

# Completion Report: Technology Identification and Documenting for Knowledge Bank

(Contract # 01\_04)

Food Security for Sustainable Household Livelihoods (FoSHoL) Project

1 December 2004 - 31 May 2005



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## Glossary

AAB	=	ActionAid Bangladesh
AAS	=	Agricultural Advisory Society
AID Comilla	=	Association for Integrated Development Comilla
BARI	=	Bangladesh Agriculture Research Institute
BAU	=	Bangladesh Agricultural University
BFRI	=	Bangladesh Fishery Research Institute
BKB	=	Bangladesh Knowledge Bank
BLRI	=	Bangladesh Livestock Research Institute
BRAC	=	Bangladesh Rural Advancement Committee
BRRRI	=	Bangladesh Rice Research Institute
CARE	=	Cooperative Assistance for Relief Everywhere
CD	=	Compact Disc
CDSP	=	Char Development and Settlement Project
DAE	=	Department of Agriculture Extension
DLS	=	Department of Livestock Services
DNGOs	=	Disseminating Non Government Organizations
DoF	=	Department of Fisheries
EC	=	European Commission
ED	=	Executive Director
FGD	=	Focus Group Discussion
FIVDB	=	Friends In Village Development Bangladesh
FoSHoL	=	Food Security for Sustainable Household Livelihoods
GOs	=	Government Organizations
GTC	=	Grass-root Training Centre
HEED	=	Health Education and Economic Development
IDE	=	International Development Enterprises
IRRI	=	International Rice Research Institute
ITDG	=	Intermediate Technology Development Group
JJS	=	Jagrata Juba Sangha
LGED	=	Local Government Engineering Department
NGOs	=	Non Government Organizations
NRDS	=	Noakhali Rural Development Society
PETRRA	=	Poverty Elimination Through Rice Research Assistance
PNGOs	=	Partner Non Government Organizations
PS	=	Pathakali Sangstha
RARS	=	Regional Agriculture Research Station
RDRS	=	Rangpur Dinajpur Rural Services
RDSM		Rural Development and Social Mobilization
SDC	=	Social Development Committee
TARC	=	Training and Resource Centre
TOR	=	Terms of Reference
US	=	Unnayan Sangha
VARD	=	Voluntary Association for Rural Development
VCD	=	Video Compact Disc
VPKA	=	Voluntary Paribar Kalyan Association

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## **Executive Summary:**

AAS was sub-contracted by IRRI to identify suitable agricultural technologies; to collect related materials for documentation; make selections and prepare the selected materials for storage in the Bangladesh Knowledge Bank. The purpose of this was to allow the project's targeted farmers timely access to the selected technologies and appropriate explanatory materials (Leaflets, brochures, booklets, manuals, etc.). Agricultural Advisory Society (AAS) undertook this work in behalf of IRRI-Dhaka in the context of the EC's "Food Security for Sustainable Households Livelihood" (FoSHoL) project. In this regards AAS conducted an agro-based regional technology search and technological materials collection from a variety of sources from all over the country. As per its assignment, AAS documented the potential agro-based technologies and earmarked the best of these for storing in the knowledge bank for future use by all other interested users in the country.

The regional technological searching initiative was under taken by AAS in collaboration with disseminating NGOs and their partner NGOs in seven regions in eleven representative districts of the targeted 30 districts of FoSHoL project all over the country.

The regional agro-based technology search was conducted by following a three steps process: Step 1; farmer's Focus Group Discussion (FGD), Step 2; meetings with relevant district level stakeholders and Step 3; a series of district level workshops.

Step 1 was for the purpose of identifying appropriate demand-based technologies at the farmer level. A total of 19 FGDs was conducted at community level in 17 upazilas of 11 representative districts of 30 districts of FoSHoL project to identify the farmer's demand-led agro-based technologies to improve their livelihoods. Output of these FGDs at farmer's level was documented through card writing for the purpose of presentation, selection and prioritization of the farmer's suggested technologies in the technical session of the district workshop. A total of 548 farmers including 250 female farmers (46%) participated at 19 FGDs in 17 upazilas of 11 representative districts of FoSHoL project.

Step 2 entailed discussions with relevant district level stakeholders (DAE, DLS & DoF). These were conducted in seven districts for the purpose of identifying sustainable/potential technologies for the targeted farm families at the local expert level. The "Candidate technologies" were identified from the DAE, DLS and DoF during the district level discussion meeting. The views of participants at the district level discussion meetings were duly recorded by the facilitators on cards. These cards represented the primary documentation of the district level discussion meeting. The facilitators of the district workshop presented the district level technology findings during the technical session of the workshop. After presentation of each technology the floor was open for all participants of the workshop to discuss the merits of each technology being considered.

Step 3 involved a series of workshops, which brought farmers, government officers and private sector parties together for a combined discussion of the overall technology scenario in FoSHoL project districts. These district level workshops were undertaken in 7 districts for the purpose of selecting the most potential technologies for the target farmers. A total 516 participants attended the seven district workshops of which 192 (37.2%) participants were farmers and 324 (62.8%) of them were relevant secondary stakeholders (GOs, NGOs and private sector players) from thirteen districts. Out of 192 participating farmers, 92 (47.9%) were female participants. On the

other hand, out of 324 representatives of secondary stakeholders, 29 (9%) were female participants.

The day-long participatory workshops were divided into three sessions i.e., an inaugural session, a technical session and the concluding session. A participatory approach was followed during the technical session of the district workshop.

In the technical session; seven steps amplified the process: group formation, identification of technologies, presentation of identified technologies, selection of potential technologies, prioritization of potential technologies and finally selection of the technologies according to the accepted process, these were the steps followed during the technical session.

At the beginning of the agro-based technology search, a half-day workshop was conducted at BRRI, Gazipur to identify area specific rice based technologies. The workshop participants suggested a total of 34 rice-based technologies together with suitable locations (districts) for implementing them within the targeted districts of FoSHoL project.

The "four steps process" (materials collection, documentation, selection and storage) of the relevant technological materials collection and storage in knowledge bank was developed at the beginning of the implementation.

Relevant supporting materials (hard copy/soft copy) of agricultural technologies and agro-based non-farm technologies were collected from more than 50 sources in the country for documentation followed by storing at IRRI office, Banani, Dhaka. The collected relevant materials of agricultural technologies and agro-based non-farm technologies were catalogued through using the accepted formats and guidelines under the supervision of FoSHoL project staff of IRRI. At the beginning of the cataloguing, a random sorting for the collected technological materials was done by the team members of AAS as per decided guidelines. The selected potential technologies and their materials were suggested for storing in Bangladesh knowledge bank for future use by the disseminating NGOs of FoSHoL project through using several criteria including the demand score of the seven district workshops, merits of technology and technological materials, assessment by the study team members of AAS. The suggestion was also made on the identified technologies for the targeted 30 FoSHoL districts on the basis of demand score of the seven districts workshops, suitability in agro-ecological zones and merits of each technology. The study team proposed for validation of each technological material by the farmers and also with the relevant secondary stakeholders after preparation and before storing in the BKB. Finally selected technological materials were stored at IRRI office, Dhaka under the overall supervision of FoSHoL project staff of IRRI, Dhaka.

During implementation of this agro-based regional technology search and related materials collection and storage; several processes were fine-tuned; these are (a) The Three step process for technology identification (b) The Six step process for focus group discussions (FGD), (c) The Seven step process for district workshop and (d) The Four step process for technological materials collection and storage.

A total of 998 technologies (on-farm and non-farm) were identified from the eleven districts of Sunamganj, Satkhira, Khulna, Faridpur, Rajbari, Madaripur, Shariyatpur, Jamalpur, Gazipur, Noakhali and Bogra. This was done on the basis of seven district workshops, where 516 participants attended from thirteen of the project's target districts. Out of the 998 technologies identified, 661 (66.2%) were on-farm and 337 (33.8%) were designated as non-farm. A large number of technologies identified were duplicated in several other district workshops and thus the total number of technologies (both on-farm & non-farm) reached as high as 998.

The selected total technologies of both on-farm and non-farm was highest in Jamalpur district workshop with 196 technologies followed in order by Noakhali district (176), Bogra district (165), Gazipur district (157), Faridpur district (139), Satkhira district (91) and Sunamganj district (74). The number of selected technologies under non-farm was highest in Jamalpur district workshop with 70 technologies followed in order by Bogra district (66), Gazipur district (64), Faridpur district (58), Noakhali district (50), Satkhira district (16) and Sunamganj district (13).

A total of 1824 pieces of technological material were gathered, of which 1682 (92.2%) were from on-farm sources and 142 (7.8%) were from non-farm sources. Among the total of 1824 technological materials gathered, 1010 technologies and their supporting materials generated high levels of demand in the various district workshops. 1712 pieces of technological materials were pre-selected for the Bangladesh knowledge bank while 803 of these were finally selected for inclusion in BKB. A large number of selected technological materials were duplicated in several types due to different sources/formats and thus the total numbers of technological materials reached as high as 1824. Among the enlisted 1682 on-farm technological materials, 929 technologies and their materials were demanded in district workshops, 1614 technological materials were pre-selected for BKB and 748 technological materials were selected for BKB. On the other hand, among the enlisted 142 non-farm technological materials, 81 technological materials were demanded in district workshop, 98 technological materials were pre-selected for BKB and 55 technological materials were selected for BKB.

Out of 1824 technological materials, 1808 technological materials were documented as hard copy. A total of 129 pieces of technology related materials were enlisted as soft copy. Out of the enlisted 129 soft copy technological materials, 16 soft copies of the technological materials were the single source of technological information and the rest 113 soft copies technological materials were duplicated with their respective hard copy of the technological materials. The highest number of documented hard copy materials was found in manuals. 678 technical materials were collected in manuals; followed by booklets (438), folded brochures (390), leaflets (87), fact sheets (69), posters (50) and the rest of the type of materials can be considered as negligible materials. Folded brochures (390) were seen as the best, single source of technological material followed by leaflets (87), fact sheets (69) and posters (50).

Out of enlisted 1824 technological materials, 803 (44%) were selected for BKB, of which 748 (41%) were selected from on-farm applications and only 55 (3%) were selected from non-farm applications. Out of 748 on-farm technologies selected for BKB, 385 (51.5%) were selected from the crop sector, 214 (28.6%) were selected from PETRRA innovations, 73 (9.8%) were selected from the fisheries sector, 63 (8.4%) were from the livestock sector, 9 (1.2%) were from stress sector and 4 (0.5%) were based on development issues. A total of 736 and 147 respectively were proposed for validation before storing in BKB by the farmers (end users) and secondary stakeholders.

