

**Proceedings of the participatory workshop
on
Technology Identification and Recommendation for
FoSHoL Project
(Sunamganj District)**

12 January 2005



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House # 7, Road # 84, Gulshan- 02, Dhaka-1212

Sponsored by:

International Rice Research Institute (IRRI)

House # 9, Road # 23, Block- B, Banani, Dhaka-1212

Phone: 88-02-8817639-40, Fax: 88-02-8827210

Organized by:

Agricultural Advisory Society (AAS)

House # 8/7, Block - B, Lalmatia, Dhaka-1207

Phone: 880-2-8113645, Fax: 880-2-8117781

Email: aas@bdcom.com

Glossary

AAS	=	Agricultural Advisory Society
AAB	=	ActionAid Bangladesh
APM	=	Assistant Programme Manager
BKB	=	Bangladesh Knowledge Bank
BRDB	=	Bangladesh Rural Development Board
BRRRI	=	Bangladesh Rice Research Institute
BS	=	Block Supervisor
CARE	=	Cooperative Assistance for Relief Everywhere
CPS	=	Crop Production Specialist
DAE	=	Department of Agriculture Extension
DFID	=	Department for International Development
DLS	=	Department of Livestock Services
DoC	=	Department of Cooperative
DTO	=	District Training Officer
DYD	=	Department of Youth Development
EC	=	European Commission
ED	=	Executive Director
FGD	=	Focus Group Discussion
FoSHoL	=	Food Security for Sustainable Household Livelihoods
FS	=	Field Supervisor
GOs	=	Government Organizations
IE	=	Irrigation Engineer
IRRI	=	International Rice Research Institute
ITDG	=	Intermediate Technology Development Group
NGOs	=	Non Government Organizations
PETARRA	=	Poverty Elimination Through Rice Research Assistance
PM	=	Project Manager
PM	=	Programme Manager
PNGO	=	Partner Non Government Organization
PSO	=	Principle Scientific Officer
RS	=	Regional Station
SPM	=	Senior Programme Manager
SRDI	=	Soil Resource Development Institute
SSO	=	Senior Scientific Officer
UAO	=	Upazila Agriculture Officer
UAO (ic)	=	Upazila Agriculture Officer in charge
UCO	=	Upazila Cooperative Officer
ULO	=	Upazila Livestock Officer
UNO	=	Upazila Nirbahi Officer
URDO	=	Upazila Rural Development Officer
UYDO	=	Upazila Youth Development Officer
VARD	=	Voluntary Association for Rural Development

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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 disseminating NGOs carryout their interventions in a coherent, consistent, effective and efficient manner, using appropriate technologies selected from their own experiences; PETTRA 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 Bangladesh Knowledge Bank resources will help to guide and harmonize the efforts of the four disseminating NGOs as they undertake to identify the most suitable technologies for rice, non-rice, fisheries, livestock and non-farm 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 under the supervision of the coordinating agency, IRRI. The intention of the workshops is to identify, select and recommended specific agro based technologies for rice, non-rice, fisheries, livestock and non-farm activities that could be act as a catalyst for disseminating NGOs of the selected technologies among the targeted farmers of FoSHoL project.

In this regard, a workshop was conducted on 12 January 2005 at conference room of LGED of Sunamganj from 9.00 am to 4.00 pm. Voluntary Association for Rural Development (VARD) is one of the 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 Tahirpur, Bishwambarpur and Jamalganj upazilas in Sunamganj 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 Sunamganj district.

Facilitators:

Mr. Harun-Ar-Rashid, ED, AAS and Consultant, FoSHoL project, IRRI was the team leader of the facilitators team of the workshop. Ahmad Salahuddin, Manager, Coordination and Capacity Building, FoSHoL Project, IRRI; Mr. A. K. M. Ferdous, Agronomist and Mr. Deb Kumar Nath, Irrigation Engineer of AAS and Md. Ruhul Amin Mondol, Agriculture Extensionist of VARD acted as facilitators on the occasion.

Participants:

A total of 70 participants attended in the workshop, of which 10 were primary stakeholders (farmers) and 60 participants were secondary stakeholders (GOs and NGOs) specially participated from Sunamganj, Habiganj, Sylhet and Moulvibazar districts. Among the 10 farmers, 5 were female and 5 were male from Tahirpur, Bishwambarpur, and Jamalganj upazilas of Sunamganj district (Annex-III.a). Among the 60 participants attended from relevant GOs and NGOs, 4 were female and the rest 56 were male. The distinguished secondary stakeholders participated from Department of Agricultural Extension (DAE), Department of Livestock Services (DLS), Bangladesh Rural Development Board (BRDB), Department of Youth Development, Department of Cooperative, International Rice Research Institute (IRRI), Bangladesh Rice Research Institute (BRRRI), Soil Resource Development Institute (SRDI), Local Government and Engineering Department (LGED), Journalists and NGOs including ActionAid Bangladesh (AAB), Voluntary Association for Rural Development (VARD) and Agricultural Advisory Society (AAS) (Annex-III.b).

Methodology:

The facilitators undertook participatory focus group discussions (FGD) with farmers at village level; discussion with the secondary stakeholders at district level (Sunamganj) and district level participatory workshop with participating primary stakeholders (farmers) and secondary stakeholders from Sunamganj, Sylhet, Habiganj and Moulvibazar districts. FGDs were conducted on 2, 4 and 6 January 2005 and district workshop on 12 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 farmer's demand-led technologies, three FGDs were conducted at community level in Bishwambarpur, Tahirpur and Jamalganj upazilas of Sunamganj district on 2, 4 and 6 January 2005 respectively. A total of 60 farmers including 19 female farmers (32%) participated in the three FGDs. In Bishwambarpur upazila FGD was conducted at the Govt. Primary School adjacent to Lalargaon Bazar where a total of 17 farmers participated. Another one FGD was conducted at the Government Primary

