

**Proceedings of the participatory workshop
on
Technology Identification and Recommendation for
FoSHoL Project
(Satkhira and Khulna districts)**



18 January 2005

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IDRT, Uttaran, Tala, Satkhira

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Glossary

| | | |
|---------|---|--|
| FoSHoL | = | Food Security for Sustainable Household Livelihoods |
| AAS | = | Agricultural Advisory Society |
| BKB | = | Bangladesh Knowledge Bank |
| BRDB | = | Bangladesh Rural Development Board |
| BRRRI | = | Bangladesh Rice Research Institute |
| CARE | = | Cooperative Assistance for Relief Everywhere |
| DAE | = | Department of Agriculture Extension |
| DFID | = | Department for International Development |
| DLS | = | Department of Livestock Services |
| DTO | = | District Training Officer |
| EC | = | European Commission |
| ED | = | Executive Director |
| FGD | = | Focus Group Discussion |
| GOs | = | Government Organizations |
| IRRI | = | International Rice Research Institute |
| ITDG | = | Intermediate Technology Development Group |
| JJS | = | Jagrata Juba Sangha |
| NGOs | = | Non Government Organizations |
| PETRRRA | = | Poverty Elimination Through Rice Research Assistance |
| PM | = | Project Manager |
| PNGO | = | Partner Non Government Organization |
| POT | = | Packet of Technology |
| RDO | = | Rural Development Officer |
| UAO | = | Upazila Agriculture Officer |
| UCO | = | Upazila Cooperative Officer |
| ULO | = | Upazila Livestock Officer |
| URDO | = | Upazila Rural Development Officer |
| USG | = | Urea Super Granular |
| USSO | = | Upazila Social Service Officer |
| UWAO | = | Upazila Women Affairs Officer |
| UYDO | = | Upazila Youth Development Officer |
| WTO | = | World Trade Organization |

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Introduction

The FoSHoL project (Food Security for Sustainable Household Livelihoods) is a 54-month project; the objective of which is to promote food security and livelihood improvement of the food insecure, small and marginal farmers through the dissemination of sustainable agricultural technologies. To achieve the objectives of FoSHoL project, EC has selected four NGOs (ActionAid Bangladesh, CARE Bangladesh, ITDG Bangladesh, and Proshika) as dissemination agencies. The four disseminating NGOs have been selected for their potential to contribute to the overall improvement of food security among the target farmers. They will identify, adapt and disseminate the selected technologies among the target farmers. This will strengthen farming system efficiency and will consequently improve farm-household food security and livelihood. Moreover, EC has selected IRRI to provide the mandated coordination and thus ensure that the four NGOs carryout their interventions in a coherent, consistent, effective and efficient manner, using appropriate technologies selected from their own experiences; PETRRA experiences; also from IRRI and elsewhere. The coordinating agency, IRRI, will work with disseminating NGOs to deliver technologies that will improve farming practices and the utilization of farm resources. Through these interventions, the target farmers will increase the quality and quantity of their farm output and thus enhance their own food security.

Location specific technology identification for the targeted food insecure, small and marginal farmers is one of the major activities of IRRI in FoSHoL project. IRRI has asked Agricultural Advisory Society (AAS) to explore, identify and document technologies from sources throughout the country; giving particular emphasis in the districts where the FoSHoL project is operating. The selected technologies will be documented in the Bangladesh Knowledge Bank (BKB). The BKB documentation will guide the efforts of the four disseminating NGOs as they undertake to identify the most suitable technologies that are appropriate to the sub-ecosystems of their respective target areas. This derived documentation is intended to be a roadmap for carrying out the process of identifying suitable agricultural technologies and their sources; and storing these in Bangladesh Knowledge Bank and implementing them as appropriate among their constituents within their designated FoSHoL areas. The Rice Knowledge Bank resources will help guide and harmonize the efforts of the four disseminating NGOs as they undertake to identify the most suitable technologies for non-rice, rice, fisheries and livestock production; technologies that are appropriate to the sub-ecosystems of the target areas designated by each of the participating NGOs.

Several workshops have been scheduled in the FoSHoL project areas in collaboration with the four disseminating NGOs. These will be held under the supervision of the coordinating agency, IRRI. The intention of the workshops is to identify, select and disseminate specific agro based technologies for rice, non-rice, fisheries, livestock and non-farm activities that could be act as a catalyst for disseminating NGOs the selected technologies among the targeted farmers of FoSHoL project.

In this regard, a workshop was conducted on 18 January 2005 at IDRT of Uttaran in Tala, Satkhira from 9.00 am to 4.00 pm. Uttaran and Jagrata Juba Sangha (JJS) are the two-partner NGOs of ActionAid Bangladesh, a disseminating NGO of FoSHoL project. Through the workshop, location specific agro based most potential technologies of

relevant sectors were identified and selected for the small and marginal farmers of Tala and Debhata upazilas in Satkhira district and Rupsa and Koyra upazilas in Khulna district.

Purpose

The workshop was convened for the purpose of selecting (identifying) the most potential agro based technologies for rice, non-rice, fisheries, livestock and non-farm activities for targeted farmers of FoSHoL project in Satkhira and Khulna districts.

Facilitators

Mr. Harun-Ar-Rashid, ED, AAS and Consultant, FoSHoL project, IRRI was the team leader of the facilitators team of the workshop. Mr. A. K. M. Ferdous, Agronomist and Mr. Deb Kumar Nath, Irrigation Engineer of AAS and Md. Maniruzzaman, Agriculturist, Uttaran acted as facilitators on the occasion.

Participants

A total of 72 participants attended in the workshop, of which 35 were farmers and 37 participants were from different stakeholders (GOs and NGOs) of Satkhira and Khulna districts. Among the 35 farmers, 25 were female and 10 were male from Rupsa, Koyra, Tala and Debhata upazilas (Annex-II.a). Among the 37 participants attended from GOs and NGOs of Satkhira and Khulna districts, 4 were female and the rest 33 were male. The distinguished stakeholders were from Department of Agricultural Extension (DAE), Department of Livestock Services (DLS), Bangladesh Rural Development Board (BRDB), Department of Youth Development, Department of Women Affairs, Department of Statistics, Department of Social Services, Department of Cooperative, ActionAid Bangladesh, Journalists and NGOs (Annex-II.b).