Four DNGOs are very much enthusiastic about the technological materials are available at IRRI office, Dhaka. They highly expressed their opinion towards the acceptance of the enriched BKB with huge uploaded of farmer's demand-led technological materials as a hub of Agro-based technological source of knowledge during implementation cycle of FoSHoL project.

## **Background:**

The Food Security for Sustainable Household Livelihoods (FoSHoL) project is a 54-month project. Its objective is to promote food security and improved livelihoods for the food insecure, small and marginal farmers. This will be done through the identification and 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 technology dissemination agencies. These four NGOs have been selected on the basis of their proven capacity to contribute to the overall improvement of food security among the targeted farmers. They will identify, adapt and disseminate the selected technologies. Their efforts will strengthen farming system efficiency and will consequently improve farm-household food security and livelihood. Moreover, EC has mandated IRRI to provide overall coordination and thus ensure that the four NGOs carry out their assigned tasks in a coherent, consistent, effective and efficient manner. For this they will use appropriate technologies from their own experiences; PETRRA experiences and also from IRRI and elsewhere. The coordinating agency, IRRI, will work with the disseminating NGOs to ensure that the technologies delivered will improve farming practices and ensure better utilization of available farm resources. Accordingly, the target farmers will increase the quality and quantity of their farm output and thus enhance their own food security and livelihoods.

Location specific technology identification for the targeted food insecure, small and marginal farmers is one of the major activities of IRRI in the FoSHoL project. IRRI has assigned Agricultural Advisory Society (AAS) the responsibility to explore, identify and document technologies from sources throughout the country; giving particular emphasis in the districts where the FoSHoL project is operating. AAS will be responsible for documenting the selected technologies and their selected materials in the Bangladesh knowledge bank. The Bangladesh knowledge bank 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 project areas. The Bangladesh 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.

A contract has been signed between AAS-IRRI for technology identification and documenting for knowledge bank. Under this contract, IRRI, a coordinating agency of the EC funded FoSHoL project, has assigned Agricultural Advisory Society (AAS) to identify and document the most prospective, agro-based technologies and their materials. Since 1 December 2004, AAS has been implementing its assigned task of identifying potential agro-based technologies and collecting available/suitable agro-based technological materials for documenting them for storage and reference in the knowledge bank. Under this assignment, AAS has been undertaken regional agro-based technology search and collection of suitable agro-based technological materials followed by documentation and selection for knowledge bank and storage the catalogued materials at IRRI office, Dhaka. This report summarizes the accomplishment that AAS has made as of 31 May 2005 of its assigned task.

## **Purpose of AAS Involvement:**

Agricultural Advisory Society (AAS) was assigned by IRRI to facilitate the process of identifying potential agro-based on-farm and non-farm technologies and ensuring that the collected/catalogued agro-based essential technological materials as to their source are stored for the Bangladesh knowledge bank for subsequent use as required by FoSHoL project and other users in the country.

## **Objectives of the Task:**

### **Overall objective:**

To identify agro-based technologies and collect, catalogue and store their related materials in the Bangladesh knowledge bank as reference materials for subsequent use as required by all other relevant users in the country.

### **Specific Objectives:**

**Objective 1:** To identify potential agro-based on-farm and non-farm technologies for the targeted farmers of representative districts of 30 districts of FoSHoL project through regional technology search.

**Objective 2:** To collect the materials of agro-based technologies in any format and type from all possible sources in the country.

**Objective 3:** To catalogue the collected agro-based on-farm and non-farm technological materials according to agreed formats and guidelines.

**Objective 4:** To select potential technologies and related materials for ultimate storage in the knowledge bank.

**Objective 5:** To store the collected and catalogued technological materials at IRRI office, Banani, Dhaka for final documentation and in a form that will be accessible and useable to the maximum number for interested users.

## **Duration:**

AAS implemented the assigned task on technology identification and documenting for knowledge bank from 1 December 2004 to 31 May 2005 under the supervision of coordinating agency-IRRI of FoSHoL project under the funding support from EC, Dhaka.

## Implementation Strategies:

AAS has been sub-contracted by IRRI to identify suitable agro-based technologies and their materials collection followed by documentation and storage for knowledge bank under the FoSHoL project initiatives. At the beginning of the assignment, a planning workshop was conducted at IRRI office, Banani, Dhaka to develop strategies/approaches for implementation of the decided activities of the assigned task under the contract between AAS-IRRI. The participants of the workshop finalized the guidelines for agro-based technologies identification and technological materials collection and their documentation for storage in knowledge bank. Several processes, approaches and guidelines were developed for implementation of the agreed activities during implementation cycle of the assigned task. These processes, approaches, guidelines and strategies were used during implementation of the agreed activities of the assigned task and they are as follows:

**Regional agro-based technology search:** A total of seven district workshops and a participatory workshop at BRRI, Gazipur were conducted by AAS in collaboration with disseminating NGOs (PROSHIKA, ITDG, AAB and CARE) of FoSHoL project and under the supervision of coordinating agency, IRRI. During implementation of district workshops, the partner NGOs of AAB, ITDG and PROSHIKA provided all possible support during implementation of focus group discussion (FGD) at community, district stakeholders meeting and district workshop. Overall, AAS coordinated and facilitated the process of district workshop, such as implementation of FGD, district stakeholders meeting and the district level workshop during December 2004 to April 2005. As per suggestion of planning workshop, the project's agro-based technology search was conducted by following a three steps process: 1st was the focus group discussion (FGD), 2nd came the meetings with relevant district level stakeholders and 3rd was a district level workshop. A total of 19 FGDs (half day) were conducted at communities in eleven districts of FoSHoL project through open discussion and in a participatory manner. Moreover, each FGD was conducted following the AAS developed "six steps process" of FGD along with the decided guidelines. Face to face discussion with district level relevant stakeholders was made to identify potential technologies for the targeted farm families of FoSHoL project. A day-long participatory workshop was divided into three sessions i.e., the inaugural session, a technical session and the concluding session. A participatory approach was followed during the technical session of the district workshop. At the beginning of technological search, "seven steps process" were agreed and these were followed during the technical session of the district workshops. The proceedings of the district workshops were prepared for documentation of the outputs of each district workshop separately under the supervision of chief Agricultural Specialist of the team. At the end of the district workshop concluding session was conducted through open discussion at plenary and the facilitators recorded the relevant comments and suggestion of the interested participants of the workshop. Such relevant comments and suggestions were documented in the district workshop proceedings.

**Agro-based technological material search:** Relevant materials (hard copy and soft copy) of various agro-based on-farm and non-farm technologies were collected from more than 50 sources (Such as relevant research institutes, departments, projects, other GOs, NGOs, private sectors etc) by the team members of AAS for documentation and storage at IRRI office, Banani, Dhaka. The relevant materials of various agricultural technologies were collected from sources all over the country under the supervision of IRRI-Dhaka office.

**Documenting, selection, suggestion and storage of the materials:** Collected relevant materials of various agricultural technologies documented on the agreed formats and according to accepted guidelines in collaboration with IRRI. At the beginning of the documentation, sorting for collected materials were done at AAS office, according to their type of materials, accepted sectors with sub-sectors and using agreed formats and collated with district workshops demand. In the process of the documentation, suitable technologies and their materials were selected for storage in knowledge bank. Later, the level of suggestion for each technological material was made for the selected technological materials for storage in knowledge bank with further improvement, if it is applicable. The selected technologies and their materials were also suggested for the suitable districts of the targeted 30 FoSHoL districts in the country. At the end of cataloguing of the collected materials, each material has got a serial number on a pasted sticker for easy handling. Selected technological materials were further proposed for validation either by farmers or relevant secondary stakeholders or both before storage in the knowledge bank.

In the process of implementing AAS's "Technology Identification and Documentation" tasks, several changes have been required. Specially, those related to output 2 and activities of 8,9 and 10 of the TOR. Adjustments due to variances from the TOR of the contract were made during implementation cycle of the task under changed conditions and other practical considerations.

**Presentation on the findings:** At the end of the assignment, a half-day workshop was conducted at IRRI office, Banani, Dhaka for presentation of the findings of "technology identification and documenting for knowledge bank" under the supervision of coordinating agency, IRRI. Overall, IRRI coordinated and facilitated the workshop on presentation of the findings of the assigned task on technology identification and documenting in knowledge bank. The comments and suggestions of the participants of the workshop were recorded by the facilitators of the workshop. Finally, the outputs of the workshop on presentation of the findings are incorporated in the completion report of the assigned task.

## **Major activities and accomplishments:**

AAS was sub-contracted by IRRI to identify suitable agro-based technologies and to collect relevant agro-based technological materials as to their source are documented and stored for Bangladesh knowledge bank. Accordingly, AAS accomplished the following activities during 1 December 2004 to 31 May 2005.

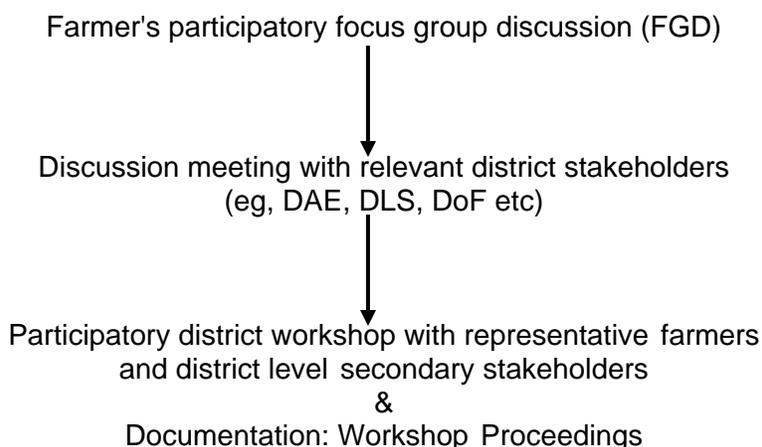
### **A. Introductory planning workshop:**

A half-day introductory planning workshop on technology identification and documentation for knowledge bank was held at IRRI meeting room, Banani, Dhaka on 15 December 2004. Representatives from the four disseminating NGOs (CARE, ITDG, Action Aid and PROSHIKA) participated in the planning workshop. A total of 13 participants from IRRI, CARE Bangladesh, ActionAid Bangladesh, PROSHIKA, ITDG Bangladesh and AAS attended in the workshop. Mr. Ahmad Salahuddin, Manager, Coordination and Capacity Building, FoSHoL project, IRRI, facilitated the introductory planning workshop. After introductory speech of Dr. Noel P. Magor,

FoSHoL and Representative, IRRI, Dhaka, Mr. Harun-Ar-Rashid, ED, AAS and consultant, FoSHoL project, IRRI presented the process on technology identification and relevant agro-based technological materials collection and storage in knowledge bank. After presentation of Mr. Harun-Ar-Rashid, floor was opened for discussion.