School of Tahirpur village under Tahirpur upazila where a total of 20 farmers participated and the third FGD was conducted at the Jamalganj high school of Jamalganj upazila where a total of 23 farmers including 19 female farmers (83%) participated. All FGDs were conducted with the cooperation of Voluntary Association for Rural Development (VARD) and the overall support from Mr. Sarwar, APM, VARD, Sunamganj Sadar; Mr. Shafiqul Islam, Upazila Manager, VARD, Sunamganj Sadar; Mr. Tajul Islam, Area Manager, VARD, Jamalganj and Mr. Ruhul Amin Mondol, Agriculture Extensionist, VARD, Sunamganj Sadar. Mr. A.K.M. Ferdous, Agronomist of AAS along with Sathi Rani Deb, CBRO, Bishwambarpur and Hafsa Khanom, CBRO, Tahirpur of VARD conducted the FGDs. These half-day long FGDs were conducted through open discussion and in a participatory manner. Output of these FGDs at farmers level was documented through card writing for the purpose of presentation and selection of the technologies in the technical session of the district workshop.

Discussion at district level stakeholders

Discussion with district level stakeholders was conducted to identify sustainable technologies for Bishwambarpur, Tahirpur and Jamalganj upazilas of Sunamganj district. Mr. A.K.M. Ferdous, Agronomist of AAS conducted the district level discussion meetings. The “candidate technologies” were identified from the Department of Agricultural Extension (DAE), Department of Livestock Services (DLS) and Department of Fisheries (DoF) during the district level discussion meetings. The views of participants were duly recorded on cards by the facilitators. These cards represented the primary documentation of the district level discussion.

District workshop

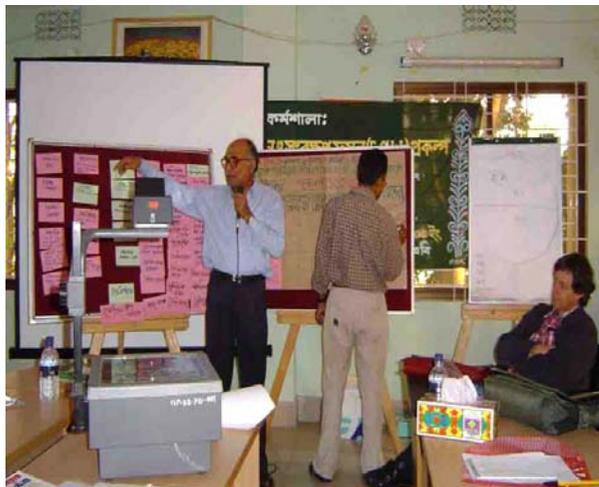
After conducting the FGDs with the targeted farmers at community level and the discussion meeting at district stakeholders level; a district workshop was conducted with the representative of farmers from Bishwambarpur, Tahirpur and Jamalganj upazilas of Sunamganj district and with the distinguished representatives of relevant secondary stakeholders from Sunamganj, Sylhet, Habiganj and Moulvibazar district. 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 and was proceeded on as per Schedule (Annex-IV).

a) Inaugural session:

The purpose of inaugural session of the district level workshop was to give a focus on the objectives of the FoSHoL project as well as to explain the purpose of the workshop. The workshop was presided over by Mr. Md. Abdur Rashid, DD, DAE, Sunamganj district. Mr. Md Jafar Siddique, DC, Sunamganj district was the chief guest of the workshop. Welcome-address was delivered by Mr. Emranul Haque Kamal, ED, VARD (PNGO of ActionAid). Mr. Masud Alam Khan, Project Manager, FoSHoL project of ActionAid, gave a briefing on FoSHoL project. Mr. Noel P magor, Representative, IRRI, Dhaka and Manager, FoSHoL delivered the speech on FoSHoL project and the role of IRRI in 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 Sunamganj district. 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. At the end of briefing the attendees on the process of the technical session, the following steps were amplified: identification of means of livelihoods, comparison of livelihood status of three upazilas, presentation of identified technologies, selection of potential technologies and general problems according to the presented process was followed in the technical session.



Identification of means of livelihoods: In the workshop, means of livelihoods of the small and marginal farmers were identified through open discussion with the primary stakeholders (farmers) and secondary stakeholders of Bishwambarpur, Tahirpur and Jamalganj upazilas in Sunamganj district, which were documented by the facilitators on cards. After identification of the means of livelihoods, 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 as per ascending order for each upazila on the basis of its role-playing in the livelihood of the poor and marginal farmers.

Comparison of livelihoods status: To measure the household livelihoods status of Bishwambarpur, Tahirpur and Jamalganj upazilas of Sunamganj district, the five major categories of means of livelihoods were assessed on a scale of 1-5. The scale 1, 2, 3, 4 and 5 where 1 is considered as very low and 5 is very high. After marking the scale against each of the five categories for each upazila, a comparison of livelihoods status was prepared on the basis of an estimated average value according to descending order as higher to lower status of livelihoods.

Presentation of identified technologies: Farmer's demanded and secondary 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 re-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 livelihoods at the end of this presentation.

Selection of potential technologies: After presentation of farmer's demanded 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 Sunamganj district. During the "selection of technology" process, the technologies demanded by the farmers in FGD and suggested by the district level stakeholders in discussion meeting were

matched with the district workshop participant's identified technologies. Finally the participants unanimously selected potential technologies under each identified sector.

c) Concluding session:

In this session representatives of farmers, DAE, DoF, DLS, PNGO (VARD), disseminating NGO (ActionAid Bangladesh), Coordinating agency (IRRI) and AAS expressed their great hope for improving farmer's livelihood status through implementing the FoSHoL project in Sunamganj district.