Methodology

The facilitators undertook participatory focus group discussions (FGD) with farmers at village level; discussion with the stakeholders at district level (Satkhira) and district level participatory workshop with participating farmers and stakeholders from Satkhira and Khulna districts. These were conducted during 15-18 January 2005. Details of FGDs, discussion meeting with district level relevant stakeholders and participatory district workshop are given below:

FGD at community level

In order to identify the farmers' demand-led technologies, four FGDs were conducted at community level of which two FGDs were conducted in Rupsa upazila of Khulna district on 15 January 2005 and another two FGDs were conducted in Tala and Debhata upazilas of Satkhira district on 16 January 2005. A total of 94 farmers including 33 female farmers (35%) participated in the four FGDs. In Rupsa upazila, out of two FGDs, one FGD was conducted at the homestead of Robin Chandra Haldar at Patharghata village, where a total of 20 farmers including six female farmers (30%) participated and

another FGD was conducted in the homestead of Abdul Mozid Sheikh at Tilok village, where a total of 23 farmers including 11 female farmers (48%) participated. Likewise, in Satkhira district, one FGD was arranged at Uttaran branch office in Debhata upazila and the other FGD was arranged in another branch office of Uttaran at Jatpur in Tala upazila. In Debhata upazila, a total of 22 farmers including 12 female farmers (55%) and in Jatpur a total of 29 farmers including 16 female farmers (55%) participated in both of the FGDs. In Rupsa upazila, the FGDs were conducted with the cooperation of Jagrata Juba Sangha (JJS) and the overall support from Mr. Abdullah-Al-Mamun, Manager of JJS. In Debhata and Tala upazilas, the FGDs were conducted with the cooperation of Uttaran and the overall support from Mr. Shahidul Islam, Coordinator of Uttaran. Mr. A.K.M Ferdous, Agronomist and Mr. Deb Kumar Nath, Irrigation Engineer of AAS conducted the FGDs in the above upazilas of Khulna and Satkhira districts. These half-day long FGDs were conducted through open discussion and in a participatory manner. Output of these FGDs at farmer's level was documented through card writing for the purpose of presentation and selection of the technologies in the technical session of the district workshop.

The facilitators of the workshop presented the farmer's 'community level' technology selections. After presentation of each technology the floor was opened for all participants to discuss the merits of each technology under discussion.

Discussion at district level stakeholders

Discussion with district level stakeholders was conducted to identify sustainable technologies for Tala and Debhata upazilas of Satkhira district. Mr. A.K.M. Ferdous, Agronomist and Mr. Deb Kumar Nath, Irrigation Engineer of AAS along with Mr. Momen Choudhury, SA of Uttaran conducted the district level discussion meetings. The "candidate technologies" were identified from the Department of Agriculture Extension (DAE), Department of Livestock Services (DLS) and Department of Fisheries during the district level discussion meeting. The views of participants in the district level discussion meetings were duly recorded by the facilitators on cards. These cards represented the primary documentation of the district level discussion meetings.

District workshop

After conducting the FGDs with the targeted farmers at community level and the discussion meeting at stakeholder level; a district level workshop was conducted with the representative of farmers from 4 upazilas of Satkhira and Khulna districts and with the distinguished representatives of relevant stakeholders from Satkhira and Khulna districts. A participatory approach was followed through out the workshop. The workshop was divided into three sessions i.e., inaugural session, technical session and concluding session.

a) Inaugural session:

The purpose of inaugural session of the district level workshop was to give a focus about FoSHoL project as well as about the workshop. The workshop was presided over by Mr. Chaitanya Kumar Das, UAO, DAE, Tala upazila of Satkhira district. Mr. Ahmad Hasib Mollah, DTO, DAE of Satkhira district was the chief guest of the workshop. Welcome-address was delivered by Mr. Shahidul Islam, Director of Uttaran (PNGO of ActionAid-Bangladesh). Mr. Masud Alam Khan, PM, FoSHoL project of ActionAid-Bangladesh,

gave a briefing on FoSHoL project. Mr. Harun-Ar-Rashid, ED, AAS and Consultant, FoSHoL project, IRRI also gave a short briefing on FoSHoL project and clarified the purpose of the workshop.

b) Technical session:

The main purpose of the technical session was to select the potential technologies for the targeted farmers of FoSHoL project in Satkhira and Khulna districts. At the beginning of the technical session, participants were requested to introduce themselves. After the introduction of participants, Mr. Harun-Ar-Rashid, ED, AAS gave a briefing on the process of the technical session. After briefing the attendees on the process of the technical session, the following steps were amplified: identification of means of living, comparison of livelihood status of four upazilas, presentation of identified technologies, selection of potential technologies and consequences of shrimp culture according to the presented process was followed in the technical session:

Identification of means of living: Means of living of the small and marginal farmers were identified through open discussion with the farmers and stakeholders of Rupsa/Koyra upazilas in Khulna district and Tala/Debhata upazilas in Satkhira district in the workshop, which were documented by the facilitators on the flip chart. After identification of the means of livings, these were classified into 5 major categories i.e., rice, non-rice, livestock, fisheries and non-farm activities. Then the position of these five categories were prioritized for each upazila on the basis of its role-playing in the livelihood of the poor and marginal farmers.

Comparison of livelihood status: To measure the livelihood status of Rupsa, Koyra, Tala and Debhata upazilas of Khulna and Satkhira districts, the five major categories of means of living were assessed on a scale of 1-5. The scale 1, 2, 3, 4 and 5 where 1 is considered very bad and 5 very good. After marking the scale against each of the five categories for each upazila, a comparison of livelihood status was prepared on the basis of an estimated average value according to descending order as higher to lower status of livelihood. All the participants accepted this basis for comparison.

Presentation of identified technologies: Farmer's demanded and stakeholder's suggested technologies were recorded on cards and presented by the facilitators in the technical session of the workshop. After presentation, the technologies were pre-selected under each sector by the participants of the workshop through discussion and necessary modification at plenary. Besides this, the participants also suggested several technologies under each sector of means of living at the end of this presentation.

Selection of potential technologies: After presentation of farmer's suggested technologies, district level stakeholder's suggested technologies and district workshop participant's suggested technologies, the floor was opened for discussion to select the potential technologies for the targeted farmers of FoSHoL project in Satkhira and Khulna districts. During the "selection of technology" process, the technologies recommended by the farmers were matched with those selected by the district level stakeholders, along with the recommended technologies of the district workshop participants. Finally the participants unanimously selected potential technologies under each identified sector.

Consequences of shrimp culture: Participants of the workshop raised several concerns related to shrimp culture in enclosures. These, being of a practical nature, were concerns reflecting the actual experience of farmers and stakeholders in the locality.

c) Concluding session:

In this session three farmer-representatives, five stakeholder-representatives from different departments of GOs at upazilas and districts level, and three representatives from NGOs expressed their great hope for improving farmer's livelihood status through implementing the FoSHoL project in Satkhira and Khulna districts.

Inaugural Session (Output)

At the very beginning of the inaugural session, Mr. Shahidul Islam, Director, Uttaran, delivered his welcome address in the workshop. In his speech, he thanked the participants (both farmers and stakeholders) and welcomed all the participants for their kind participation in the workshop. He requested all of the participants to contribute freely to make success of the workshop.