Guidelines for relevant agricultural technology identification as well as selection of the target districts (tentative) of the FoSHoL project were finalized in the planning workshop. It was agreed in the workshop that such technology selection approach should be bottom-up approach. Finally, participants of the planning workshop accepted the "three step process" for relevant technology identification:

## "Three Steps Process"

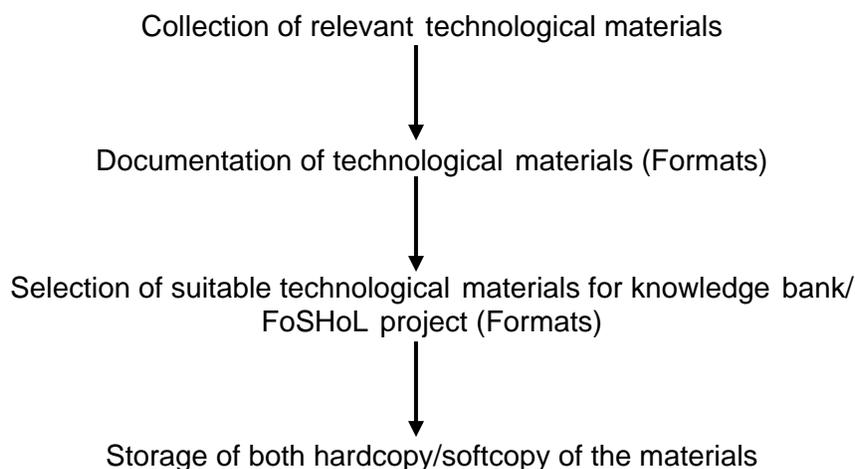


The "Process" of the FGD and district workshop along with the "approach" of discussion meeting with district level stakeholders is delineated in the following section of **regional agro-based technology search** of this completion report. The "process" and "approach" were developed in the process of implementing the technology search.

It was agreed in the planning workshop that technologies deemed suitable could be identified from sources anywhere in country but once selected, a technology should have a particular relevance in those districts where the FoSHoL project is operating.

The participants of the planning workshop also accepted the concept for the collection of relevant agro-based technological materials from different sources (i.e., relevant research institutes, departments, other GOs, NGOs, private sectors etc) for storage in knowledge bank. The following "four step process" of technological materials collection and storage was developed at the beginning of the implementation:

## "Four Step Process"



The major findings (Comments and Suggestions) of the introductory planning workshop are presented in Attachment-I (Proceedings: Introductory planning workshop).

### **B. Participatory Workshop at BRRI:**

A participatory half-day (10:00 am to 1:00 pm) workshop was conducted at BRRI, Gazipur on 9 January 2005 for identifying recommended, area specific rice based technologies. These can act as a "guide-technologies" for the four disseminating NGOs helping them to make informed decisions about the sorts of technologies that might be suitable for dissemination among resource poor households in the FoSHoL project areas.

A total of 28 participants attended the workshop from BRRI, IRRI, PROSHIKA, ITDG-Bangladesh, AAS, RDRS, FIVDB, HEED Bangladesh, IDE-Bangladesh and AID Comilla. Mr. Ahmad Salahuddin, Manager, Coordination and Capacity Building, FoSHoL project, IRRI and Mr. Harun-Ar-Rashid, Executive Director, AAS and consultant of FoSHoL project, IRRI, facilitated the workshop on identification and recommendation of location specific rice technologies.

To identify and to get recommendation for location specific rice technologies, the workshop was conducted with the scientists of BRRI, disseminating NGOs and other NGOs who were involved in sub-projects of PETRRA. The workshop was divided into three sessions i.e., inaugural session, technical session and concluding session. Participatory approach was followed during technical session of the workshop.

At the beginning of the inaugural session, Dr. Noel P. Magor, IRRI Representative and Manager, FoSHoL presented the objectives, background, expected results of the project and the purpose of the workshop. The chief guest of the workshop, Dr. A.R. Gomosta, Director (Research), BIRRI, Gazipur, delivered the inaugural speech and opened the workshop.



Mr. Harun-Ar-Rashid, ED of AAS and Consultant of FoSHoL project, with the association of Mr. Deb Kumar Nath, Irrigation Engineer of AAS and Mr. AKM Murshedur Rahman, Entomologist of AAS, facilitated the technical session. At the beginning of the technical session, participants initiated an open discussion on the role of BIRRI scientists in FoSHoL project. At the end of the open discussion, the participants gave their consensus of opinion that the scientists of BIRRI and NGOs who were involved in the PETRRA sub-projects will identify location specific rice technologies under the sub-projects of PETRRA project for FoSHoL project.

After an open discussion on the role of BIRRI scientists, Mr. Harun-Ar-Rashid, ED, AAS briefly explained the process of identification and suggestion of location specific rice based technologies among the participants. He mentioned that the identified rice technologies could be used as a guideline by the 4 disseminating NGOs to popularize the technologies among farmers in the target areas. Earlier, a list of PETRRA funded sub-projects with their implementing organizations was supplied to the participants as a guide for them to identify rice based technologies. Mr. Harun-Ar-Rashid also suggested the participants to note all technologies where a sub-project of PETRRA bears more than one technologies. Participants were also supplied the list of proposed districts and upazilas for FoSHoL project. Participants were requested to note the technologies that seemed sustainable and to identify the suitable locations within the project area for disseminating these technologies. After identification of the technologies, an open discussion was held to specify the best locations and to get comments and suggestions.



Finally, the workshop participants suggested a total of 34 rice-based technologies together with suitable locations (districts) for implementing them within the targeted districts of FoSHoL project. The major findings of the participatory workshop are provided in Attachment-II (Proceedings of the workshop).

### C. Regional agro-based technology search:

As per suggestion of planning workshop, the project's agro-based technology search has been conducted by following a three steps process. Accordingly, the summary information for the agro-based technology search through FGD, meeting with relevant district level stakeholders and district workshop is provided in the following table 1 in the context of the 3 steps followed:

**Table 1:** Summary of the regional agro-based technology search

SL #	District	Upazila	FGD (Nr.)	District stakeholders meeting	District Workshop	
					Date	Venue
1	Sunamganj	Bishwamvarpur, Tahirpur, Jamalganj	3	Sunamganj: DAE, DLS, DoF	12.1.2005	Common Room, LGED, Sunamganj
2	Khulna	Rupsa	2	-	-	-
3	Satkhira	Debhata, Tala	2	Satkhira: DAE, DLS, DoF	18.1.2005	IDRT, Uttaran, Tala, Satkhira
4	Rajbari	Goalando	1	-	-	-
5	Faridpur	Char Bhadrasan, Nagarkanda	2	Faridpur: DAE, DLS, DoF	09.2.2005	TARC, BRAC, Faridpur
6	Jamalpur	Jamalpur Sadar, Sharishabari	2	Jamalpur: DAE, DLS, DoF	24.2.2005	RARS, BARI, Jamalpur
7	Mymensingh	Bhaluka	1	-	-	-
8	Gazipur	Sreepur	1	Gazipur: DAE, DLS, DoF	09.3.2005	GTC, PROSHIKA, Sreepur, Gazipur
9	Sirajganj	Kazipur	1	-	-	-
10	Bogra	Gabtohi	1	Bogra: DAE, DLS, DoF	17.3.2005	GTC, PROSHIKA, Gabtohi, Bogra
11	Noakhali	Noakhali Sadar, Begumganj	3	Noakhali: DAE, DLS, DoF, CDSP	06.4.2005	Jubo Sanghati Kendra, NRDS, Noakhali
<b>Total</b>	<b>11</b>	<b>17</b>	<b>19</b>			

Details of the "three step process" for agro-based technology identification and selection for FoSHoL project are discussed below:

## I. Focus Group Discussion (FGD)

In order to identify farmer-led technologies, 19 FGDs were conducted at community level in 17 upazilas (Bishwamvarpur, Tahirpur, Jamalganj, Rupsa, Debhata, Tala, Goalando, Char Bhadrasan, Nagarkanda, Jamalpur Sadar, Sharishabari, Sreepur, Bhaluka, Kazipur, Gabtoli, Noakhali Sadar and Begumganj) of 11 representative districts of 30 districts of FoSHoL project. Output of these FGDs at farmer's level was documented through card writing for the purpose of presentation, selection and prioritization of the farmer's suggested technologies in the technical session of the district workshop.



A total of 548 farmers including 250 female farmers (46%) participated at 19 FGDs in 17 upazilas of 11 representative districts of FoSHoL project (Annex. I and Table 1). Mr. A.K.M. Ferdous, Agronomist, Mr. A.K.M. Murshedur Rahman, Entomologist and Deb Kumar Nath, Irrigation Engineer of AAS conducted these FGDs in 11 districts (Sunamganj, Khulna, Satkhira, Rajbari, Faridpur, Jamalpur, Gazipur, Mymensingh, Siragjanj, Bogra and Noakhali ) under the supervision of Mr. Harun-Ar-Rashid, ED, AAS and consultant, FoSHoL project, IRRI. These FGDs were conducted in collaboration with the disseminating NGOs (ITDG, PROSHIKA and ActionAid) and partner NGOs of ITDG (VPKA, SDC, PS, US & RDSM) and ActionAid Bangladesh (VARD, JJS, Uttaran, NRDS). Staffs of disseminating NGOs of FoSHoL project and their partner NGOs acted as the active facilitators during focus group discussion at community. On the other hand they played vital role in arranging the FGD at each community.