Inaugural Session (Output):

Dr. Noel P. Magor, Representative, IRRI and Manager, FoSHoL started his speech thanking all of the participants attended in the workshop. He told every one knows that presently food insecurity is a burning question in many areas of Bangladesh. Today our millennium goal is to increase food security. In order to reduce poverty and increase food security, the Government of Bangladesh has some projects. Both GOs and NGOs are working simultaneously regarding this issue. He made it clear that the FoSHoL project is going to be implemented with the funding support of European Commission (EC). Four disseminating NGOs (i.e. CARE Bangladesh, ITDG Bangladesh, ActionAid Bangladesh and Proshika) will implement this project. IRRI is coordinating these four disseminating NGOs. He hoped that as IRRI is working very closely with this project we would try to develop a strong linkage with GOs and NGOs. We will have to develop very close linkage with DAE, DLS, DoF and other relevant GOs & NGOs in district, upazila and village level. He mentioned here we have come from different GOs and NGOs and will work together for the identification of the technologies, which will help to change the livelihood status of the poor and marginal farmers. He pointed out that Agricultural Advisory Society (AAS) is working very closely at village level, upazila level and district level to identify the technologies. He mentioned that Sunamganj is a suitable area for the FoSHoL project; we have lots of work to do here. He told that he had been in Kamalganj for several years. He visited Sylhet several times, but he hadn't been Sunamganj before this workshop though he had heard a lot about Sunamganj. He further mentioned that it is too hard to implement any project individually, we are looking for very close interaction with GOs and NGOs.

Md. Jafar Siddique, DC, Sunamganj and the chief guest of the workshop said that this is a very praiseworthy programme. As a chief guest he thanked the relevant organizations for arranging the valuable workshop in Sunamganj. Giving more emphasis on the workshop he said it is a very necessary workshop and it will be better if such type of more and more workshops are possible to be arranged in Sunamganj during the project period. He pointed out that the people who came from the villages are food insecure and we have to give food security to the poor people, he added. Through the FoSHoL project, staffs of relevant GOs and NGOs can be able to play effective role for the farmers of the Sunamganj district that will be very much helpful for them to improve their livelihood. He express his deep grief mentioning that in last July 2004 there was a devastating floods in Sunamganj. Due to this undesirable flood, poor farmers were affected severely. Though the houses were not inundated but there was a severe food crisis as all crops fields had gone under water. More or less in every year there is flood in this beel area, he claimed and for this reason, the food insecurity has inclined to a considerable dimension. He told that through this project we will not be able to bring food security for all people, but some changes will come in the society. There are many more people in Sunamganj who are very poor, field labours, tenant and who have to live on hand to mouth. There are many mothers in this locality who have failed to give food

security to her newly born babies due to devastating floods. It is happening for the people of Sunamganj that the brain development (which is taken place immediately after birth) of their newly born babies is handicapping because of food insecurity. So FoSHoL project is timely and demand-led. However, suppose we have identified good technologies, but dissemination of the technologies will take time and strong motivation as many more superstitions exist in our society. He gave an example that when ground water irrigation technology started to be available for the farmers, many of us reacted as Almighty Allah gives us rainwater for cultivating the crop, why we are looking for ground water; this water extraction from ground obviously is a great sin as it is completely a reverse way. Similarly, though line transplanting is an age-old technology for rice, it is even not being practiced by most of the farmers in this area. He, however, said that there are lots of complains against us i.e., we are doing nothing but delivering speech. But I would like to say that it's nothing but rumor. We are trying to help people so that they would be ultimately food secure. We have to work heart and soul, he added. He hoped that the identified technologies would be disseminated at the village level. At last he promised of his full cooperation for the implementation of the FoSHoL project in Sunamganj district and inaugurated the workshop with a pleasure mind.

Mr. Masud Alam Khan, Project Manager, FoSHoL, ActionAid Bangladesh said that the main theme of this project is its integrating approach. Before FoSHoL, we have implemented many projects. But there was no integrated approach. That's why we used to face lots of problem, he added giving an example- suppose in one of our working area fish related problem was raised, but our program/project was on rice based, so it was not possible for us to work with fish. In a word, we were bound to work in specific areas. But through this FoSHoL project we will be able to work with rice, non-rice, fisheries, livestock and other non-farm activities at a time, which is demand-led and will bring the real change in livelihoods of small and marginal farmers in Sunamganj district, he firmly added. This project will work sharing experiences of the last few decades on Agricultural sector. He claimed that in many cases farmers' production has increased but their food security yet has not been ensured. There are so many causes, so many barriers. Flood, drought as well as political and social crisis are also equally responsible for food insecurity. We want to develop and disseminate such technologies that will be sustainable and effective even after project period. We need to implement farmers' demand-led activities. We need help from government as well as private sectors (NGOs) to implement the project. In order to implement the project we will work for the next four years and we are looking for the full cooperation of GOs and NGO sectors, he hopped.

Mr. Emranul Haque Kamal, ED, VARD thanked all of the participating farmers and secondary stakeholders for their kind participation in the workshop. He said that FoSHoL project would be well off with the cooperation of GO and NGO sectors. Agricultural Advisory Society (AAS) and Department of Agricultural Extension (DAE) are playing a great role for technology identification for the FoSHoL project. He mentioned that DAE as well as AAS have technical skills and field level experience. Through this workshop we will get an output that will help us to implement the project effectively, he hopped.

Dr. Jiban Krishna Biswas, Head, RS, BRRI, Habiganj emphasized that we need ecofriendly technologies. Referring Dr. Swaminathan he said that evergreen revolution is very much needed. He also referred Dr. Amartya Sen and asked we have food but why we are facing famine? He said, however, we have lots of problems such as the flash flood, a natural calamity, is a great issue for the people of Sunamganj. He gave a nice example, which was on the clever fish 'Boyal'. The tale is like that when a fisherman starts fishing-net casting, Boyal will get ready immediately to stay away from the net-trap. That's why it always plans to hide such a place where the net was thrown before so

that a safer distance can be maintained from the net. Taking essence from the tale he said if we want to save ourselves, we have to run after the natural disaster following the example. As the fact is that Sunamganj is a district of haors and rice is the main crop of the haors, in here haor oriented rice based technologies will get the top most priority. He also said we have to give more emphasis on it.