Mr. Masud Alam Khan, PM, FoSHoL, ActionAid Bangladesh expressed his great pleasure mentioning on going initiative of development of Non-government organization (NGO) as well as he also expressed his deep grief mentioning the lack of coordination between GOs and NGOs. He said that the coordination gap between GOs and NGOs has to be minimized. Thus, we want to work together. He also mentioned that FoSHoL project would bring the food security and help the poor people to improve their livelihood. He simply said that it is not a programme of food for work. Rather we will provide technologies to our targeted farmers in the communities. By using the technologies they will bring food security he added. Now food security is a problem especially for resource poor farmers. Technology and other inputs of the FoSHoL project will be used for the purpose of developing the skills of the farmers. He said that we want to establish a permanent relationship with the concerned government sectors. We will work such a way that in the final stage farmers will be able to mobilize their resources. This FoSHoL project did not come with its specific technologies. We do not have faith on such type of approach. We know, there are lots of problems. For example, somebody who has no rice field, if we have a project on rice, we cannot help them. But this project will give us the opportunity to help people to improve their livelihood irrespective of the means they may choose to achieve it. This project is designed to improve the livelihood of all the poor people. We have to use integrated approaches, he emphasized.

Mr. Harun-Ar-Rashid, ED, AAS and consultant IRRI said that FoSHoL is a project of European Commission (EC). PETRRA, a project of IRRI/BRRI, funded by DFID had worked with more than 40 sub-projects all over Bangladesh. The PETRRA project identified many technologies. In order to disseminate these technologies among the farmers, EC in collaboration with IRRI designed the FoSHoL project. FoSHoL means Food Security for Sustainable Household Livelihoods. FoSHoL intends to give food security to the poor rural dwellers. Improving their livelihood is a major goal of the project. The project will explore the prospects of mainly agro-based technologies; those associated with all sectors of agriculture.

Mr. Ahmad Hasib Mollah, DTO, DAE, Satkhira and Chief guest of the workshop, said that the name of the project FoSHoL (meaning crop or yield in Bangla) sounds good to him. He mentioned that the workshop on technology identification for the FoSHoL project would be an effective workshop. He gave different synonyms of Bengali word 'Fosol'. He mentioned that 'Foshol' means to gain something, to achieve something. 'Foshol' means crops, which is cultivated by the farmers in the field. He also mentioned that, before starting this FoSHoL project, we have to give a packet of technology (POT) to the farmers, and then they will be motivated to respect us. If there is a POT, it will be easy to transfer technologies among the farmers. For the development of Bangladesh, not only government sector but also NGOs and the private sector have responsibilities. We need a strong partnership. We will move together towards the real development of the country. We hope FoSHoL project will do better for the farmer in future.

Mr. Chaitanya Kumar Das, UAO, Tala, Satkhira and Chairman of the inaugural session said that if we effectively apply our technologies, it would be able to give sufficient food for the people of Bangladesh not only for 14 crores but also even it reaches up to 28 crores. We have passed 33 years after our liberation war, but we have no considerable development. Now we are trying to do something. We are feeling that we have to do something especially in agriculture. He mentioned that we need about 2,200 calories of food per person everyday. To ensure our food security we have to create stable market from where farmers will get reasonable price of their product. He added that there is an abundant scope of using agro-based technologies in Tala upazila. Storing is a promising technology, which has great demand for this locality. In Khulna and Satkhira, different types of vegetables are being produced every year. In harvesting season, market price of vegetables goes down tremendously. If there are storage facilities, farmers will get more profit from vegetable cultivation. Through this workshop, we would like to find out the process, the ways, and the technologies to achieve food security. He again mentioned that because there is no cold storage in Satkhira, every year about 1,000 hectares of potato is being cultivated. It is very much necessary to develop a storage system for farm products. Likewise, we have to identify our major needs and necessary steps should be taken to implement the necessary programs. We have to solve the problem with GOs and NGOs' mutually. We have to be conscious and have to play our respective pioneering roles.

Technical session

Findings:

1. Means of living:

Marginal and small farmers of Bangladesh lead their lives through different agro-based strategies. All the means of living identified by the participants of the district workshop were classified into five categories i.e., rice, non-rice, livestock, fisheries, and non-farm activities.

The participants of the district workshop ranked the contributing status of the five selected categories. In Rupsa upazila, rice is the main "means of living" followed in order by non-rice, fisheries, livestock and various non-farm activities. In Koyra upazila, rice is the main means of living followed in order by fisheries, livestock, non-rice, and non-farm activities. In Tala upazila, rice is the main means of living followed in order by non-rice,

livestock, fisheries, and non-farm activities. On the other hand, in Debhata upazila, Fisheries is the main means of living followed in order by rice, livestock, non-rice, and non-farm activities (Table1).

Table1. Prioritization of the major means of living categories for four upazilas

| Major means of living categories | Prioritizing the means of living categories | | | |
|----------------------------------|---|--------------|-------------------|----------------|
| | Khulna district | | Satkhira district | |
| | <i>Rupsa</i> | <i>Koyra</i> | <i>Tala</i> | <i>Debhata</i> |
| Rice | 1 | 1 | 1 | 2 |
| Non-rice | 2 | 4 | 2 | 4 |
| Livestock | 4 | 3 | 3 | 3 |
| Fisheries | 3 | 2 | 4 | 1 |
| Non-farm activities | 5 | 5 | 5 | 5 |

According to the participants of the district workshop, among the non-rice means of livings, many farmers in Rupsa upazila earn a part of their livings from beetle nut, coconut, and beetle vine selling. In Koyra upazila many farmers earn their livings by selling honey and wood collecting from Sundarbans. In Tala upazila many farmers earn their livings by milk selling business. Means of living of the farmers of Rupsa and Koyra upazilas in Khulna district were provided in Annex-I.a and that of Tala and Debhata upazilas in Satkhira district were provided in Annex-I.b.

2. Comparison of livelihood status:

The contribution of different means of living in livelihood status of the marginal and small farmers is not the same. The farmers and stakeholders of each upazila unanimously gave their opinion on the contribution of means of living to rural households livelihood. During assessing the livelihood status of the farmers of Rupsa, Koyra, Tala and Debhata upazilas in Khulna and Satkhira districts, the five major categories of means of livings were ranked by using 1-5 scale. After marking scale against each of the five categories for each upazilas, comparison of livelihood status was measured on the basis of estimated average value among the four upazilas. On the basis of this estimated average value of livelihood status of the farmers, Rupsa upazila is found the best followed in order by Koyra, Tala and Debhata upazila. In Satkhira district livelihood status of Tala is better than Debhata and in Khulna district livelihood status of Rupsa is slightly better than Koyra (Table 2).