These half-day long FGDs were conducted at communities in eleven districts of FoSHoL project through open discussion and in a participatory manner. During open discussion, existing technologies, problems and farmers concerns for their livelihood improvement were identified and covered all sectors of rice, non-rice, livestock, fisheries and non-farm activities. At the end of the focus group discussion, ITDG documented technologies (mainly non-farm activities) were displayed among the participants with an explanation by the facilitators. Moreover, each focus group discussion (FGD) was conducted following the AAS developed "process" of FGD along with the fixed discussion guidelines.

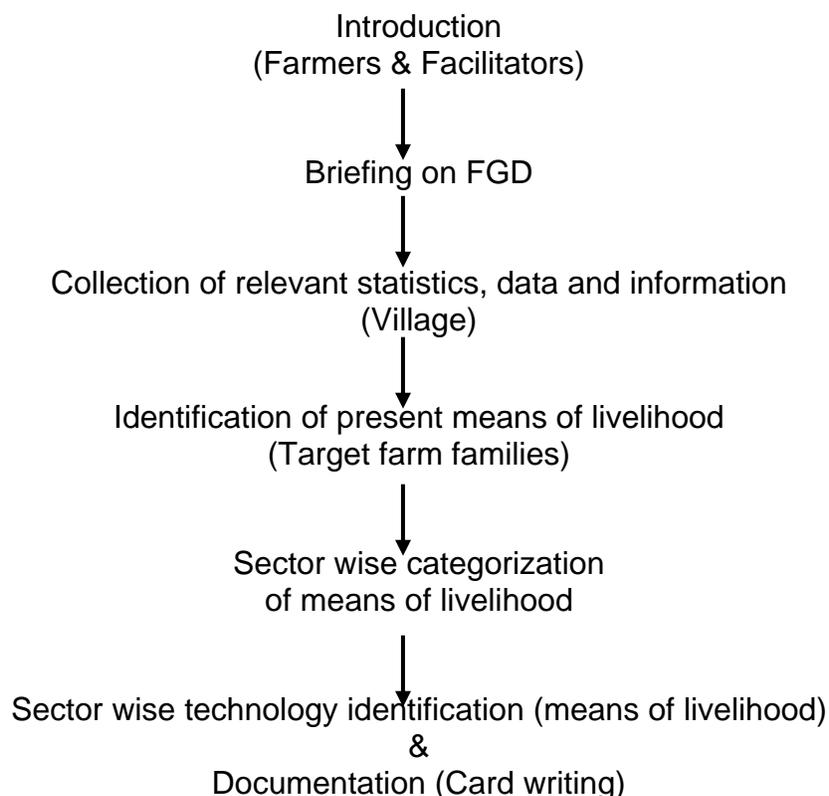
These half-day long FGDs were conducted at communities in eleven districts of FoSHoL project

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The process used for the FGD appears below:

## **Process: Focus Group Discussion**



The facilitators of the district workshop presented the farmer's 'community level' technology selections. After presentation of each technology, the floor was open for all participants of the district workshop to discuss the merits of each technology under discussion and then the selected technologies were prioritized according to the process.

### **II. Discussion meeting with district level stakeholders:**

Discussion with district level relevant stakeholders (Dept. of Agricultural Extension, Dept. of Livestock Services and Dept. of Fisheries) was conducted in seven districts to identify sustainable/potential technologies for the target farm families of FoSHoL project. A.K.M. Ferdous, Agronomist, Mr. A.K.M. Murshedur Rahman, Entomologist and Deb Kumar Nath, Irrigation Engineer of AAS conducted the district level stakeholders meetings in seven districts under the supervision of Mr. Harun-Ar-Rashid, ED, AAS and consultant, IRRI FoSHoL project. The district level stakeholder's meetings were conducted in collaboration of disseminating NGOs (ITDG, PROSHIKA and Action Aid), partner NGOs of ITDG Bangladesh and ActionAid Bangladesh under the overall guidance of IRRI. 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 meeting. The view 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.

The facilitators of the district workshop presented the district level technology findings during the technical session of the workshop. After presentation of each technology the floor was opened for all participants of the workshop to discuss the merits of each technology being considered.

### III. District workshop

After conducting the FGDs with the targeted farmers at community and discussion meeting at secondary stakeholder level, a district level workshop was conducted with representatives of the farmers and with the representatives of relevant secondary stakeholders from 11 districts to select the most potential technologies for the target farmers of FoSHoL project. A total 516 participants attended in seven district workshops of which 192 farmers (37.2%) and 324 participants (62.8 %) were from relevant secondary stakeholders (GOs, NGOs and private sector) of thirteen districts (Sunamganj, Satkhira, Khulna, Faridpur, Rajbari, Shariyatpur, Jamalpur, Madaripur, Sirajganj, Gazipur, Mymensingh, Bogra and Noakhali). Out of 192 participating farmers, 92 (47.9%) were female participants. On the other hand, out of 324 representatives of secondary stakeholders, 29 (9%) were female participants (Annex. II & Table 1). A day-long participatory workshop was divided into three sessions i.e., the inaugural session, a technical session and the concluding session. A participatory approach was followed during the technical session of the district workshops.



**Inaugural session:** The purpose of inaugural session of the district level workshop was to give focus to the objectives of the project as well as to explain the purpose of the workshop and the need to document the views and comments of the participating stakeholders, implementing and coordinating agencies of the FoSHoL project. The views, comments and suggestions of the speakers of the inaugural session are presented in the proceedings of the participatory district workshop (Attachment III-IX).

**Technical Session:** The main purpose of the technical session was to identify and select potential technologies for the targeted farmers in the 11 districts (Sunamganj, Khulna, Satkhira, Rajbari, Faridpur, Madaripur, Shariyatpur, Jamalpur, Gazipur, Bogra and Noakhali) of FoSHoL project.

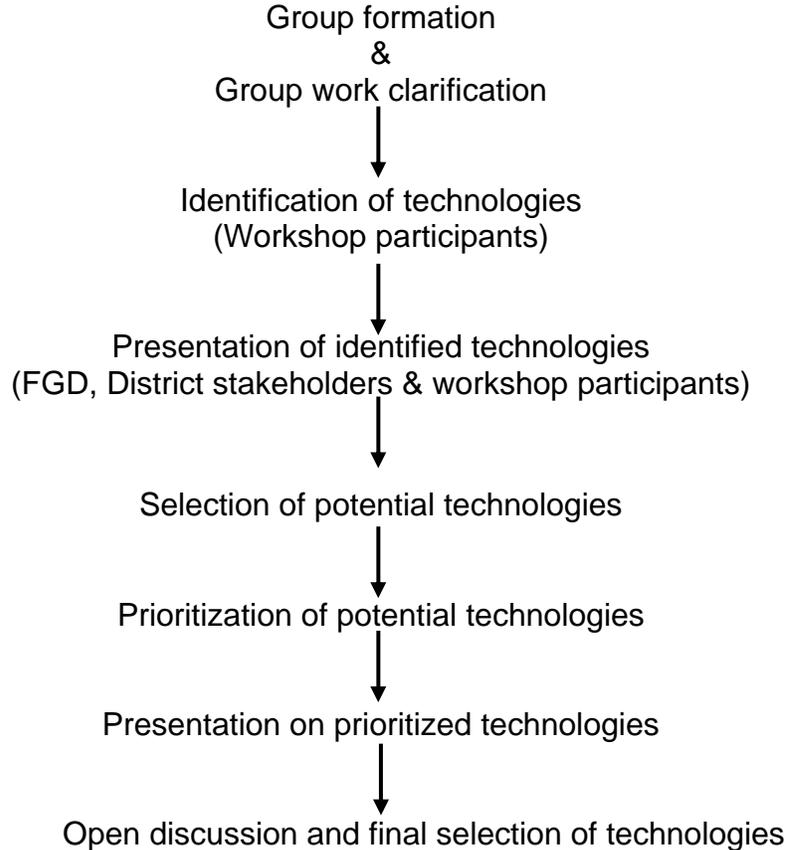
At the beginning of the technical session, Mr. Harun-Ar-Rashid, ED, AAS and consultant to the project gave a briefing on the process of the technical session. After briefing the attendees on



the process of the technical session, the steps were amplified as follows: group formation, identification of technologies, presentation of identified technologies, selection of potential technologies, prioritization of potential technologies, presentation on prioritized technologies and open discussion about the technologies and final selection according to the accepted process; these were the steps followed during the technical session. The description of the each step of the process is provided in each proceedings of the district workshop.

The process of technical session is given below:

## Process



**Group formation:** In order to identify the area specific farmer's demand-led technologies particularly for 11 representative districts of FoSHoL project, two groups were formed for technical session of each district workshop. Each group was selected for identification of technologies of specific sectors/area (e.g. crops, Livestock, fisheries, charland, mainland etc), Participating male and female farmers of the workshop were divided into two groups according to their own interest. On the other hand, participating secondary stakeholders of GOs, NGOs and private sectors were divided according to their close association as well as interest with the groups. As a whole each group contained representative of farmers, GOs and NGOs and had a balanced strength for technology identification, selection, prioritization and recommendation. A group leader was selected for each group immediately after group formation. Each group leader made clear understanding about the group work during technical session in cooperation with the facilitators of the group.

**Identification of technologies:** Small and marginal farmers demand-led technologies were identified in the district workshop through group discussion among the farmers and stakeholders of the respective districts, which were documented by facilitators on the cards at the beginning of the group work of the technical session. The technologies were identified on the basis of the accepted sectors such as on-farm: Crops (rice and non-rice), fisheries, livestock etc and non-farm.



**Presentation of identified technologies:** Farmer's suggested technologies, district level stakeholder's suggested technologies and district workshop participant's suggested technologies were recorded on cards and presented by the facilitators among the participants of the workshop for selection and prioritization by the participants of the district workshop.



**Selection of potential technologies:** After the 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. The potential technologies were selected by the participants of the workshop through discussion and necessary modification at plenary.



**Prioritization of technologies:** During the "prioritization of technology" process, the potential technologies of the accepted sectors suggested by the district workshop participants of group-1 and 2 were prioritized by their combined effort giving more emphasis of farmer's opinion and interest.



**Presentation of the technologies:** The group leaders of group-1 and 2 presented the prioritized/selected technologies of their assigned sectors. After presentation of the findings of each group, the floor was opened for discussion on the merits of each accepted technology for selection for the targeted farmers of FoSHoL project.