Md. Abdur Rashid, DD, DAE, Sunamganj and the chairman of the workshop said that since FoSHoL is a project for food security, it's a good initiative undoubtedly. Now we have to discuss with the strategies of the project depending on which the project will run in future. He claimed that in Sunamganj much amount of rice is produced but we are food insecure. He pointed out that now farmer need economic solvency and we have to find out such type of work plan that would really bring the development of the locality during implementation of the project. He also said if we want to improve the livelihood status of the poor and marginal farmers, we have to do something. As example he mentioned that crop diversification might be a way. We have to be conscious about drought, flood, flash flood etc. Besides rice, we have to cultivate other crops. The rich people have food security, but the small and marginal farmers are food insecure. So we have to discuss more and more, have to work with the small and marginal farmers and have to find out the farmer's demand-led technologies, he added hopefully.

Technical session:

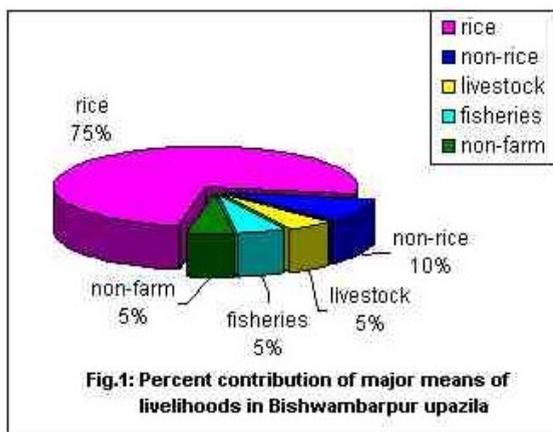
Findings:

Though rice is the main crop in Sunamganj as it is a district of haors, it appeared that the farmers have wide range of livelihoods strategies involving both on-farm and non-farm means.

1. Means of Livelihoods

All the means of livelihoods 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 participating farmers and the secondary stakeholders of the district workshop ranked those five categories of means according to their contribution in household



livelihoods for a particular upazila. The ranking was on position basis as per ascending order. For Bishwambarpur upazila rice is the main means of livelihoods followed in order by non-rice, fisheries, livestock and non-farm activities (Table-1). The contribution of rice is 75% in household livelihoods in Bishwambarpur followed in order by non-rice (10%), fisheries (5%), livestock (5%), and non-farm activities (5%) (Fig.1).

For Tahirpur upazila rice is also the main means of livelihoods followed in order by fisheries, livestock, non-rice, and non-farm activities (Table-1). The contribution of rice is 55% in household livelihoods in Tahirpur followed in order by fisheries (25%), livestock (10%), non-rice (5%), and non-farm activities (5%) (Fig.2).

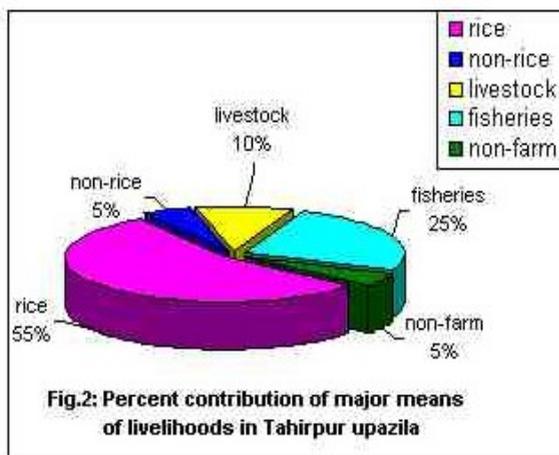
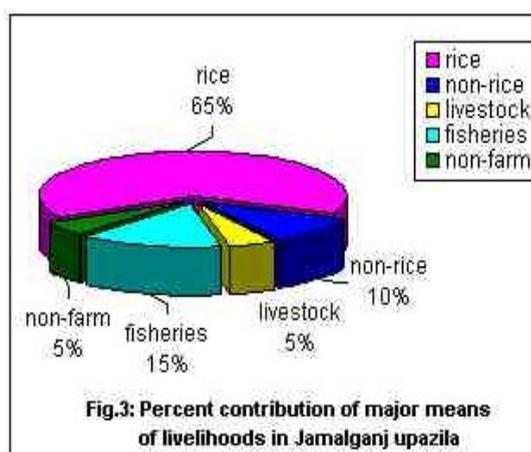


Table1. Prioritization of the major means of livelihoods categories for three upazilas

Major means of livelihoods categories	Prioritization of the means categories (Position 1-5*)		
	Bishwambarpur	Tahirpur	Jamalganj
Rice	1	1	1
Non-rice	2	4	2
Livestock	5	3	4
Fisheries	4	2	3
Non-farm activities	3	5	5

*Position: 1=first, 2=second, 3=third, 4=forth and 5=fifth

On the other hand, for Jamalganj upazila rice is also main means of livelihoods followed in order by fisheries, non-rice, livestock and non-farm activities. The contribution of rice in household livelihoods in Jamalganj is 65% followed in order by fisheries (15%), non-rice (10%), livestock (5%) and non-farm activities (5%) (Fig.3).



Identified means of livelihoods of the farmers of Bishwambarpur, Tahirpur and Jamalganj upazilas of Sunamganj district are provided in Annex-I.

2. Comparison of livelihoods status

The contribution of different means of the marginal and small farmers in household livelihoods in Bishwambarpur, Tahirpur and Jamalganj are not the same. The farmers and stakeholders of each upazila unanimously gave their opinion on the contribution of their means to rural household livelihoods. During assessing the livelihoods status of the farmers of Sunamganj district, the five major categories of means of livelihoods were

ranked by using 1-5 scale. After marking scale against each of the five categories for each upazila, comparison of livelihoods status among the three candidate upazilas was measured on the basis of estimated average value. The estimated average value of livelihoods status of the small and marginal farmers of Jamalganj upazila is found the highest followed in order by Bishwambarpur and Tahirpur upazilas. The household livelihoods status of Bishwambarpur is slightly better than that of Tahirpur (Table 2).