Table 2. Livelihood status of the farmers in Rupsa, Koyra, Tala and Debhata upazilas of Khulna and Satkhira districts (Scale 1-5)*

| Sl. Nr. | Major sectors of the means of living | Upazila (Scale 1-5) | | | |
|----------------|--------------------------------------|---------------------|-------------|-------------|-------------|
| | | Tala | Debhata | Rupsa | Koyra |
| 1 | Rice | 4 | 3 | 4 | 4 |
| 2 | Non-rice | 4 | 2 | 4 | 3 |
| 3 | Livestock | 3 | 2 | 4 | 3 |
| 4 | Fisheries | 2.5 | 4 | 2 | 4 |
| 5 | Non-farm | 2 | 2 | 4 | 3 |
| Average | | 3.10 | 2.60 | 3.60 | 3.40 |

* 1=very bad, 2=bad, 3=moderate, 4=good and 5=very good

3. Recommended technologies for FoSHoL project in Satkhira and Khulna districts:

To identify farmer's recommended technologies, several FGDs were conducted at community level in four upazilas of Satkhira and Khulna districts. Discussion meetings with district level relevant stakeholders (DAE, Department of Livestock Services, Department of Fisheries) were also conducted to identify the sustainable location specific technologies for the targeted farmers for FoSHoL project. Farmers demand-led technologies identified from the FGDs at community level were presented as sector wise (e.g. rice, non-rice, livestock, fisheries and non-farm activities) in the technical session of the workshop. After presentation of each technology, floor was opened for all participants for discussion about its merits of selection for FoSHoL project in Satkhira and Khulna districts. The district level stakeholders' suggested technologies were also presented in the technical session of the district workshop as the additional list of technologies along with farmer's demanded sector wise technologies. After presentation, the technologies were pre-selected under each sector by the participants of the district workshops through discussion and necessary modification at plenary. Later, the participants' suggested technologies were matched/adjusted with the sector wise pre-selected technologies. Finally the participants of the district workshop unanimously selected potential technologies under each sector of the project.

The recommended farmer's and stakeholder's technologies for FoSHoL project were divided into five major categories i.e. rice, non-rice, livestock, fisheries and non-farm activities. A total of 91 potential technologies were selected where 29 technologies were rice based, 19 technologies were non-rice based, 16 technologies were livestock based, 11 technologies were fisheries based and 16 technologies were non-farm based. Sector wise, the technologies recommended by farmers and stakeholders of district workshop are presented in Annex.III.

4. Problems, Suggestions and Comments of the farmers and stakeholders

During FGD, when farmers were asked about their favored agro-based technologies through which they would be able to improve their livelihood status, most of the farmers of Rupsa, Koyra, Tala and Debhata raised several problems on improved rice cultivation method, seed production and its preservation technique, soil health and fertilizer management, pest management etc. One of the major problems raised by the participating farmers were salinity intolerant rice varieties. In Tala and Debhata upazila, due to shrimp farming rice growing areas have decreased. Shrimp production on rice producing land has created many undesirable and not easily reversible problems such as soil salinity, extinction of local fish species, unemployment of the day labourers, decreasing of soil fertility, water logging etc. Most of the participants didn't show much interest in mechanization, because of surplus day labour. The farmers wanted to know about hybrid crops, high value vegetables, pests and their management, balanced fertilizer management for vegetable production. They wanted to ensure quality vegetable seed in local market. In every upazila fruit fly was a major issue and they wanted to know about suitable techniques for protecting against fruit fly infestation. Brinjal shoot and fruit borer was another major problem and they were looking for the cost effective and environmentally friendly technologies for protecting against the insect's attack.

On the other hand, the farmer has little advanced knowledge on the management of livestock (cattle, goat, sheep and poultry). They have their own traditional systems to manage them. That's why their cattle, goat, sheep and poultry are suffering from different diseases.

Some prevailing problems raised by the farmers at field level during FGD in Khulna and Satkhira districts are given below:

- ✓ Lack of availability of quality seed in the market
- ✓ Impurity of pesticide increases the cost of crop production
- ✓ Net-benefit of the produced crop is low
- ✓ Soil salinity is severe in rice field
- ✓ Higher price of fertilizer
- ✓ Water logging due to shrimp farming
- ✓ Storing problem of livestock medicines
- ✓ Inadequate supply of improved fresh water fish fingerlings

During FGD, most of the farmers of Rupsa, Koyra, Tala and Debhata desired to get the training on improved rice cultivation method, seed production and its preservation technique, soil health and fertilizer management, pest management etc. They also desired to have the training on livestock management, vaccination, cattle fattening, and feed processing of their livestock. They are interesting to rearing improved varieties of cattle, goat, sheep and poultry. Participating farmers are much interested on the salinity tolerant rice varieties. The farmers also desired to get the training on polyculture of fresh water fishes, shrimp culture, disease management and fish feed preparation.

During discussion meeting with the district level stakeholders (DAE, DLS, Department of Fisheries), suitable technologies were suggested for the marginal farmers of the targeted upazilas. Department of Agriculture Extension (DAE), gave more emphasis for providing training on organic fertilizer and pest control. They also suggested training on organic fertilizer, organic pesticide, compost preparation, homestead gardening and IPM. The stakeholders gave more emphasize on training to use USG technology in the rice field. They also highlighted benefits and value of medicinal plant production, and wood and fruit tree cultivation.

Department of Livestock Services (DLS) suggested that the farmers should have training on artificial insemination and poultry farming on an integrated agricultural basis as well as different techniques of livestock improvement. The department of fisheries suggested producing and supplying fingerlings to conserve local species and their commercial culture. They suggested providing training on integrated fish culture in the farmer's ponds and addressing the problem of fish diseases and their remedy.

In order to improve the livelihood status of the marginal farmers of the targeted upazilas, participating farmers and stakeholders of both Khulna and Satkhira districts suggested the implementation of some important initiatives, which, while not identified as technologies, were, nevertheless, suggested as worthy of consideration. These are given below:

- ✓ To ensure more favorable "net pricing" of the farm products
- ✓ To provide knowledge about hybrid crops and other improved crop varieties among the farmers
- ✓ To develop the strong linkage among GO, NGO and private sectors
- ✓ To develop the relationship between the farmers of neighbouring countries through transferring of technologies
- ✓ To receive training on crop, fisheries and livestock management

5. Consequences of shrimp culture:

Presently, in greater Khulna district, Shrimp is cultivated commercially in large scale in low-lying area where previously rice used to be cultivated as major crop. But now due to shrimp farming the rice growing areas have decreased. This development has created many undesirable problems and given rise to many unintended consequences.