A total of 998 potential technologies (on-farm and non-farm) were selected in seven district workshops for eleven districts of FoSHoL project are provided in Attachment III-IX



**Concluding Session:** Concluding session was over with the closing speech with opened mind of farmer, district secondary stakeholder, disseminating NGOs, partner NGOs and AAS representatives. The valuable comments and suggestions of the speakers of concluding sessions of seven district workshops are presented in attachment III-IX.

#### **D. Agro-based technological materials search, documentation, selection and storage:**

**Technological materials collection:** Relevant supporting materials (hard copy/soft copy) of agricultural technologies and agro-based non-farm technologies were collected from more than 50 sources, such as relevant agro-research institutes, department, other GOs, NGOs, private sectors etc for documentation and storage at IRRI office, Banani, Dhaka (Annex-III).

**Technological materials documentation:** After collection of relevant materials of agricultural technologies and agro-based non-farm technologies were catalogued through using the accepted formats and guidelines under the supervision of FoSHoL project staff of IRRI. At the beginning of the documentation of the relevant collected technological materials, necessary formats and guidelines were developed for documentation in consultation with FoSHoL project staff of IRRI. Such formats and guidelines were finalized through pre-testing and discussion with FoSHoL project staff of IRRI and team members of AAS for FoSHoL project. After sorting, the accepted technological materials were catalogued as per decided formats and guidelines along with accepted sectors and sub-sectors and collated with district workshops demand by the team members of AAS. Each selected material has got a serial number on a pasted sticker for easy handling (Attachment-X).



**Selection of technological materials:** During documentation of the collected technological materials, farmer's demand-led potential technologies and their materials were selected through using several criteria including the demand score of the seven district workshops, merits of each technology and technological materials, type of material and content assessment by the study team members of AAS. The selected technologies and their materials were suggested for storage in Bangladesh knowledge bank (BKB) for future use by the disseminating NGOs of FoSHoL project. The selected technologies and their materials also suggested for the suitable locations (districts) of the FoSHoL project on the basis of the demand score of the seven district workshops, suitability of agro-ecological zones and merits of each technology. This suggestion cannot be considered as the solid suggestion for readily introduction in the



specific location (district). The study team proposed for validation of each selected technological materials by the farmers and also by the relevant secondary stakeholders after preparation and before storing in the BKB (Attachment-XI).

**Storage of selected technological materials:** As per suggestion of FoSHoL project staff of IRRI, selected technological materials were stored at IRRI office, Dhaka. It would be helpful for the users to find out the desired technological materials from the desk due to systematic cataloguing of the selected technological materials. However, such systematically stored relevant agro-based technological materials would be useful for the disseminating NGOs and their partners of FoSHoL project for their targeted food in-secured farmers during FoSHoL project cycle and beyond the project period.

### **E. Presentation on the findings workshop:**

A half-day (2:00 pm to 5:00 pm) workshop was conducted at IRRI office, Banani, Dhaka on 31 May 2005 on presentation of the findings of the assigned task for collecting the feedback from the participants and finally for incorporation the feedback in the completion report.

A total of 21 participants attended the workshop from EC, IRRI, BIRRI, CARE-Bangladesh, ITDG-Bangladesh, ActionAid Bangladesh, PROSHIKA and AAS. Mr. Ahmad Salahuddin, Manager, Coordination and Capacity Building, FoSHoL project, IRRI, facilitated the workshop for collection of feedback on the findings and reflection of the participants about future use of the relevant technological materials for BKB.



To get the feedback and reflection of the participants, the workshop was divided into five sessions i.e. the presentation on the findings followed by open discussion, demonstration on stored technological materials, introduction of knowledge bank, reflection of the participants and closing session.

At the beginning of the workshop, Dr. Noel P. Magor, IRRI Representative and Manager, FoSHoL briefed about the assigned task of AAS on technology identification and documenting for knowledge bank. After briefing of Dr. Noel P. Magor, Mr. Harun-Ar-Rashid, ED of AAS and Consultant



of FoSHoL project presented the findings of the assigned task on technology



identification and documenting for knowledge bank for the period of six months. After presentation of Mr. Harun-Ar-Rashid, the floor was opened for discussion. The facilitators of the workshop recorded comments and suggestions of the participants for incorporation in the completion report.

After presentation of the findings, participants of the workshop visited the displayed technological materials. After demonstration of the materials, Dr. Noel P. Magor presented on knowledge bank status and its future plan followed by open discussion of the participants. After

presentation of Dr. Noel P. Magor, a plenary session was conducted on reflection of the



participants about future use of the stored technological materials by the facilitators team under



the leadership of Mr. Ahmad Salahuddin, Manager, Coordination and Capacity Building, FoSHoL project, IRRI. The participant's suggestions and comments on future use of the stored technological materials were recorded on the cards for incorporation in the completion report of the assigned task. The major findings of the plenary session on reflection of participants about future use of the stored technological materials as suggestions and comments are provided in the Annex-VII. The valuable suggestions of the participants during concluding session were recorded by the facilitators.

### **Suggestions and comments of the participants of the findings workshop:**

- ✓ Technologies identified/selected for 11 districts in the seven district workshops on the basis of farmers' demand which were suggested and expected by the district level relevant stakeholders for the districts. Most of the selected technologies are being practiced by the farmers in their respective locations.
- ✓ Farmers are not homogenous in the society. So, it would be better to select the technologies by considering on which type technology is applicable for what type of farmers.
- ✓ The findings of the technology identification and technological material collection and documentation process may be used by the disseminating NGOs of FoSHoL project during selection of location specific technologies and their materials for the targeted farmers of the project. Location specific validation of selected technological materials should be conducted under the supervision of FoSHoL staff to know farmer's feedback.
- ✓ Final selection of the location specific technologies and technological materials will be done by DNGOs on the basis of farmer's demand and their interaction.
- ✓ As per the demand of DNGOs of FoSHoL project, the technological materials can be coalesced by IRRI for immediate use of targeted farmers of the project.
- ✓ Several materials are collected under an individual technology. So, it is necessary to enrich the materials or to make the fact sheet modifying the relevant materials.

- ✓ Technological materials should be produced in a simple and common format rather than different materials in different formats on the same issue and then incorporate these materials in the BKB.
- ✓ Proven technological materials available with DNGOs need to be incorporated in BKB.
- ✓ Suitable materials from relevant organizations should be collected and stored in the BKB as a continuous process for enriching and up dating the content of the BKB.
- ✓ Screening of the materials can be done for avoiding duplication of the materials before storing in BKB.
- ✓ During PETRRA project cycle, along with BRRRI, AAS and RDRS were involved with BRKB as a content group members due to their proven capacity to contribute to the overall objectives and activities of BRKB including pilot testing, validating and disseminating the content of BRKB in their respective regions.
- ✓ Discussion on the integration of BKB with FoSHoL project will be initiating with the partners of BKB. Several numbers of meetings can be conducted with existing group (BRRRI, AAS and RDRS) and FoSHoL will be engaged with the process.
- ✓ Broad based representation can be included in the content group of BKB. For this purpose, DAE can be selected including emerging private sectors and more NGOs.
- ✓ AAS can be appreciated for performing the tremendous job on technology identification and technological materials collection, documentation and storage for BKB of FoSHoL project. AAS selected the technologies, which are mostly being practiced by the farmers as well as they collected a lot of relevant technological materials from sources in the country.
- ✓ Before disseminating the selected technologies, the DNGOs need to validate those technologies by the farmers of the specific locations.
- ✓ Each of the partners (DNGOs) of FoSHoL project is now aware about the technology identification for disseminating among the targeted farmers in their project areas. So, decision on the better use of collected and stored technological materials at IRRI office, Dhaka is necessary.
- ✓ DNGOs can explore the possibility of getting technical support from AAS to identify the farmer's demand-led technologies at community level.
- ✓ A high level technical committee may be made to suggest/recommend a technology for BKB.
- ✓ The final selection of a technology for BKB should not be tight up by the bureaucratic process. Technologies, other than rice, need to be evaluated by the appropriate stakeholders for storing in BKB.
- ✓ Limitations encountered during implementation of the assigned task on the technology identification and documenting for knowledge bank will be highlighted in the lessons learned section of the completion report. The FoSHoL (Food Security for Sustainable Household Livelihoods) project should be mentioned on the cover page of the completion report.
- ✓ Relevant implementing staffs of the DNGOs and their PNGOs of FoSHoL project as well as the community leaders need to visit the stored technological material for BKB at IRRI office as a part of staff training.
- ✓ The stored technological materials at IRRI office, Banani, Dhaka can be re-categorized and stored as database to make easier to use the materials.
- ✓ Bangla version of the potential technological materials needs to be produced from English version for farmers' use (where necessary).

## Findings:

During implementation of this agro-based regional technology search and related materials collection and storage; several processes were fine-tuned; these are (a) The Three step process for technology identification (b) The Six step process for focus group discussions (FGD), (c) The Seven step process for district workshop and (d) The Four steps process for technological materials collection and storage.

A total of 998 technologies (on-farm and non-farm) were identified from the eleven districts of Sunamganj, Satkhira, Khulna, Faridpur, Rajbari, Madaripur, Shariyatpur, Jamalpur, Gazipur, Noakhali and Bogra. This was done on the basis of seven district workshops, where 516 participants attended from thirteen of the project's target districts. Out of the 998 technologies identified, 661 (66.2%) were on-farm and 337 (33.8%) were designated as non-farm. A large number of technologies identified were duplicated in several other district workshops and thus the total number of technologies (both on-farm & non-farm) reached as high as 998.

The highest number of on-farm-technologies were identified in the Jamalpur/Noakhali district workshop with 126 technologies. The Bogra district workshop yielded 99, followed by Gazipur district workshop with 93, Faridpur district workshop 81, Satkhira district workshop 75 and Sirajganj district workshop with 61. Among the four major sectors of on-farm technology, the non-rice sector garnered the highest number with 273, followed in order by livestock 142, rice 134 and fishery 112.

The number of selected technologies for rice was highest in Satkhira district workshop with 29 technologies followed in order by Noakhali district workshop (26), Sunamganj district workshop (22), Bogra district workshop (18), Faridpur district workshop (15), Jamalpur district workshop and Gazipur district workshop (12). In case of non-rice, the number of selected technologies was highest in Noakhali district workshop with 57 technologies followed in order by Jamalpur district workshop (56), Gazipur district workshop (46), Bogra district workshop (44), Faridpur district workshop (39), Satkhira district workshop (19) and Sunamganj district workshop (12).