Table 2. Livelihood status of the farmers of Bishwambarpur, Tahirpur and Jamalganj upazilas in Sunamganj district (Scale 1-5)*

Sl. Nr.	Means of Livelihoods	Upazila (Scale 1-5)*		
		Bishwambarpur	Tahirpur	Jamalganj
1.	Rice	5	5	5
2.	Non-rice	3	2	5
3.	Livestock	2	2	2
4.	Fisheries	2	3	3
5.	Others	2.5	2	1
Average		2.9	2.8	3.2

*1=very low, 2=low, 3=moderate, 4=high and 5=very high

3. Recommended technologies for FoSHoL project in Sunamganj district

The district workshop participant's recommended technologies for FoSHoL project were divided into five major sectors i.e. rice, non-rice, livestock, fisheries and non-farm activities. A total of 74 potential technologies were selected where 22 technologies were rice based, 12 technologies were non-rice based, 16 technologies were livestock based, 11 technologies were fisheries based and 13 technologies were non-farm based. Sector wise, the technologies recommended by farmers and secondary stakeholders of district workshop are presented in Annex.II.

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

Usually in every year, the food insecure small and marginal farmers of Jamalganj, Tahirpur and Bishwambarpur upazilas of Sunamganj district, have to face lots of common problems that lead poor contribution of means to their household livelihoods. Early flash flood during Boro season is a major problem in Sunamganj district. Hailstorm is another natural disaster that causes great damage to the crops. Inadequate quality seeds of improved rice varieties, high price of fertilizer and pesticide and their impurity inclined the farmer's attraction to agriculture. Rice and rice seed drying is a post harvest problem. Silting up of the rivers causes flood as well as drainage problem. On the other hand, there is lack of irrigation facility during Boro season, which hampers crop production. River embankments are not duly repaired to protect the floods. Farmers are not able to manage initial agricultural inputs; they have to borrow money from the moneylender with higher rate of interest.

The Livelihood status of Tahirpur upazila that obtained the poorest rank among the three candidate upazilas of Sunamganj district, has some prevailing problems raised by the participants of district workshop as addition with the above mentioned problems are given below:

- ✓ Communication system is very poor
- ✓ Literacy rate is very low
- ✓ Population density is higher than that of two other upazilas
- ✓ Poor marketing facilities
- ✓ Most of the lands are single cropped (only Boro)

During FGD, most of the farmers desired to have the training on rice-based technologies, soil health and fertilizer management, pest management etc. They desired to have the training on vaccination, cattle fattening, feed processing of their livestock, rearing of improved breeds of cattle, goat, sheep and poultry. Participating farmers are much interested on drought tolerant rice varieties as well as high yielding short-duration varieties. Training on pest and their management, water management and fertilizer management were demanded by the farmers for better production of vegetable. Training on the production method of maize, oil seeds and pulses were also demanded by the farmers. Farmers of the targeted upazilas have inadequate knowledge about improved livestock and fish feed preparation. Most of the female farmers have demanded training on feed preparation for their cows and chicken for getting more milk, eggs and meat.

During discussion meeting with the district level stakeholders (DAE, DLS and DoF) and open discussion at plenary of district workshop in both cases more emphasis were given to provide training on each sector of rice, non-rice, livestock, fisheries and non-farm activities. Besides, in order to improve the livelihood status of the small and marginal farmers of the targeted farm families, participating farmers and stakeholders of Sunamganj district suggested the implementation of some important initiatives, which, while not identified as technologies, were, nevertheless, suggested as worthy of consideration. These are given below:

- ✓ Timely quality seed supply should be ensured for the farmers.
- ✓ The availability of fertilizer should be ensured for farmers.
- ✓ Irrigation facility should be ensured for the farmers whenever necessary.
- ✓ Training on rice seed production is essential for the farmers.
- ✓ Flood control embankments should be repaired or newly constructed.
- ✓ River should be re-excavated so that their water containing capacity will be increased and as a result probability of sudden floods will be decreased and access of irrigation with the surface water will be increased during growing period of Boro.
- ✓ Incentive based farmer extension worker on vaccination for livestock should be developed.
- ✓ More emphasis should be given to train female farmers.
- ✓ More emphasis should be given on demonstration of new crop varieties and machineries.
- ✓ Fish-hatchery establishment and farmers training on hatchery management is necessary.
- ✓ Farmers should be trained up on fruit, forestry and vegetable nursery.
- ✓ Easy access of credit should be ensured for the poor farmers.
- ✓ Open water body should be free for all for fishing.
- ✓ Stocking of fingerling in the open water body can be initiated.
- ✓ The law should be strong enough against deep-water body's brood fish catching.
- ✓ The ownership of the small water bodies should be handed over to the real fish farmers and fishermen.
- ✓ Water body (Jalmohal) can be developed through taking proper initiative.
- ✓ The fair price of the produced rice should be ensured so that the poor farmers will not be cheated.
- ✓ The availability of quality vegetable seeds should be ensured for the small and marginal farmers.
- ✓ Strong linkage among GO, NGO and private sectors should be developed.
- ✓ More favorable "fair pricing" of the farm products should be ensured.
- ✓ Knowledge about hybrid crops and other improved crop varieties should be provided among the farmers.

Concluding Session:

In the concluding session when male and female farmers were asked for delivering comments about the workshop one of participating female farmers Jali Begum said that this workshop on FoSHoL project would be a remarkable part of her life. She was very much happy participating in this workshop.

Then another participating farmer Nazrul Islam of Tahirpur village expressed his opinion about the workshop and also said that he was very much happy participating in the workshop. If this type of workshop would be arranged more and more, it would be better for them and they would be able to learn so many things from the workshops, he added expressing his great pleasure.