Problems of shrimp farming:

- ✓ Soil salinity is increasing
- ✓ Many fresh water local fish species are disappearing
- ✓ Livestock population is decreasing
- ✓ Soil fertility is decreasing
- ✓ Area of rice cultivation is decreasing
- ✓ The number of land less people is increasing
- ✓ Unemployment of the day labourer is increasing day by day
- ✓ Bird species are decreasing day by day
- ✓ Anti-social activities are increasing
- ✓ Terrorism is increasing
- ✓ The shrimp farm owners are depriving small farmers of their livelihoods.
- ✓ Various tree species are disappearing
- ✓ Water logging is increasing
- ✓ River embankments are eroding
- ✓ Extinction of local species of rice is accelerating
- ✓ Grazing land for cattle is decreasing
- ✓ Farmers' fuel problem is increasing
- ✓ Air temperature is increasing
- ✓ Organic matter in soil is decreasing
- ✓ Soil nutrients are becoming unavailable to the plants
- ✓ Human health is degrading due to lack of balance food/ poor nutrition
- ✓ Severity skin disease is increasing
- ✓ Milk price is increasing
- ✓ Social peace is decreasing
- ✓ Silt deposition in river, canals and beels are increasing
- ✓ The elite people are getting ownership of shrimp farm
- ✓ Carbon dioxide is increasing due to decreasing of plants
- ✓ Women and children trafficking is increasing
- ✓ Soil erosion is increasing
- ✓ Virus infection in the shrimp farm is increased
- ✓ The farmers are not getting their land leasing money from the shrimp farm owner
- ✓ Drainage problem is occurring during rainy season because of shrimp farm
- ✓ Availability of fresh water is decreasing

Benefits of shrimp farming:

- ✓ Shrimp culture is earning more foreign currencies
- ✓ Number of the rich people is increasing in the locality
- ✓ Employment opportunities of trained people are increasing
- ✓ Shrimp based industries and factories are being developed
- ✓ The relationship between Bangladesh and many foreign countries is strengthening
- ✓ Many business centers and shrimp-processing factories have been established
- ✓ Investment is increasing in this sector

Concluding session

During closing session one of the participating female farmers made a remarkable comment. She said that there is no credit to talk much or to hear much about any issue; Implementation is the main concern for the beneficiaries. She firmly said that in order to bring the real success, it is necessary to solve the raised issues. She was hopeful for the immediate implementation of the FoSHoL project.

One of the participating farmer said that it is a great pleasure to him to participate in the workshop on technology identification. He also agreed with the UAO of Tala upazila and expressed the opinion that if we work together with the proper technological support, we will be able to bring food security to the poorer segments of our society. Not only that, excess food can be exported to the neighbouring countries through which our country will earn more foreign exchange.

Mrs. Anowara, another participating female farmer from Tala upazila of Satkhira district, said that they need help. Without any help and proper monitoring what they have learnt from the workshop will be completely useless. She thanked everybody and prayed to God for the success of the FoSHoL project.

Mr. Abdullah-Al-Mamun, Manager, Food Sovereignty and Globalization, Jagrata Juba Sangha (JJS) of Khulna said that he is very happy to participate in the workshop. He was excited and also said that since most of the participants from different GOs and NGOs are agriculturists and the workshop is on agro-based technology identification, he enjoyed the proceedings and has a keen interest in their coming to fruition. He further mentioned that we have discussed a lot about the livelihood of the people of four upazilas (Rupsa, Koyra, Tala & Debhata) and that he would like to be hopeful about our commitment to work for the poor and marginal people of these upazilas through the FoSHoL project.

Mr. Shahidul Islam, Director, Uttaran, said that, according to the work plan of World Trade Organization (WTO), probably open market concept would be implemented with its full swing within 2007 in Bangladesh. He mentioned, at that time market will be open and problem will be raised, because already India, Thailand, are now giving subsidy to agriculture, but in our country it's a rare practice. He firmly said, that's why when market will be open; in competition our product will lose market. Those will be terrible days for Bangladeshi farmers and we may expect to see a flood of foreign products into our

Bangladesh markets. For this reason, he firmly believed that, since there will be a great change globally in those uncertain days, we have to be well prepared and obviously we have to try heart and soul to increase our agricultural production. Beside projects, government has to take proper initiative through agricultural officers. He expressed that, after the independence of Bangladesh there is no significant change in agricultural sectors. On the other hand, agriculture is going backward day by day. At least 80% of the rural people's income-generating source is agriculture; he gave the statistics for pointing out the negligence of government to the majority people of the country. But he was hopeful and said that, if it is possible to do something for them through the upcoming project that will bring some change to their future prospects. We all should keep an eye on the effectiveness of the FoSHoL project. At last on behalf of Uttaran he thanked all the participants of the workshop.

Dr. Aziz, ULO, DLS, Tala said that in open market economics, this type of project will bring something good for the people of Satkhira and Khulna districts. He gave emphasis to ensure the benefits to target groups that were selected for the FoSHoL project.

Mr. Mosiur Rahman, RDO, BRDB, Tala said that, from this workshop lots of problems in agriculture were identified. He also mentioned that Bangladesh is an agriculture-based country, but natural disaster is very much common in this country. He mentioned that farmers are helpless and they don't know how to manage or overcome the undesired situation and poor farmers are becoming poorer day by day. Bangladesh Rural Development Board (BRDB) is working with that kind of people in the rural areas who are poor. He also suggested establishing an advice center for the beneficiaries at every village in working areas. He also added that NGOs, Private sectors, GOs have to work together. If we work together, farmers will be benefited. He promised that he would provide all kinds of help through BRDB for FoSHoL project.

Ms. Nazmun Nahar, Upazila Women Affairs Officer, Department of Women Affairs, Debhata expressed her great pleasure mentioning that she is observing the light of hope through this workshop. She said that she is looking for the empowerment of women, equal right for women. She dreams that the women are not only the housewife but also they are farmers; they are working in the fields, in the farms, in the homestead with crops, vegetables, poultry, dairy, fish and others, and playing a great role for her family. She expanded her dream and said that most of the women are playing a pioneer role for changing her household's livelihood. She also criticized as mentioning that what do we mean by a farmer? Surely, farmer is a skin and bone bodied man/woman, who is obviously suffering from malnutrition. It's a great shame for us, she added. We want food security for those people and the FoSHoL project will give us the opportunity to work for them, she hopped.

Mr. Chaitanya Kumar Das, UAO, Tala, said that we have identified many problems of the small and marginal farmers of the locality from the workshop on technology identification. It's a great pleasure for us because, after identification, it is easy to implement. He expressed his hope that the problems what were identified from the farmer and stakeholder levels all will be implemented. Since it is a project on food security, the main objectives will be to ensure everyday required nutrition for the poverty stricken people in the working area. Cordial help of all participants is necessary to implement the project effectively, he added.

Mr. Ahmad Hasib Mollah, DTO, DAE, Satkhira and chief guest of the workshop said that the technology itself is a very meaningful word because of its elaborating miracle, which includes many basic things. He said the first letter 't' of technology expresses that we have to be tactful. The second letter of technology 'e' expresses that we have to gather experience. The third letter of technology 'c' expresses that we have to have community approach. The fourth letter 'h' expresses that we have to be honest in all respect. The fifth letter 'n' expresses that neo-searching is required. The sixth letter 'o' expresses that we have to select object of our activities. The seventh letter 'l' expresses that we have to develop linkage. The eighth letter 'o' expresses that we have to be optimistic and the ninth letter 'g' expresses that the task should be goal oriented. The last letter 'y' expresses that there will be no negative approach, only yes. Thus the technology will be meaningful and formed a complete structure.