The number of technologies for fishery was highest in Jamalpur district workshop (30) followed by Noakhali district (20), Gazipur district (15) and Bogra district (15), Sunamganj district (11) and Satkhira district (11) and Faridpur district (10).

The number of selected technologies for livestock was highest in Jamalpur district workshop with 28 technologies followed in order by Noakhali district (23), Bogra district (22), Gazipur district (20), Satkhira district and Sunamganj district (16).

The number of selected technologies under non-farm was highest in Jamalpur district workshop with 70 technologies followed in order by Bogra district (66), Gazipur district (64), Faridpur district (58), Noakhali district (50), Satkhira district (16) and Sunamganj district (13).

The selected total technologies of both on-farm and non-farm was highest in Jamalpur district workshop with 196 technologies followed in order by Noakhali district (176), Bogra district (165), Gazipur district (157), Faridpur district (139), Satkhira district (91) and Sunamganj district (74) (see Annex. III).

The list of selected technologies under each district workshop is provided in the proceedings of each of the seven district workshops (See Attachments III-IX).

A total of 1824 pieces of technological material were gathered, of which 1682 (92.2%) were from on-farm sources and 142 (7.8%) were from non-farm sources. Among the total of 1824 technological materials gathered, 1010 technologies and their supporting materials generated high levels of demand in the various district workshops. 1712 pieces of technological materials were pre-selected for the Bangladesh knowledge bank while 803 of these were finally selected for inclusion in BKB. A large number of selected technological materials were duplicated in several types due to different sources/formats and thus the total numbers of technological materials reached as high as 1824. Among the enlisted 1682 on-farm technological materials, 929 technologies and their materials were demanded in district workshops, 1614 technological materials were pre-selected for BKB and 748 technological materials were selected for BKB. On the other hand, among the enlisted 142 non-farm technological materials, 81 technological materials were demanded in district workshop, 98 technological materials were pre-selected for BKB and 55 technological materials were selected for BKB (Annex. IV)

Out of 1824 technological materials, 1808 technological materials were documented as hard copy. A total of 129 pieces of technology related materials were enlisted as soft copy. Out of the enlisted 129 soft copy technological materials, 16 soft copies of the technological materials were the single source of technological information and the rest 113 soft copies technological materials were duplicated with their respective hard copy of the technological materials. The highest number of documented hard copy materials was found in manuals. 678 technical materials were collected in manuals; followed by booklets (438), folded brochures (390), leaflets (87), fact sheets (69), posters (50). There were negligible numbers of reports, stickers, books, scientific papers, flipcharts, Video/CD/VCD, diary/notebooks, booklets, lecture note/handouts, floppy discs, plastic devices, proceedings, newsletters, guidebooks and wall calendars, etc. Folded brochures (390) were seen as the best, single source of technological material followed by leaflets (87), fact sheets (69) and posters (50) (See Annex. V).

Out of enlisted 1824 technological materials, 803 (44%) were selected for BKB, of which 748 (41%) were selected from on-farm applications and only 55 (3%) were selected from non-farm applications. The number enlisted from on-farm were highest for the crop sector with 990 followed in order by PETRRA innovations (283), Fisheries sector (191), Livestock sector (188), Development issues (16) and Stress issues (14). Out of 748 on-farm technologies selected for BKB, 385 (51.5%) were selected from the crop sector, 214 (28.6%) were selected from PETRRA innovations, 73 (9.8%) were selected from the fisheries sector, 63 (8.4%) were from the livestock sector, 9 (1.2%) were from stress sector and 4 (0.5%) were based on development issues. A total of 736 and 147 respectively were proposed for validation before storing in BKB by the farmers (end users) and secondary stakeholders. The number of proposed validations by the farmers was highest for crop sector with 374 followed in order by PETRRA innovation (214), fisheries sector (73), livestock sector (62), stress sectors (9) and development issues (4). The number of requested technologies and related materials was highest for the crop sector with 570 followed in order by livestock sector (15), fisheries sector (105), PETRRA innovation (97), stresses and development issues (2) (Annex. VI).

The list of documented and selected technological materials is provided in two spiral bindings as well as soft copy in CD.

## Lessons Learned:

The study team learned many important lessons during the process of technology identification and technological materials collection, documentation, selection, suggestion and storage in knowledge bank. The vital lessons learned are given below:

- ✓ The process of technology identification and technological materials collection, documentation, selection, suggestion and storage was frequently hampered due to time constraint. The workshop organized with the BIRRI scientists was a 3-hour workshop where maximum time was spent in inaugural session and discussion on the role of BIRRI scientists in the project and hence technology recommendation for specific location were not done in depth due to wasting time on procedural matters. In contrast to this, the scientists within a short time identified more technologies than was expected. Schedules of FGDs, district level stakeholder meetings and district workshops was hampered and frequently shifted due to 'Hartal'. In most cases, the inaugural session of the district workshop was too formal and much of the precious time available was wasted.
- ✓ The process, approaches, guidelines and strategies of the FGD, district level stakeholders meeting, district workshop, technological material collection and storage were developed in the process of implementing the technology search. This was a unique lesson for the team.
- ✓ A large number of farmers demand-led, agro-based technology information was gathered from Focus Group Discussions (FGD) and the district workshops during the regional agro-based technology search process. Male as well as a large number of female farmers participated the FGD session and the district workshops. A large number of farmer's demand-led technologies were selected during the regional agro-based technology search process. This was possible due to the active participation of farmers, especially female farmers in the sessions.
- ✓ Most of the FGDs were organized at farmer's homestead and it was an opportunity for the participating farmers to share their opinions freely. Of all the undertakings, the FGD sessions were by far the most fruitful.
- ✓ It was easy to identify the farmer's demand for a large number of technologies. The facilitators of the partner organizations became part of the facilitation team for conducting the FGDs at community level, district level meeting and district workshop. Moreover, the strong linkage of disseminating NGOs & their PNGOs with the district level stakeholders makes the technology identification process easier.
- ✓ Identification and selection of non-farm technologies through using ITDG documented technologies were found more auspicious and exciting, especially for women participants during FGD session at community.
- ✓ The name of the project 'FoSHoL' seems to be very attractive to the district level stakeholders. Knowing the objectives of the FoSHoL project, they expressed their interest and appreciated the integrated approach of the project. Due to timing conflicts among the district level stakeholders, several visits were needed to conduct most of the meetings.

- ✓ Most of the district level stakeholders were inclined to initiate discussions on the basis of their prepared menu of technologies. This tended to define the nature of the district level workshops as a 'top down". In most cases, the favored technologies were found to be suitable for the district as a whole but not very attractive for specific locations or specific target farmers.
- ✓ Farmers as well as researchers and secondary stakeholders of GOs, NGOs and private sector players participated in the workshops and thus it was possible to identify a large number of technologies due to their combined efforts.
- ✓ The intimate relationship between AAS and different organizations or agricultural departments as well as the letter of Dr. Noel P. Magor, IRRI, Dhaka, introducing the AAS made the material collection process easier.
- ✓ Due to bureaucratic formal system of different government and non-government organizations, several visits were needed for collecting the relevant materials. This made the collection more time consuming than originally planned.
- ✓ Several agricultural projects, which are already completed, preserved very few technological materials for the continuation of their work after closing of the project. For this reason, they had a very limited capacity to deliver technology related materials. However, they expressed their interest in providing such materials to the team if it had been available. In some cases, some organizations/projects had promising technologies but possessed very little or no published materials. This made it difficult to obtain materials related to those technologies. In a few cases, personnel of some organizations refused to provide their available materials to the team.
- ✓ Agro-based materials were not available at local offices or in communities. The best materials were produced and distributed from the central offices of relevant public and private sector organizations and NGOs. For better or worse, the production and distribution of such materials is decidedly a top-down process. It can also be noted that most of the organizations do not make available the soft copies of their hard copy technology materials.
- ✓ Maximum technological materials were collected from the organization involved as extension service providers; such as DAE, BARI, BRRI, DoF, BLRI, BAU, BINA, BFRI etc.

## Conclusion:

- ✓ Agricultural Advisory Society (AAS) undertook the assigned task in behalf of IRRI-Dhaka in the context of EC's "Food Security for Sustainable Households Livelihood" (FoSHoL) project. In this regard AAS conducted an agro-based regional technology search and collected related materials from a variety of source. As per its assignment, AAS documented the potential agro-based technologies along with their materials and earmarked the best of these for storing in the knowledge bank for future use by all other interested users in the country.
- ✓ During implementation of this agro-based regional technology search and related materials collection and storage; several processes were fine-tuned; these are (a) The Three step process for technology identification (b) The Six step process for focus group discussions (FGD), (c) The Seven step process for district workshop and (d) The Four steps process for technological materials collection and storage.
- ✓ A total of 998 potential technologies (on-farm and non-farm) were identified/selected for eleven districts through implementation of "three steps process" of agro-based technology search in seven regions of the country. The number of identified/selected technologies (both on-farm and non-farm) became inflated to as high as 998, this due to duplication of a large number of technologies in several of the district workshops.
- ✓ The number of technologies selected for non-rice crops was highest with 273 (41.3%) followed in order by livestock (142), rice (134) and fisheries (112).
- ✓ A total of 1824 technological materials were enlisted, of which 1682 (92.2%) technological materials were enlisted under on-farm and 142 (7.79%) technological materials were enlisted under non-farm. Out of enlisted 1824 technological materials, 803 (44%) technological materials were selected for BKB, of which 748 (41%) technological materials were selected for on-farm and only 55 (3%) technological materials selected for non-farm. A large number of selected technological materials were duplicated in several types due to different sources/formats and thus the total numbers of selected technological materials become inflated to as high as 803.
- ✓ Out of 1824 technological materials, 1808 were documented with hard copy and 16 with soft copy.
- ✓ The number of selected technological materials for BKB was highest for crop sector with 385 (51.5%) technological materials followed in order by PETRRA innovation (214), fisheries sector (73), and livestock sector (63). 736 technological materials were proposed for validation before storing in BKB by the farmers. A total of 147 technological materials were proposed for validation by secondary stakeholders before storing in BKB.
- ✓ Four DNGOs are very much enthusiastic about the technological materials are available at IRRI office, Dhaka. They highly expressed their opinion towards the acceptance of the enriched BKB with huge uploaded of farmer's demand-led technological materials as a hub of Agro-based technological source of knowledge during implementation cycle of FoSHoL project.