Samir Ranjan Baral, APM, VARD, Sylhet thanked the participating GO and NGO representatives. He also requested the participants of the district workshop to extend their helping hand for implementing the FoSHoL project.

A.K.M Ramizuddin Akhtar, CPS, DAE, Sunamganj said that since FoSHoL is an integrated project, we hope the project will be able to work with the problems of crop, vegetable, livestock and fisheries. Today from this workshop we have identified lots of problems that are associated with agricultural. If we will be able solve the problems selected with the help of farmers and the secondary stakeholders of Sunamganj district, it is obvious that livelihood must take an acceptable shape undoubtedly.

Mr. Ripon Kumar Paul, UFO, DoF, Jamalganj said that if we want to identify the problems of a locality, we have to have grass root level study. However, through the workshop we have heard so many problems of the farmers. Actually if it is possible to implement the identified problems giving more emphasis to the farmer's demand, socio-economic development will be achieved.

Md. Ishaque Miah, ULO, DLS, Sunamganj Sadar said that though we have identified so many problems that are dealing with agriculture, it is true that all of these identified problems will not be solved. It is not possible to implement every thing. Here most of the poor people depend on rice cultivation. But flash flood is a great barrier for rice cultivation. So this is the high time for finding out alternative way of earning source of the people of the locality. If we have scope to divert the farmers into another sector of agriculture instead of rice cultivation, then it will be effective for them.

Mr. Masud Alam Khan, PM, FoSHoL, ActionAid Bangladesh thanked all of the participants of the district workshop. He said that we have to work specially with the food insecure small and marginal farmers and they will be supported by us through the FoSHoL project. He gave more emphasis on the formation of farmer's Community Based Organization (CBO) and suggested that the farmers can deposit their savings to the CBO and share according to their requirement. He clarified that the workshop on technology identification is the starting workshop of the FoSHoL project and so many workshops related to FoSHoL activities will be arranged during the project period. He pointed out that we have to work such a way that can provide food security to the poor farmers. He claimed that only the increase of food production couldn't be a solution of food insecurity. So many factors are associated with the issue and we have to manage those for the better implementation of the project, he added hopefully.

Dr. Noel P Magor, Manager FoSHoL project and Representative of IRRI, Dhaka said that through out the workshop we have identified so many technologies on the basis of the farmer's demand. We are now able to make a list of technologies as per farmer's demand. Mentioning his visit in Sunamganj, he said though it's his first visit and he has learnt many things by this time about the agriculture of Sunamganj. It's a good place to do something related to on-farm and non-farm activities of agriculture. He mentioned that the project FoSHoL includes not only on-farm activities but also non-farm activities. That's why the farmers, NGO, GO and the businessmen will be able to work hand to hand to bring food security for the target people, he hopped.

Mr. Harun-Ar-Rashid, ED, AAS and Consultant, FoSHoL project, IRRI with a happy mind thanked the farmers as well as the distinguished participants of upazila and district level stakeholders for their participation in the workshop. He thanked disseminating NGO ActionAid, coordinating agency IRRI and donor agency EC. He also thanked the staffs of VARD and AAS for their tremendous logistic support for the successful workshop.

Ahmad Salahuddin, Manager Coordination and Capacity Building, FoSHoL project, IRRI thanked all of the participants of the workshop on behalf of IRRI. He said that the activities of the FoSHoL project would be continued for 4-5 years. We have learnt a lot from the workshop and the learning will help us to be prepared for implementing the project effectively. GO-NGO coordination is very much necessary for the project, he added. He said that if we have good wishes, we would be able to overcome the food insecurity definitely.

Annex-I. Means of livelihoods of the farmers of Bishwambarpur, Tahirpur and Jamalganj upazilas in Sunamganj district

Sl. Nr.	Major sector	Means of livelihoods
1.	Rice	<ul style="list-style-type: none"> ✓ Rice production and husked & unhusked rice selling ✓ Rent out of thresher and power tiller to other farmers ✓ Sale of bullock power for land preparation in rice cultivation
2.	Non-rice	<ul style="list-style-type: none"> ✓ Cultivation of summer-II (Kharif-II) vegetables such as papaya, teasle gourd, taro (pani kachu), mukhi kachu, snake gourd, ridge gourd, sweet gourd, yard long bean, amaranth (danta), bitter gourd, indian spinach, white gourd etc. ✓ Cultivation of winter season vegetables such as tomato, brinjal, radish, cauliflower, cabbage, potato, country bean, bitter gourd, cucumber, sweet gourd, field cucumber (khira), yard long bean, amaranth (lalshak and danta), carrot, sweet potato, spinach etc. ✓ Cultivation of spices: chilli, onion, garlic, turmeric, zinger, coriander ✓ Cultivation of pulses: lentil, grass pea, black gram ✓ Cultivation of oil crops: groundnut, mustard, linseed, sesame ✓ Cultivation of fruits: Banana, lemon, watermelon
3.	Livestock	<ul style="list-style-type: none"> ✓ Duckling production and selling ✓ Duck rearing for egg and meat production ✓ Local hen & cock rearing for egg and meat ✓ Broiler rearing ✓ Sheep and goat rearing ✓ Pigeon rearing
4.	Fisheries	<ul style="list-style-type: none"> ✓ Fish culture in the pond ✓ Fishing from haors ✓ Fish-duck culture in the pond
5.	Non farm	<ul style="list-style-type: none"> ✓ Nakshikantha making and selling ✓ Rickshaw pulling ✓ Boat making and selling ✓ Coal collection and selling ✓ Boat driving ✓ Sand and stone collection from the river and water channel of the hills and selling ✓ Day labour in the agricultural land ✓ Selling of handicrafts made with bamboo and cane ✓ Sheetal pati (mat) preparing and selling ✓ Hand fan of palm tree leaf (Tal pakha) preparation and selling ✓ Pickle business ✓ Making fishing net (made with thread), bana, ghuni (fishing cage made with bamboo) ✓ Making and selling of dried fish ✓ Fishing in the open water body and selling ✓ Milk selling ✓ Puffed rice (muri) and chira making and selling ✓ Cap making and selling ✓ Wood and fruit tree nursery business ✓ Carrying of paddy by horses ✓ Earning through LLP & STW ✓ Pottery ✓ Working with oil extracting machine (ghani)