Mr. Masud Alam Khan, PM, FoSHoL project, ActionAid Bangladesh said that he was very much happy. He thanked both farmers and stakeholders coming from 4 upazilas of Khulna and Satkhira districts as well as from the district level of Satkhira to participate the workshop. He was excited when he was talking about the identified technologies; he mentioned that lots of suggestions have been come out through the workshop for the improvement of livelihood of the poor marginal farmers. He promised that ActionAid would try to implement all raised issues. When he was talking about the establishment of a cold storage, he showed little bit confusion but hopefully said that probably we would be able to establish a cold storage if the Director of Uttaran, Mr. Shahidul Islam will take initiative, he was not sure because cold storage is a big issue. He also added that we have to discuss with GO and NGO level for better implementation of the FoSHoL project. He expressed that after the selection of village-level groups the preliminary work of the project will be started soon.

Mr. Harun-Ar-Rashid, ED, AAS and Consultant, FoSHoL project, IRRI with a happy mind said that there are so many technologies in Satkhira. He mentioned that many types of high value cash crops are being cultivated in Satkhira and Khulna districts. Farmers of another region can get technologies from here and will be benefited working with these technologies, he suggested. He thanked Uttaran and JJS for arranging the workshop and the distinguished participants of upazila and district level stakeholders as well as the farmers for participating in the workshop. He also thanked disseminating NGO ActionAid, Coordinating agency IRRI and donor agency EC.

Mr. Mahabubur Rahman, UAO, Debhata and chairman of the closing session expressed his satisfaction as there were many participating male and female farmers and that's why he specially thanked Uttaran. He made it clear that, before transferring, technologies should be identified properly. After proper identification of the technologies, they should be disseminated among the farmers. This will bring a notable change in the livelihood status of the poor and marginal farmers. He added that the FoSHoL project is a very good project, which will include not only rice based activities but also non-rice, fisheries, livestock and other non-farm related activities associated with the livelihood of the poor and marginal farmers of the four selected upazilas. Since, Uttaran is working in Tala and Debhata upazilas in Satkhira district, it will be able to bring some change in livelihood status of the people of Satkhira. He mentioned that the FoSHoL project would give Uttaran an opportunity to improve the livelihood of the targeted small and marginal farmers. Finally, he thanked all of the participants for spending their time and efforts in the workshop and he concluded the session with a great hope and high expectation.

**Annex-I.a Means of living of the farmers of Rupsa and Koyra upazilas in
Khulna district (Participants of district workshop)**

| Sl. Nr. | Major sector | Means of living |
|----------------|---------------------|---|
| 1. | Rice | <ul style="list-style-type: none"> ✓ Rice cultivation ✓ Rice-fish cultivation ✓ Labour selling in the rice field ✓ Rented power tiller operating in the rice field |
| 2. | Non-rice | <ul style="list-style-type: none"> ✓ Cultivation of summer-II (kharif-II) vegetables, such as yard long bean, bitter gourd, white gourd, ribbed gourd, cucumber, amaranth, lady's finger etc ✓ Cultivation of winter (rabi) vegetables, i.e., spinach, radish, cabbage, cauliflower, tomato, red amaranth and sweet gourd etc ✓ Vine type vegetable production, making stacking on the bunds of the pond or shrimp farm ✓ Cultivation of papaya, Indian spinach, bitter gourd, and lady's finger on the bunds of the shrimp farm ✓ Beetle nut and coconut gardening (Rupsa) ✓ Beetle vine cultivation (Rupsa) |
| 3. | Livestock | <ul style="list-style-type: none"> ✓ Poultry rearing and selling, and its eggs selling ✓ Goat and milking cows rearing |
| 4. | Fisheries | <ul style="list-style-type: none"> ✓ Different fresh water fish (sada machh) and small-scale shrimp culture in their small ponds |
| 5. | Non-farm | <ul style="list-style-type: none"> ✓ Bamboo-made umbrella handle making ✓ Bamboo and cane made Children's toys and dolna making ✓ Small business i.e., vegetable selling ✓ Van and scooter driving ✓ Daily labour selling in the crop fields and in other sectors ✓ Tailoring ✓ Labour selling in the shrimp processing centre ✓ Date-leaf-mat making ✓ Wooden furniture making ✓ Salt production ✓ Labour selling to other districts/ places ✓ Honey and wood collection (Koyra) |

Annex-I.b. Means of living of the farmers of Tala and Debhata upazilas in Satkhira district (Participants of district workshop)

| Sl. Nr. | Major sector | Means of living |
|----------------|---------------------|---|
| 1. | Rice | <ul style="list-style-type: none"> ✓ Rice cultivation ✓ Labour selling in rice field during land preparation, transplanting, harvesting and threshing of rice ✓ Paddle thresher operation |
| 2. | Non-rice | <ul style="list-style-type: none"> ✓ Cultivation of Summer-II (Kharif-II) vegetables such as brinjal, bitter gourd, ribbed gourd, pointed gourd, snake gourd, sweet gourd, elephant foot, taro (mukhi), lady's finger, Indian spinach, sponge gourd, white gourd, yard long bean. ✓ Cultivation of winter season (Rabi) vegetables such as potato, tomato, country bean, cauliflower, cabbage, radish, spinach, sweet gourd, bitter gourd, pointed gourd, cucumber, yard long bean, melon (kakor, bangi). ✓ Mixed cropping including radish, spinach, kohlrabi, cabbage, cauliflower, onion, garlic, carrot, red amaranth along with main crop chilli, and different type of gourds in the ridge of the chilli field. ✓ Cultivation of mustard, lentil, grass pea, gram (chhola), mung bean (sonamug) ✓ Relay cropping i.e., grass pea, linseed, flux cultivation in T. Aman field |
| 3. | Livestock | <ul style="list-style-type: none"> ✓ Rearing of poultry, duck, pigeon and goat ✓ Rearing of milking cow |
| 4. | Fisheries | <ul style="list-style-type: none"> ✓ Culture of fresh water fish with golda shrimp ✓ Polyculture of carps and fresh water fish in their small water body |

| Sl. Nr. | Major sector | Means of living |
|---------|--------------|--|
| 5. | Non-farm | <ul style="list-style-type: none"> ✓ Date-leaf-mat and hand fan (hat pakha) making ✓ Bamboo made busket, dala, winnower (Kula), chatai, ghuni (fish trap) making ✓ Cane made dhama, palla, chair, mora making ✓ Small business ✓ Milk selling business ✓ Nursery ✓ Rickshaw, van, cycle and motor cycle (helicopter), Nosiman, and Kariman driving ✓ Labour selling in crop fields and shrimp processing factory ✓ Earth excavation ✓ Blacksmith-work ✓ Net weaving ✓ Making of gur and patali from date juice ✓ River sand collection ✓ Embroidered kantha making ✓ Jute sika making |