## Recommendations:

- ✓ Identified potential technologies for 11 districts in seven district workshops can be used by the 4 disseminating NGOs (DNGOs) and their PNGOs. The findings of the seven district workshops can be used by the DNGOs as bottom line information at the beginning of the project.
- ✓ Four different processes were fine-tuned and evolved for use by the team of AAS during identification of technologies and technological materials collection and storage. The relevant processes can be used by the DNGOs during the early phases of the project.
- ✓ To know the overall situation of an upazila, several representative villages should be selected for conducting FGDs. Each step of the FGD can be implemented with more time or more FGD session can be conducted to get more output from each community. Social elites who can influence the FGD sessions, should be carefully avoided.
- ✓ The formal inaugural session of the district workshop should be curtailed to get more output from each workshop. In the technical session of the district workshop, several groups with adequate number of facilitators can achieve a better result in selection and prioritization of technologies.
- ✓ All catalogued technological materials are stored at IRRI office and these are the property of IRRI. Selected technological materials will be stored in BKB. Such valuable materials will be accessible for all interested users including DNGOs of FoSHoL project. They may also use these materials as the reference materials during preparation of farmer's demand-led training and communication materials.
- ✓ The Team collected and stored a large number of hard copy materials and a few soft copies other materials. In-future more soft copies of the potential technological materials need to be prepared for better dissemination of the farmer's demand-led technologies. In this regard, individual crop based CD (e.g. Banana Production Practices Manual) with special emphasis on farmer's demand-led contents with relevant photographs.
- ✓ More emphasis needs to be given to materials preparation on crop followed in order by fisheries and livestock.
- ✓ Before storing in the knowledge bank, any potential technological materials need to be validated by the stakeholders, especially by the farmers and those who are the ultimate users of the subject technology.
- ✓ Farmer's extension materials such as folded brochure, leaflet and fact sheet can be accepted for large-scale dissemination of agro-technologies among the farmers in the country. Type of the extension materials for agro-based technologies should be selected on the basis of farmer's demand. In this regards, farmer's need to be assessed systematically on the basis of farmer's educational status and the categories of the farmers.

**Annex. I: Dates, Locations, implementing agencies and participants of 19 focus group discussions (FGDs)**

SL #	Date	Venue	Upazila	District	Disseminating NGOs	PNGOs	Participants		
							Male	Female	Total
1	02.01.05	Govt. Primary School, Lalagaon	Bishwamvarpur	Sunamganj	AAB	VARD	17	-	17
2	04.01.05	Govt. Primary School, Tahirpur	Tahirpur	Sunamganj	AAB	VARD	20	-	20
3	06.01.05	Jamalpur High School	Jamalganj	Sunamganj	AAB	VARD	4	19	23
4	15.01.05	House of Robin Chandra Haldar, patharghata village	Rupsa	Khulna	AAB	JJS	14	6	20
5	15.01.05	House of Abdul Mojid Sheikh, Tilok village	Rupsa	Khulna	AAB	JJS	12	11	23
6	16.01.05	Uttaran Branch office, Debhata	Debhata	Satkhira	AAB	Uttaran	10	12	22
7	17.01.05	Uttaran Branch office Jatpur	Tala	Satkhira	AAB	Uttaran	13	16	29
8	06.02.05	House of Shilpi Kazi	Goaland	Rajbari	ITDG	VPKA	17	12	29
9	07.02.05	Jhankanda Primary School	Char Bhadrasan	Faridpur	ITDG	SDC	13	27	40
10	08.02.05	Karuna's house	Nagarkanda	Faridpur	ITDG	Pathakali Saugstha	12	17	29
11	12.02.05	Zoka Madrasa, Zoka	Jamalpur Sadar	Jamalpur	ITDG	Unnayan Sangha	44	6	50
12	13.02.05	Charzamila village	Sharishabari	Jamalpur	ITDG	RDSM	20	27	47
13	08.03.05	Kapatiapara village	Sreepur	Gazipur	PROSHIKA	-	18	12	30
14	08.03.05	Khoroali village	Bhaluka	Mymensingh	PROSHIKA	-	20	19	39
15	15.03.05	Shimuldair village	Kazipur	Siragjanj	PROSHIKA	-	16	16	32
16	16.03.05	Nishindara village	Gabtohi	Bogra	PROSHIKA	-	22	17	39
17	02.03.05	Nurul Islam house, Nagogaram	Noakhali sadar	Noakhali	AAB	NRDS	2	15	17
18	02.03.05	Banabaria village	Begumganj	Noakhali	AAB	NRDS	19	8	27
19	05.04.05	Madhya Karimpur village	Noakhali sadar	Noakhali	AAB	NRDS	5	10	15
<b>Total</b>			<b>17</b>				<b>298</b>	<b>250</b>	<b>548</b>

**Annex. II:** Selected technologies, participants, dates and venues of the seven district workshops

SL #	Date	Venue	Number of Participants						Total	Number of technologies selected						
			Farmers			Other Stakeholders				On farm					Non Farm	Total
			Male	Female	Total	Male	Female	Total		Rice	Non Rice	Fishery	Livestock	Total		
1	12.01.05	Conference Room, LGED, Sunamganj	5	5	10	57	4	61	71	22	12	11	16	61	13	74
2	18.01.05	IDRT, Uttaran, Tala, Satkhira	10	25	35	33	4	37	72	29	19	11	16	75	16	91
3	09.02.05	TARC, BRAC, Faridpur	20	9	29	38	3	41	70	15	39	10	17	81	58	139
4	24.02.05	RARS, BARI, Jamalpur	28	4	32	40	4	44	76	12	56	30	28	126	70	196
5	09.03.05	GTC, Proshika, Sreepur, Gazipur	17	15	32	30	5	36	68	12	46	15	20	93	64	157
6	17.03.05	GTC, Proshika, Gabtali, Bogra	14	15	29	43	6	49	78	18	44	15	22	99	66	165
7	06.04.05	Jubo Sanghoti Kendra, NRDS, Noakhali	6	19	25	54	3	57	82	26	57	20	23	126	50	176
<b>Total</b>			<b>100</b>	<b>92</b>	<b>192</b>	<b>295</b>	<b>29</b>	<b>324</b>	<b>516</b>	<b>134</b>	<b>273</b>	<b>112</b>	<b>142</b>	<b>661</b>	<b>337</b>	<b>998</b>

**Annex. III: Collection status agricultural technological materials for the FoSHoL project**

Sl. Nr.	Source: Organization, Department, Projects etc	Document <sup>1</sup> collection status	Location
1	BRR/Publication Division	✓✓	Gazipur
2	Agriculture Information Services (AIS), DAE	✓	Dhaka
3	Projects of DAE (SFFP, NCDP, ADIP, SHP, SPPS, OPP, BADP, SPSDP, SCSP, IPM-cotton, SPFS)	✓✓✓	Khamarbari, Dhaka
4	Mushroom center, DAE	✓✓✓	Savar, Dhaka
5	Integrated Horticulture and Nutrition Development (IHND) Project, DAE	✓✓✓	Khamarbari, Dhaka
6	BADC	✓✓	Dhaka
7	East West Seed Co.	✓✓✓	Dhaka
8	Hybrid Rice Seed Companies (BRAC, ABFL)	✓✓	Dhaka and Gazipur
9	Seed companies	✓	Siddique Bazar, Dhaka
10	Seed Certification Agency (SCA)	✓✓	Gazipur
11	Wheat Research Center	✓✓✓	Gazipur
12	CIMMYT	✓✓✓	Uttara, Dhaka
13	BARI, relevant divisions	✓✓✓	Gazipur
14	Horticulture Research Center, BARI	✓✓✓	Gazipur
15	IPM, CRSP, BARI	✓✓✓	Gazipur
16	Spices Research Center	✓✓✓	Gazipur
17	Root and tuber crops Centre	✓✓✓	Gazipur
18	Horticulture centers, DAE (Mymensingh)	✓	Mymensingh
19	Department of Fisheries	✓✓✓	Dhaka
20	Fisheries Research Institute (FRI)	✓✓✓	Mymensingh
21	BAU, All Faculties, GTI, relevant projects etc.	✓✓	Mymensingh
22	BINA	✓✓✓	Mymensingh
23	CERDI	✓✓	Gazipur
24	BSMRAU (Relevant Departments and Projects)	✓✓✓	Gazipur
25	BARC	✓✓✓	Dhaka
26	Nurseries at Krisibid Institution	✓	Farmgate, Dhaka
27	Department of Forestry	✓✓	Dhaka
28	Sugarcane Research Institute	✓✓✓	Ishwardi, Pabna
29	Bangladesh Jute Research Institute (BJRI)	✓✓✓	Dhaka
30	Cotton Development Board	✓✓	Dhaka
31	Mango Research Institute, BARI	✓✓✓	Gazipur
32	Poultry Farm Association, poultry projects (International Poultry Fair 2005)	✓✓✓	Dhaka
33	Department of Livestock Services	✓✓	Dhaka
34	Bangladesh Livestock Research Institute (BLRI)	✓✓✓	Savar, Dhaka
35	CARE Bangladesh	✓	Dhaka
36	ITDG Bangladesh	✓✓✓	Dhaka
37	PRISM Bangladesh	✓✓	Dhanmondi, Dhaka
38	PETRRRA Sub-project Findings (PETRRRA innovation)	✓✓✓-	Dhaka
39	WFP		IDB Bhaban, Dhaka
40	LGED Projects	✓✓	Agargaon, Dhaka
41	IDE Bangladesh	✓✓	Dhaka
42	BRAC	✓✓	Dhaka
43	CARITAS		Pallabi, Mirpur
44	Shaikh Siraj, Channel i		Dhaka

<sup>1</sup> ✓ = Low, ✓✓ = Medium, ✓✓✓ = High

**Annex. IV:** Technological materials enlisted, demanded, pre-selected and selected

Type	Nr. of Materials			
	Enlisted	Demanded at District Workshop	Pre-selected for BKB	Selected for BKB
On-farm	1682	929	1614	748
Non-farm	142	81	98	55
<b>Total</b>	<b>1824</b>	<b>1010</b>	<b>1712</b>	<b>803</b>

**Annex. V:** Type and format-wise technological materials documented

SI #	Type	Format (Nr)	
		Hard Copy (HC)	Soft Copy (SC)
1	Folded brochure	390	33
2	Leaflet	87	2
3	Book	13	-
4	Booklet <sup>1</sup>	438	-
5	Manual <sup>1</sup>	678	-
6	Poster	50	-
7	Fact sheet	69	65
8	Flipchart	6	2
9	Lecture note/Handout	1	-
10	Calendar	-	-
11	Sticker	24	3
12	Floppy	-	3
13	Video + CD (VCD)	-	14
14	Booklet-CD	-	6
15	Plastic Devices	1	-
16	Proceedings	1	-
17	Report	37	-
18	News letter	1	-
19	Magazine	-	-
20	Scientific paper	7	-
21	Diary/Note book	3	1
22	Policy brief	-	-
23	Certificate	-	-
24	Guide book	1	-
25	Wall calendar	1	-
<b>Total</b>		<b>1808</b>	<b>129</b>

<sup>1</sup> A large number of technologies (hard copy) enlisted documented from most of the manual and booklet.