Annex-II. Recommended technologies for FoSHoL project in Sunamganj district

SI #	Major sector	Technologies
1.	Rice	<ul style="list-style-type: none"> ✓ Drought tolerant variety(s) ✓ Introduction of short duration high yielding hybrid rice variety(s) ✓ Improved production practices for hybrid rice ✓ Improved rice seedling production technique ✓ Seed rate for sowing in the seed bed ✓ Quality rice seed production and dissemination technique ✓ Rice seed drying technique ✓ Improved technique of rice seed storage ✓ Management technique of balanced fertilizer ✓ Soil health awareness through farmers' field school ✓ Improved technique of seedling transplanting ✓ Weedicide application and its management in wet land rice field ✓ Different insects & diseases and their management technique ✓ Integrated pest management (IPM) ✓ Infield irrigation water management ✓ Water management in the main field at the different stages of rice plant ✓ Surface and ground water management system ✓ Introducing of rice seed dryer ✓ Introducing of light weight power tiller ✓ Introducing of weeder ✓ Introducing of drum-seeder ✓ Introducing of reaper for rice harvest
2	Non-rice	<ul style="list-style-type: none"> ✓ Introducing of hybrid vegetable varieties ✓ Improved cultivation method of hybrid vegetables ✓ Introducing of high yielding improved variety of different crops ✓ Improved production techniques for vegetable seed ✓ Identification of diseases and insects of vegetables and their management technique ✓ Water management technique for vegetable cultivation ✓ Balanced fertilizer management technique for vegetable cultivation ✓ Improved technique of pulse and oil crops cultivation ✓ Improved method of maize cultivation and their proper use ✓ Improved cultivation method of linseed, mustard and sesame ✓ Improved method of groundnut cultivation ✓ IPM on vegetable production through farmers field school

SI #	Major sector	Technologies
3.	Livestock	<ul style="list-style-type: none"> ✓ Beef fattening ✓ Milking cow rearing ✓ Broiler chicken rearing ✓ Layer chicken rearing ✓ Duck rearing ✓ Sheep rearing ✓ Goat rearing ✓ Introducing of improved poultry breeds ✓ Improved management technique of cattle and poultry ✓ Cattle and poultry disease management technique ✓ Vaccination ✓ Livestock and poultry feed management ✓ Egg incubation method using rice husk (tush) ✓ Oyster cultivation method in ponds for ducks ✓ Mixed feed preparation technique for cattle and poultry ✓ Seasonal livestock feed preparation
4	Fisheries	<ul style="list-style-type: none"> ✓ Integrated fish culture ✓ Improved pond fish culture ✓ Local fish culture in pond ✓ Poly culture of fish in pond ✓ Rice-fish culture ✓ Nilotika culture ✓ Pangas culture ✓ Thai sarputi culture ✓ Prawn culture ✓ Improved fish feed production technique ✓ Community based fish culture in Haor
5.	Non farm	<ul style="list-style-type: none"> ✓ Nakshikantha making & selling ✓ Handicrafts making with bamboo and cane ✓ Sheetal pati (mat) preparing and selling ✓ Hand fan of palm tree leaf (Tal pakha) preparation ✓ Pickle business ✓ Making fishing net, bana, ghuni ✓ Improved technique of fish drying ✓ Profitable technique of puffed rice (muri) and chira making ✓ Wood and fruit tree nursery business ✓ LLP/STW business ✓ Power tiller business ✓ Pottery ✓ Traditional oil extracting machine (ghani)

**Annex-III.a: List of participants of the district workshop in Sunamganj
(Farmers)**

Sl. No.	Name	Village	Upazila	District
1.	Salema Begum	Fatehpur	Jamalganj	Sunamganj
2.	Anu Begum	Lambabak	Jamalganj	Sunamganj
3.	Lotupa Begum	Lambabak	Jamalganj	Sunamganj
4.	Asma Begum	Lambabak	Jamalganj	Sunamganj
5.	Kabol Bibi	Lambabak	Jamalganj	Sunamganj
6.	Atosh Ali	Lambabak	Jamalganj	Sunamganj
7.	Nazrul Islam	Tahirpur	Tahirpur	Sunamganj
8.	Moshahid Ahmed	Tahirpur	Tahirpur	Sunamganj
9.	Bidhan Paul	Mojumdari	Bishwambarpur	Sunamganj
10.	Md. Kanchan Miah	Mojumdari	Bishwambarpur	Sunamganj