Annex-II. Recommended technologies for FoSHoL project in Satkhira and Khulna districts

| Sl. Nr. | Major Sectors | Technologies |
|--|----------------------|---|
| 1. | Rice | -Improved rice seedling production |
| | | -Rice seed production technology |
| | | -Improved rice seed storage technology |
| | | -Improved seedling transplanting method |
| | | -Soil health management |
| | | -Balanced fertilizer management in rice production |
| | | -Insects and diseases management |
| | | - Rice-duck farming |
| | | -Introduction of small power tiller |
| | | -Introduction of rice weeder |
| | | -Introduction of rice transplanting machine (mechanical transplanter) |
| | | -Introduction of drum seeder |
| | | -Introduction of rice reaper |
| | | -Introduction of thresher (paddle and power) |
| | | -Improved rice cultivation method |
| | | -Rice nematode management |
| | | -Bakanae disease management |
| | | -Introduction of improved HYVs of rice (MVs and F1 hybrids) |
| | | -Rice and rice seed drying improved technology |
| | | -Effective crop rotation with rice |
| | | -Salinity tolerant rice variety |
| | | -USG technology |
| | | -Supplementary irrigation management for increasing production of T.aman |
| | | - Rice-fish culture |
| | | -Farmer to farmer seed exchange and distribution system |
| | | -Organic fertilizer and green manure management for soil health improvement |
| | | -Organic pesticide and its use |
| -Vermi compost preparation and its management in rice field | | |
| -NPKS fertilizer and its management in crop field including rice | | |
| 2. | Non-rice | -Diseases and insects of vegetables and their management |
| | | -Vegetable seed storage technology |
| | | - Foot rot, brinjal shoot and fruit borer, fruit fly of vegetables and their control measures |
| | | -Improved irrigation management for vegetables |
| | | -Improved pulses, oil seeds and spices production technology |

| | | |
|----|-----------|---|
| | | -Conservation of local varieties of rice, oils and pulses |
| | | -Palm, coconut and date tree plantation |
| | | -Medicinal tree plantation |
| | | -Proper crops selection according to the soil type |
| | | -High value fruit trees cultivation at homestead |
| | | -Year round high value cash crop cultivation in homestead |
| | | -Seedling production of wood and fruit trees |
| | | -Introduction of quality potato seed of HYVs |
| | | -Balance fertilizer management for vegetable cultivation |
| | | -Homestead gardening |
| | | -Insect control through IPM for vegetable production |
| | | -Introduction of hybrid crops and other improved crop varieties among the farmers |
| | | -Neem trees plantation |
| | | -Fruit trees plantation |
| | | -Integrated wetland management |
| | | -Commercially flower cultivation |
| 3. | Livestock | -Increasing milking capacity of cows |
| | | -Diseases management of poultry |
| | | -Management of stomach worm of cattle |
| | | -Disease (gola fula/ fula poschima) management technique of cattle and goat |
| | | -Plague disease management of ducks |
| | | -Improved feed preparation technology (Household) |
| | | -Vaccination of cattle, goat and poultry |
| | | -Broiler and layer rearing technology |
| | | -Goat rearing (Black Bengal) |
| | | -Milking cow rearing (Improved breeds) |
| | | -Cattle fattening |
| | | -Small scale poultry farming |
| | | -Fish-poultry integrated farming |
| | | -Introduction of artificial insemination for cows |
| | | -Fodder crop cultivation |
| | | -Small scale cattle and poultry feed preparation and marketing |
| 4. | Fisheries | -Improved Bagda shrimp culture |
| | | - Diseases of shrimp and their management |
| | | -Rice-fish culture |
| | | -Pond preparation for fish culture |
| | | -Fish feed preparation and management in fish pond |
| | | -Disease management of fresh water fish during winter season |
| | | -Improved poly culture of fresh water fishes |
| | | -Pure and quality fingerling production technology |
| | | -Integrated fish culture |
| | | -Indigenous fish culture |
| | | -Community based fish culture in beels and haors |

| | | |
|----|----------|--|
| 5. | Non-farm | - Introduction of solar dryer for fish drying |
| | | -Handicraft making with Coconut fibre |
| | | -Organic pesticide preparation and use |
| | | -Biodiversity conservation |
| | | -Apiculture |
| | | -Agro processing industry establishment |
| | | -Cold storage establishment |
| | | -Compost preparation and its use at community |
| | | -Proper storing, processing and marketing of the farmer products |
| | | -Community based marketing system development for the farm products |
| | | -Introduction of improved furnace among the farm families |
| | | -Establishment of integrated agriculture information centre at community |
| | | -Establishment of IPM club at farmers level |
| | | -Soil testing services |

Annex-III

Participatory workshop Technology Identification for FoSHoL project

Schedule

Date: 18 January 2005

Place: IDRT, Tala, Satkhira

Funded by: EC

Time: 9.00 am- 4.00 pm

Implemented by: Uttaran & AAS

Coordinated by: IRRI

| Time | Subject | Method | Presenter/Facilitators |
|----------------|--|--------------------------|---|
| 9.00-10.00 am | Registration | - | Nurunnahar/ Asutosh/ Guljar |
| | Inaugural Session: | | |
| 10.00-10.05 am | Recite from holy Quran | - | Md. Kabiruddin |
| 10.05-10.10 am | ✓ Welcome address | - | Md. Shahidul Islam, ED, Uttaran |
| 10.10-10.20 am | ✓ Short briefing from ActionAid on FoSHoL project | - | Masud Alam Khan, PM, FoSHoL, ActionAid Bangladesh |
| 10.20-10.30 am | ✓ Short briefing from IRRI on FoSHoL project | - | Harun-Ar-Rashid, Consultant, IRRI |
| 10.30-10.45 am | ✓ Inaugural Speech of chief guest and opening of workshop | - | Ahmad Hasib Mollah, DTO, DAE, Satkhira |
| 10.45-11.00 am | ✓ Inaugural speech of the session Chairman | - | Chaitanya Kumar Das, UAO, Tala, Satkhira |
| 11.00-11.30 am | Tea break | - | - |
| | Technical session: | | |
| 11.30-1.00 pm | ✓ Identification of means of living of small and marginal farmers | Card writing and Plenary | Harun/ Ferdous/ Deb Kumar/ Monir |
| | ✓ Livelihood status comparison among 4 upazilas | Plenary | Harun/ Ferdous/ Deb Kumar/ Monir |
| | ✓ Identification and selection techniques of agro based means of living for development | Plenary | Harun/ Ferdous/ Deb Kumar/ Monir |
| 1.00-2.00 pm | Break for prayer and lunch | - | - |
| 2.00-3.30 pm | ✓ Identification and selection techniques of agro based means of living for development (continued) | Plenary | Harun/ Ferdous/ Deb Kumar/ Monir |
| | ✓ To learn the sources of technologies | Plenary | Harun/ Ferdous/ Deb Kumar/ Monir |
| 3.30-4.00 pm | Concluding session: ✓ Representative of male and female farmers ✓ Representative of the participants ✓ Representative of Uttaran ✓ Representative of ActionAid ✓ Representative of IRRI ✓ Chairman of closing session | - | Harun/ Ferdous/ Monir Shahidul Islam Masud Alam Khan Md. Harun-Ar- Rashid Md. Mahbubur Rahman, UAO, DAE, Debhata, Satkhira |

