Mainstreaming women market

Women can run their business profitably when their shops are spread throughout the market not just concentrated in one corner. Only specialized store such as ladies tailor or confectionary can be in one corner.

The project has established some WMC is one part of the market. But this strategy is not compatible to the real market context. Generally similar shops are located in one part of the market and the buyers use to go to that part for specific purchases. But women market corner is established such that various stores run by the women are set together in one part that alienates them from the rest of the market structure. Thus buyers are less interested to look at the women market corner for their requirement. Specialized shop such as confectionaries, tailors so on so forth are exceptions. Therefore, women market needs to be dispersed and mainstreamed in the market so that they can compete with similar businesses.

A case on Women Market Corner

Nazma Begum is a popular vegetable trader in Dekura local market, Gouripur. She is a member of Dekura farmers organization. Her organization took an initiative to establish a women market corner in the local market. Some village leaders and the masjid committee opposed the idea. A section of the male traders were also against it as they apprehended it would create social problem in the market. However, after a series of several meetings and discussions between the organization leaders and the village leaders, the problem was resolved. Male group members played a positive role by motivating community people. The women members were very strong in their position as they believed that women must enjoy equal right as of men. Nazma is one the women members who regularly trade vegetable in the local market. She puts emphasis on grading and packaging of her product. She gets a premium price for that. She now earns 40 - 50 taka per day. She now maintains her family better than before. Besides, she enjoys significant value in the family as well as in the community.

1.16.7 Price optimization

Product quality assurance through grading, cleaning generally fetch better price

The project envisage disseminating various methods to enhance product quality to fetch better price. Grading and cleaning strategy fetch 30 – 40% more price than non-graded produce. Sometime grading can loose money such as potato grading. But in general, quality control bring s more revenue for the agricultural produce. So,

A case on Marketing Strategy

Kajoli, wife of a poor farmer with only 15 decimal of arable land of Jagatpur in Mymensingh, enrolled as a FFS member of LIFE/NOPEST. She participated in training and learning session. Kajoli was inspired by the marketing strategy development sessions facilitated by the project particularly early cultivation of vegetable for better price. She took Tk. 1500 loan from the village organization and 7 decimals land as lease from her neighbor. She also arranged quality seed for plantation and adopted technological methods like planting in rows, right quantity of pesticides and fertilizers at right time. In the end, she produced bumper crop. She also adopted marketing strategies like grading, joint selling, cleaning and packaging to sell her produce. Kajoli earned a net profit of Tk 13,850 from her venture. She is better off now. Fellow farmers of she organization are motivated towards early vegetable cultivation.

1.17 Technology Adoption

LIFE NOPEST project strived to promote agricultural technologies that suit the particular needs of the small farmer. In that, it encouraged the farmers to adapt agricultural technologies rather than innovating new technologies.

1.17.1 Crop productivity

SRI technology is particularly difficult to adopt in small landholding because of high labour demand and rigorous water management

The project has promoted SRI technology to enhance productivity and it is proved to be effective. However, the adaptation of SRI technology has not been very high. There are some constraining factors for the growth of SRI particularly with the participants of the project. Farmers with small landholding find the technology inappropriate as it requires huge labour for weeding and stringent water management. Small farmer find this difficult for them to arrange additional labour and water management for the benefits that can come from small piece of land. The potential for the technology increase as the land size goes up.

1.17.2 Pest Management

IPM becomes effective when the methods are used by the community rather than few individuals

Integrated pest management (IPM) is promoted in the project. Farmer has some success with the IPM. But these methods are effective when it is used widely in a particular field. But when a farmer is adopting IMP method while the neighboring farmer are using pesticide, then the pest is infecting the IPM field.

1.17.3 Profitability

Rice-fish cultivation reduces weeding and pesticide cost, increase total value of the produce and thus profitable. Curpu and Sharputi is particularly appropriate for its ability to survive in stretch condition

Rice-fish technology is a good option to reduce cost and increase overall worth. Fish cultivation in rice field reduced the need for weeding and use of pesticide. Some fish species such as CARPU and SHORPUTI are particularly appropriate for rice-fish technology. These fish can survive in stretch condition and very useful for rice production. Farmer can also earn from fish cultivation without much investment. Thus the overall worth from rice-fish technology is considerably high.