**Annex-III.b: List of participants of the district workshop in Sunamganj
(Stakeholders)**

Sl. Nr.	Name	Designation	Organization	Address
1	Dr. Jiban Krishna Biswas	PSO & Head	RS, BRRRI	Habiganj
2	Md. Akikur Rahman	URDO	BRDB	Tahirpur
3	S.A Hamid	ED	Mac-Bangladesh	Moulvibazar
4	A.K.M. Ferdous	Agronomist	AAS	Srimangal
5	Md. Ruhul Amin Mondol	AE	VARD	Sunamganj
6	Emranul H Kamal	ED	VARD	Sylhet
7	Ramesh Chandra Dev	SPM	VARD	Sylhet
8	Kazi Abdul Jalil	URDO	BRDB	Jamalganj
9	Md. Shaifur Rahman Khan	UYDO	DYD	Jamalganj
10	Samir Ranjan Baral	APM	VARD	Sylhet
11	Md. Rafiqul Haque	DAR	Co-operative Department	Sunamganj
12	Md. Harun-Ar-Rashid	ED	AAS	Dhaka
13	Ahmad Salahuddin	Manager Coordination	IRRI	Dhaka
14	Dr. Noel P. Magor	IRRI Representative	IRRI	Dhaka
15	Md. Masud Alam Khan	Manager	AAB	Dhaka
16	Md. Abdur Rashid	DD	DAE	Sunamganj
17	A.K.M. Rausizuddin Akhtar	CPS	DAE	Sunamganj
18	Shahjahan Siraj	UAO	DAE	Jamalganj
19	Bhupesh Chandra Das	BS	DAE	Jamalganj
20	Shailendra Debnath	BS	DAE	Jamalganj
21	Dal Mohan Das	UAO (ic)	DAE	Bishwambarpur
22	Samsul Alam	BS	DAE	Bishwambarpur
23	M.A. Wahab	DFO	DoF	Sunamganj
24	Ripon Kumar Paul	UFO	DoF	Jamalganj
25	Md. Belal Hossain	BS	DAE	Bishwambarpur
26	Jagoda Nanda Sarker	BS	DAE	Sunamganj Sadar
27	Ratan Chandra Paul	BS	DAE	Sunamganj Sadar
28	Md. Abdul Manan	AA	VARD	Sunamganj
29	Md. Tajul Islam	MES	CBRMP, LGED	Sunamganj
30	Nirmal Kumar	-	-	Sunamganj
31	Md. Jahangir Alam	UNO	-	Sunamganj Sadar
32	Gopal Chandra Das	UYDO	DYD	Sunamganj Sadar

Sl. Nr.	Name	Designation	Organization	Address
33	Rabindra Narayan Talukdar	DEO	DEO	Sunamganj
34	Kazi Mizanur Rahman	PAO	CNRS	Sunamganj
35	Malik Anwar Khan	Coordinator	FIVDB	Sylhet
36	A.K. Shamim Ahmed	SPO	FIVDB	Sylhet
37	Abu Kawsar	SUPM	CBRMP, LGED	Sylhet
38	Prodip Kumar Dev	UYDO	DYD	Bishwambarpur, Sunamganj
39	Md. Shafiqul Rahman	SMS (Agril)	CBRMP	Bishwambarpur, Sunamganj
40	Md. Ishaque Miah	ULO	DLS	Sunamganj Sadar
41	Md. Ashraful Haque	UPO	BRDB	Sunamganj, Sadar
42	Md. Masud Jaman Khan	UAFO	DoF	Sunamganj, Sadar
43	Faruk Ahmed	URDO	BRDB	Sunamganj, Sadar
44	Md. Shafiquzzaman	SSO	SRDI	Sylhet
45	Md. Sayedur Rahman	UCO	DoC	Bishwambarpur
46	Bijan Sen Roy	Editor	Saptahik Sunamkantha	Sunamganj
47	Shahar Uddin Ahmed	Journalist	The Independent	Sunamganj
48	Ashish Das	FS	NNP, VARD	Sunamganj
49	Md. Abdur Rab Bhuiyan	FS	NNP, VARD	Sunamganj
50		ULA	DLS	Bishwambarpur
51	Kafil Uddin	FS	VARD	Sunamganj
52	Ranjit Mallik	TAP	VARD	Sunamganj
53	AFM Rafiqul Islam	UFDO	VARD	Sunamganj Sadar
54	Shafiqul Islam	UM	VARD	Sunamganj Sadar
55	Mifaul Jinnat	-	RADO	Sunamganj
56	Deb Kumar Nath	IE	AAS	Dhaka
57	Koli Begum	CF	VARD	Sunamganj Sadar
58	Tahera Aktar	CF	VARD	Sunamganj Sadar
59	Taslima	CF	VARD	Sunamganj Sadar
60	Joly Begum	CNP	VARD	Sunamganj Sadar

Annex-IV
Participatory workshop
Technology Identification for FoSHoL project

Schedule

Date: 12 January 2005

Place: Conference Room, LGED, Sunamganj

Funded by: EC

Time: 9.00 am- 4.00 pm

Implemented by: VARD & AAS

Coordinated by: IRRI

Time	Subject	Method	Presenter/Facilitators
9.00-10.00 am	Registration	-	Kali, Tahera, Taslima
	Inaugural Session:		
10.00-10.05 am	Recitation from holy Quran	-	Md. Abdul Mannan
10.05-10.10 am	✓ Welcome address	-	Emranul Haque Kamal, ED, VARD
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	-	Dr. Noel P Magor, Representative, IRRI & Manager, FoSHoL
10.30-10.45 am	✓ Inaugural Speech as chief guest and opening of workshop	-	Md. Jafar Siddique, DC, Sunamganj
10.45-11.00 am	✓ Inaugural speech as the session Chairman	-	Md. Abdur Rashid, DD, DAE, Sunamganj
11.00-11.30 am	Tea break	-	-
	Technical session:		
11.30-1.00 pm	✓ Short briefing on FoSHoL project and technical session	-	Harun-Ar-Rashid, ED, AAS and Consultant, FoSHoL, IRRI
	✓ Identification of means of livelihoods of small and marginal farmers	Card writing and Plenary	Ahmad Salahuddin/Harun/ Ferdous/ Deb Kumar/ Ruhul
	✓ Livelihood status comparison among 3 upazilas	Plenary	Ahmad Salahuddin/Harun/ Ferdous/ Deb Kumar/ Ruhul
	✓ Selection and recommendation of potential technologies for FoSHoL project	Plenary	Ahmad Salahuddin/Harun/ Ferdous/ Deb Kumar/ Ruhul
1.00-2.00 pm	Break for prayer and lunch	-	-
2.00-3.30 pm	✓ Selection and recommendation of potential technologies for FoSHoL project (continued)	Plenary	Ahmad Salahuddin/Harun/ Ferdous/ Deb Kumar/ Ruhul
3.30-4.00 pm	Concluding session: ✓ Representative of male and female farmers ✓ Representative of the participants ✓ Representative of VARD ✓ Representative of ActionAid ✓ Representative of AAS ✓ Representative of IRRI	-	Harun/ Ferdous/ Ruhul