Annex-IV.a: List of participants (farmers) of the district workshop

| Sl. No. | Name | Village | Upazila | District |
|----------------|----------------------|----------------|----------------|-----------------|
| 1. | Rabin Chandra Halder | Pathorghata | Rupsa | Khulna |
| 2. | Joshna Rani Halder | Pathorghata | Rupsa | Khulna |
| 3. | Rina Rani Halder | Pathorghata | Rupsa | Khulna |
| 4. | Anowara Begum | Islamkati | Tala | Satkhira |
| 5. | Bato Krishna Dhali | 3 No. Koyra | Koyra | Khulna |
| 6. | Rabeya Begum | Panchrukhi | Tala | Satkhira |
| 7. | Rizia Begum | Panchrukhi | Tala | Satkhira |
| 8. | Mamtaj Begum | Parulia | Debhata | Satkhira |
| 9. | Rowshanara | Khejurbaria | Debhata | Satkhira |
| 10. | Johora Khatun | Puspakati | Debhata | Satkhira |
| 11. | Sankari Rani Das | Parulia | Debhata | Satkhira |
| 12. | Rashida Khatun | Komarapur | Debhata | Satkhira |
| 13. | Mahafuza | Bahera | Debhata | Satkhira |
| 14. | Akbar Shekh | Kharedanga | Tala | Satkhira |
| 15. | Sufia Khatun | Mirjapur | Tala | Satkhira |
| 16. | Ridhu Bala | Amanullahpur | Tala | Satkhira |
| 17. | Jolekha Khatun | Gopalpur | Tala | Satkhira |
| 18. | Fatema Khatun | Gopalpur | Tala | Satkhira |
| 19. | Abul Kashem | Baruihati | Tala | Satkhira |
| 20. | Rahima Khatun | Baruihati | Tala | Satkhira |
| 21. | Kabirul Islam | Baruihati | Tala | Satkhira |
| 22. | Md. Osman Goni | Sakhipur | Debhata | Satkhira |
| 23. | Amirul Islam | Khejurbaria | Debhata | Satkhira |
| 24. | Amena Khatun | Baruihati | Tala | Satkhira |
| 25. | Nurjahan Khatun | Baruihati | Tala | Satkhira |
| 26. | Nikjan Bibi | Baruihati | Tala | Satkhira |
| 27. | Fatema Khatun | Baruihati | Tala | Satkhira |
| 28. | Halima Khatun | Baruihati | Tala | Satkhira |
| 29. | Enamul Islam | Baruihati | Tala | Satkhira |
| 30. | Rafiqul Morol | Baruihati | Tala | Satkhira |
| 31. | Nasim Sarder | Baruihati | Tala | Satkhira |
| 32. | Md. Anisur Rahman | Baruihati | Tala | Satkhira |
| 33. | Sima Halder | Gopalpur | Tala | Satkhira |
| 34. | Joshna Halder | Gopalpur | Tala | Satkhira |
| 35. | Lipika Rani | Gopalpur | Tala | Satkhira |

Annex-IV.b: List of participants (stakeholders) of the district workshop

| Sl. Nr. | Name | Designation | Organization | Address |
|---------|-------------------------|----------------------------|---------------------------------|-------------------------------|
| 1. | Abdul Alim | Reporter | Tala press club | Tala, Satkhira |
| 2. | Haridas Malakar | Coordinator | Uttaran | Tala, Satkhira |
| 3. | Ms. Nurunnahar Eti | Program Organizer | Uttaran | Tala, Satkhira |
| 4. | Goljar Hossain | Health Worker | Uttaran | Tala, Satkhira |
| 5. | Momen Choudhury | SA | Uttaran | Tala, Satkhira |
| 6. | Mr. Harun-Ar-Rashid | ED | AAS | Dhaka |
| 7. | A.K.M. Ferdous | Agronomist | AAS | Srimangal, Moulvibazar |
| 8. | Deb Kumar Nath | Irrigation Engineer | AAS | Lalmatia, Dhaka |
| 9. | Masud Khan | Manager | ActionAid | Gulshan, Dhaka |
| 10. | Salim Ahmed | Supervisor | Uttaran | Debhata, Satkhira |
| 11. | Md. Moshir Rahman | URDO | BRDB | Tala, Satkhira |
| 12. | M.M Rafiqul Islam | USSO | Department of Social Services | Tala, Satkhira |
| 13. | Hafijur Rahaman | Journalist | Dainik Patradut | Tala, Satkhira |
| 14. | Md. Shahidul Islam | Assistant Coordinator | Uttaran | Tala, Satkhira |
| 15. | Sher-A- Azad Shams | Finance Manager | Uttaran | Tala, Satkhira |
| 16. | Manirujjaman | Agriculturist | Uttaran | Tala, Satkhira |
| 17. | Sattendranath Mitra | Trainer | Uttaran | Tala, Satkhira |
| 18. | Ashutosh Mistra | Extension worker | Uttaran | Tala, Satkhira |
| 19. | Mir Monirul Islam | UCO | Department of Cooperative | Tala, Satkhira |
| 20. | Md. Bellal Hossain | UYDO | Department of Youth Development | Debhata, Satkhira |
| 21. | Abdullah-Al-Mamun | Manager | JJS | South central road, Khulna |
| 22. | Gopal Kumar Raha | APO | JJS | South central road, Khulna |
| 23. | Kazi Kabir Ahmad | Imam | Jam-e-mosque | Tala, Satkhira |
| 24. | Taramoyee Mukharji | UWAO | Department of Women Affairs | Tala, Satkhira |
| 25. | Chaitanna Kumar Das | UAO | DAE | Tala, Satkhira |
| 26. | Shahidul Islam | Director | Uttaran | Tala, Satkhira |
| 27. | Obaidul Haque | Centre Manager | Uttaran | Tala, Satkhira |
| 28. | Abdul Malek | AM | JJS | Koyra, Khulna |
| 29. | Shamim Akhter | Manager | Uttaran | Jatpur, Tala, Satkhira |
| 30. | Ahmad Hasib Mollah | DTO | DAE | Khamarbari, Satkhira |
| 31. | Md. Mahbub-Ur-Rahaman | UAO | DAE | Debhata, Satkhira |
| 32. | Dr. Aziz | ULO | DLS | Tala, Satkhira |
| 33. | Dr. Ranjit Kumar Mandal | ULO | DLS | Debhata, Satkhira |
| 34. | Sirajul Islam | SSO | Department of Social Services | Debhata, Satkhira |
| 35. | Md. Abul Kashem | Upazila Statistics Officer | Department of statistics | Debhata, Satkhira |
| 36. | Nazmun Nahar | UWAO | Department of Women Affairs | Debhata, Satkhira |
| 37. | Taslina Parvin | UCO | Department of cooperative | Debhata, Satkhira |
| 38. | Md. Samsur Rahman | RDO | BRDB | Debhata, Satkhira |