A Case on Technology Adoption

Babul, a member of Marichapur Village Development Organization, achieved remarkable success in cabbage cultivation adopting technological know-how from LIFE NOPEST. He used to produce cabbage but could not realize substantial production due to pest. He came to know herbal pesticide from a training class on technology adaptation. Last year he used NEEM LEAVES JUICE instead of chemical pesticide to manage pest. He used only one litre of NEEM Juice along with 5 litre water in 15 decimal of cabbage. It costs him much less compared to chemical pesticide. Besides, the production volume also increased substantially. Farmers of Marichapur village are now using herbal pesticide for vegetable gardening as it effective in pest managements and contributes to ecology.

1.18 Secondary Adoption

The original participant encouraged one buddy participant to adapt new technology in farming. S/he passed on information to the buddy participants on new and innovative agricultural methods. Buddy participants applied the new learning in their respective farms.

1.18.1 Technology adoption

Community based secondary adopters are interested in pit crop, hand pollination, bait trap, ICM and line plantation as this technologies are profitable and easy to adopt

Community based secondary adaptor tends to encourage by the results of the participants. They want to do less experimentation with new technology than the participants. Rather they observe the participant as to how they perform with the new technology. When the result is good in terms of profitability, comfortability, secondary adaptors become interested to those technology. They are not interested in technologies that are not profitable and difficult to adapt. Pit crop, hand pollination, bait trap, ICM and line plantation are the main technologies very much accepted by the communities. In that secondary adaptors are selective in choosing new and innovative technology.

1.18.2 Female Secondary Adopter

Female SA prefer pit based vegetable such as bean, pumpkin, gourd, Korolla, spinach (Pui-shak), cultivation in the homestead

Female SA prefer technology that can be applied in the homestead rather than in the open field. They can give more time and attention to homestead based production system. However, within the homestead agriculture, female SA are selective to choose technology that matches their requirement. Pit technology is preferred by the female as it needs less water. Women can also learn this technology easily as they have better access to the participants homestead.

1.19 Share Cropping

Sharecropping is a common phenomena in our agricultural practices. By and large, small farmer cultivate on absentee landholder's land. Sharecropping arrangement and conditions has a major implication on food security. The project has experimented with a small scale pilot in Chapai Nawabgonj and learned the following.

1.19.1 Food security of farmer

Improved agricultural technology is effective for food security for the small farmer only when they have rights on the land

The project has undertaken a pilot initiative to experiment on the rights of sharecropper in Chapai Nawabgonj as this area has unique characteristics of Share Cropping. Over 80% farmers are sharecropper. They cultivate in the land of absentee landlord. Sharecropping arrangement favour the landlord disproportionately. This arrangement discourages the farmers to apply innovative methods to increase production and increase their income. Besides, the lease period is very short ranging from one session to a year at the highest. Thus small farmers find very little scope to use the learning of FFS due to the terms and conditions of sharecropping.

1.19.2 Negotiation with the landlord

Sharecropper can negotiate for better terms and condition with the landlords when they are organized and raise voice unitedly

Landlords by and large do not follow the existing share cropping law. They rather impose conditions that favour them. Small farmer do not have any say on a individual basis as they are dependent on the absentee landlord. The project attempted to organize the sharecropper to demand equitable share of the produce. On the other hand, it also tried to convince the landlord for better terms for mutual benefit. The result is quite positive. Specifically, 5% sharecropper now have 5 years lease agreement, 20% landlord are supply organic fertilizer for cultivation, 17% landlord are transporting their share of the crop, and 15% sharecropper are relieved from Mohshili Protha.

1.20 Farmer Leader

Farmer leaders worked as project extension worker with a high degree of success. This is also an innovative approach to agricultural extension. The project has learn the following as far as FL are concerned.

1.20.1 Farmer Leader selection

Leadership quality, community acceptance, work interest and younger age are the key features for selection of appropriate farmer leader

The project has selected farmer leaders from the FFS members. They themselves took the role of field trainer to provide training to the FFS members. In other words, FL works as an alternative to the regular delivery mechanism at the field level. The experience showed that the farmer leaders are quite capable for the agricultural extension work. However, the farmer leader to be truly effective in the agricultural extension work depends on few personal characteristics. More successful farmer leaders happened to be young, enthusiastic and have high degree of leadership quality. These people are very much acceptable to the community and thus the members listen them. These chrematistics should be reckoned to select farmer leaders.

1.20.2 Women Farmer Leader

Female are more attentive and effective as farmer leader than the male because they are committed to their work, conduct regular follow up and supervise FFS members closely

The project has selected both male and female members as farmer leader. As motioned earlier, farmer leaders as a whole is a good alternative for extension work. However, among the farmer leaders, female are more effective than their male counterpart. Female FL are more serious about this job as they see this as a profession. On the other hand male member does not consider it as a job. Rather they seem to be seeing FL as a voluntary work. Unlike female FL, a sense of professionalism was absent among the male FL. Female FL maintain FFS, which are close to their place. So they make follow up more often than the male. The performance of female facilitated FFS is better than that of Male FL.

1.21 Partnership

LIFE NOPEST project has introduced some innovative approach in the partnership arrangement. This aspects has made this project a special place for promoting partners role in program planning and implementation.

1.21.1 Project ownership

Partner NGOs participation in planning, budgeting and MoU formulation increase their ownership in the project

The project has taken few measures to enhance the role and participation of the partner NGOs in developing a partnership. LIFE NOPEST phase II has been particularly especial in promoting the role of NGOs in partnership development. Partner NGOs have participated in budget preparation, MoU development, program implementation strategy formulation and donor consultation. This project has pioneered within CARE to take the NGOs role to this extent. NGO partners felt empowered and changed their views as sub contractor. Rather they feel that LIFE NOPEST is their own program. Thus ownership developed among the partners.

1.21.2 Partnership coordination

Coordination meeting at the partner's site on a rotational basis ensures openness, critical reflections and competitiveness among the partner, hence is an effective mechanism for developing common understanding and resolving problem

The project also has devised a new mechanism to organize coordination meetings to enhance partnership spirit and understanding. Traditionally coordination meeting takes place at CARE office. But the project decided to hold the meeting at partner's site on rotational basis. Accordingly, all partners and CARE meet at a partner organization and visit their program. Based on the field visit a debriefing and sharing meeting is held. This sharing meeting provides a fruitful mechanism to review program and decide on the needful. Thus all partners develops a common understanding on the course of action.

1.21.3 Capacity building of partners

Joint learning and sharing program between CARE and partner NGOs increases mutual understanding of needs, staff capacity, and implementation quality

The project has taken measures to organize joint learning program where both CARE and partner participate together. This is also a new approach where CARE staff participates in training with its partner organisations. Other joints program are cross-visit, workshop, meetings etc. The joint program has been very instrumental to exchange experiences, understand, and sharing views. CARE staff become more attentive to support the partners.

1.21.4 Partnership with CBO

CBO can be an effective delivery channel for project implementation provided financial and institutional capacity building elements are integrated in the partnership

The project also experimented a new approach to involve CBOs as partners. By definition, CBOs are local, small and thus have less capacity. However, their

acceptance in the community is very high. They are fully aware of the local problem and knowledgeable to solve the problem. The partnership program has equipped the CBOs with the project approaches, strategies and with related technical competencies. CBOs have exhibited high quality of program implementation with the participants. However, they also lack capacity in few areas such as accounts, reporting etc. Further capacity building is a need for them particularly in the institutional area.

1.22 Project Monitoring

Project monitoring remains an integral part of the project. Monitoring itself is a management as well as a learning tool. Information and analysis drawn from the monitoring provides a authentic mechanism for CARE management and the field staff to locate problem and provide solutions.

1.22.1 Monitoring effectiveness

Team based data analysis at the collection site enables frontline staff to assess and respond farmers problem quickly and more accurately

Central data processing and analysis system of the project did not provide field staff with the results of the monitoring. As such the management could not act upon the monitoring findings. But when the analysis and reporting are started to take place at the team office level, field staff are better appraised about the field reality and farmers problem. They could attend the problem easily and on time.

5. DISSEMINATION OF LEARNING

LIFE NOPEST project has prepared a detail plan to disseminate the learning to the potential audience. They include CARE management and program, National and local NGOs, public service institutions, research institutions and the general public at large. For effective learning dissemination, specific learning packages will be developed based on the requirement and interest of the audience. Following learning packages have been planned:

- Report
- Case studies
- Folk song
- Drama
- Video document
- Training module etc.

These learning packages will be delivered using the most effective communication channel. Communication channel will also be selected based on the audience. Following communication channel and mechanism were identified for learning dissemination. The potential channels are:

- Printing and distribution of learning documents
- Putting the learning document in CARE website
- Training and workshops
- Cross visit
- Campaign
- Sharing meetings etc

It is expected that the learning from the LIFE NOPEST project will make valuable contribution to the ongoing development program in general and the livelihood security program in particular. The experiences and sights from this learning document will provide guidelines, approaches and strategies for designing new program on the one hand and to review and revise the existing program on the other. Development thinker, program managers and the public sector service providers will benefit from this document.