**Annex. VI:** Sector-wise collected technological materials enlisted, demanded, pre-selected, assessed, selected, and proposed for validation

Sector	Enlisted (Nr.)	Demanded at district workshops (Nr.)	Pre-selected for BKB (Nr.)	Assessed for BKB (Level: 1-3) (Nr.)			Selected for BKB <sup>2</sup> (Nr.)	Proposed for validation (Nr.)	
				1	2	3		Farmers	SSH
PETARRA innovation <sup>1</sup>	283	97	281	21	46	214	214	214	29
Crop	990	570	977	44	548	385	385	374	92
Livestock	188	153	166	16	87	63	63	62	14
Fisheries	191	105	168	7	88	73	73	73	12
Stresses	14	2	13	0	4	9	9	9	0
Development issues	16	2	9	0	5	4	4	4	0
<b>On farm total</b>	<b>1682</b>	<b>929</b>	<b>1614</b>	<b>88</b>	<b>778</b>	<b>748</b>	<b>748</b>	<b>736</b>	<b>147</b>
<b>Non farm</b>	<b>142</b>	<b>81</b>	<b>98</b>	<b>15</b>	<b>28</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>4</b>
<b>Total</b>	<b>1824</b>	<b>1010</b>	<b>1712</b>	<b>103</b>	<b>806</b>	<b>803</b>	<b>803</b>	<b>791</b>	<b>151</b>

<sup>1</sup> Including BRKB's fact sheets

<sup>2</sup> Suggested for FoSHoL project districts of 4 disseminating NGOs

SSH: Secondary Stakeholders

**Level:** 1= Low, 2=Medium, 3= High

**Annex. VII: Reflection of the participants about future use of the Technological Materials**

Issues	IV. Suggestions				
	ActionAid Bangladesh	CARE-Bangladesh	ITDG Bangladesh	PROSHIKA	EC, IRRI, BIRRI & Others
1. How to make use of the materials for FoSHoL	<ul style="list-style-type: none"> <li>✓ Present the technological materials in a simple and common format rather than providing all different materials on same issue.</li> </ul>	<ul style="list-style-type: none"> <li>✓ If participatory need assessment with farmers reveals that some of the technologies collected by AAS are of relevance to farmers then take close look of those technologies and inform the farmers about their availability and make these available to farmers for testing.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Create awareness of the existence of Knowledge Bank among the engaged staff, extension workers and community leaders.</li> <li>✓ Provide a list of materials available to staffs.</li> <li>✓ Materials for FoSHoL could be used as the field demand and may be used for further trial with some modification.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The materials should be presented in front of the farmers and demand based materials should be implemented in the specific areas.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Making simple form of package of technology and incorporate in the BKB.</li> <li>✓ FoSHoL needs to identify potential technologies from big list based on location specific needs.</li> <li>✓ Identify materials that are relevant to FoSHoL based on farmers demand.</li> <li>✓ Crosscheck with identified technologies &amp; validate with farmers for wider use and also for BKB.</li> <li>✓ Wait till DNGOs start their assessment of the selection of technologies and selection of technological materials.</li> <li>✓ Need fine tuning of materials in a participatory manner.</li> <li>✓ Use the technology for farmers' adoption.</li> <li>✓ Requires ranking of the materials as per priority.</li> </ul>
2. Ways and means to match the need with the materials stored	<ul style="list-style-type: none"> <li>✓ Technical information be reformatted to training session guideline.</li> </ul>	<ul style="list-style-type: none"> <li>✓ First identify farmers demand for technologies. And then see whether there is a match.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Location specific demonstration of selected technologies under care of FoSHoL staff and get farmer's feed back.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Hold a discussion with the farmers about the materials and sort it out as per their needs.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Prepare a matrix showing needs Vis-a-Vis information that can help to solve problem or meet needs.</li> <li>✓ Open up all the materials to the users in a simple way to accept or reject the technology.</li> </ul>

**Annex. VII: Reflection of the participants about future use of the Technological Materials (Contd.)**

Issues	V. Suggestions				
	ActionAid Bangladesh	CARE-Bangladesh	ITDG Bangladesh	PROSHIKA	EC, IRRI, BIRRI & Others
			<ul style="list-style-type: none"> <li>✓ Farmer's feed back is taken on board by the Research Institutes for further refinement.</li> </ul>		<ul style="list-style-type: none"> <li>✓ Premature! DNGOs to do need assessment first. Approach to be decided based on specific technology</li> <li>✓ Need and opportunity analysis (NOA).</li> <li>✓ Farmers' participatory workshop can be organized to match the need with the materials.</li> <li>✓ Try to get the feed back from the farmers through discussion with target group of the farmers.</li> <li>✓ By validating the materials with the farmers &amp; the identified technologies.</li> </ul>
3. How these could be useful for Knowledge Bank	<ul style="list-style-type: none"> <li>✓ We don't know at this point.</li> </ul>	<ul style="list-style-type: none"> <li>✓ After validation at farmers' level, these can be considered for Knowledge Bank.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Open access to the stored materials and continuous improvement, updating of the materials.</li> <li>✓ Contribution of FoSHoL partners to enrich the Knowledge Bank.</li> <li>✓ Each material contains valuable information which must be useful for Knowledge Bank</li> </ul>	<ul style="list-style-type: none"> <li>✓ After the validation of the farmers' needed materials these could be included in BKB.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Useful but need to make tremendous job for the development of fact sheets.</li> <li>✓ Strengthens and enriches the Knowledge Bank.</li> <li>✓ If appropriate, the selected technology's fact sheet to be added to the BKB.</li> <li>✓ Through re-emphasizing the quality of the materials by the users.</li> <li>✓ Screening of the materials needs to be done and need to avoid duplication of the materials.</li> <li>✓ 'Useful'? Do we mean uploading? Or using them as a good source of content?</li> </ul>

**Annex. VII: Reflection of the participants about future use of the Technological Materials (Contd.)**

Issues	VI. Suggestions				
	ActionAid Bangladesh	CARE-Bangladesh	ITDG Bangladesh	PROSHIKA	EC, IRRI, BIRRI & Others
4. Suggestions for the quality improvement of the materials	<ul style="list-style-type: none"> <li>✓ Verifying &amp; summarizing into before uploading.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Bring location specificity of technologies.</li> <li>✓ Improve printing quality.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reader friendly for the farmers and grass root workers.</li> <li>✓ Topics or theme of materials should be on time and farmers' demand.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The authors or owners of materials should go through the material for correction and addition for improvement.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Expert material development group should be formed to evaluate the materials.</li> <li>✓ By avoiding duplication/ triplication. Need refinement and quality control.</li> <li>✓ Decide on some standards (check list of quality). Validate materials against the checklist.</li> <li>✓ Do you mean presentation /write up or science behind the materials?</li> <li>✓ Reviewing, pretesting, reproduction following 'p' process.</li> </ul>
5. Suggestion on systematic use of the materials (storing, cataloguing, database etc)	<ul style="list-style-type: none"> <li>✓ Can be commented only after going through the existing KB formats.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Recruit consultant</li> </ul>	<ul style="list-style-type: none"> <li>✓ Replicated copies to be made available to the Rural Technology Centres.</li> <li>✓ Use particular professional for relevant field for systematic use of the materials.</li> <li>✓ Build a team included partners from FoSHoL project and others related professionals.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The materials should be stored, analyzed and prepared database.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cataloguing and database may be developed in simple form.</li> <li>✓ Database and cataloguing should be made first with experts in relevant subject.</li> <li>✓ Easy storing, cataloguing, database and easy access to the materials.</li> <li>✓ Cataloguing by a professional Library Scientist and stored in archives.</li> <li>✓ Materials need to be grouped into main subject areas and then cataloguing.</li> <li>✓ Central database (MIS?) shared with all partners including EC.</li> </ul>

**Annex. VII: Reflection of the participants about future use of the Technological Materials (Contd.)**

Issues	VII. Suggestions				
	ActionAid Bangladesh	CARE-Bangladesh	ITDG Bangladesh	PROSHIKA	EC, IRRI, BIRRI & Others
6. Ways and means for future enrichment of the materials	<ul style="list-style-type: none"> <li>✓ Reduce confusion arising from various documents on same issue &amp; revision if necessary.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Include proven indigenous knowledge with regard to farming.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Add on new knowledge generated through the project, e.g. inoculums, pheromones, extension methodology.</li> <li>✓ Include real case studies for documenting materials.</li> <li>✓ Ensure sufficient materials for local partners and Rural Technology Centre of paper copy, poster, CD Rom and website.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The materials should be edited, applied by farmers as per their need, analyzed and prepared database again.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Ask to write up more materials with better form of dissemination then do work on those by the materials developer.</li> <li>✓ Collect and select appropriate materials for making 'Fact sheet' and put in BKB.</li> <li>✓ Through validation, editing &amp; collating etc. (keep on searching).</li> <li>✓ Collect more information from different sources and synthesize.</li> <li>✓ Search for published materials. Seek for information from concerned institutions.</li> <li>✓ Needs to collect recent materials and continue the process.</li> <li>✓ Further/continued collecting and cataloguing materials from relevant organizations and incorporating them in the central database.</li> </ul>

**Annex. VII: Reflection of the participants about future use of the Technological Materials (Contd.)**

<p>7. Thoughts on reproduction of the materials for immediate use</p>	<p>✓ Based on farmers' demand some of the resource materials could be reproduced.</p>	<p>✓ Reproduction- too early to say. Let's wait until we determine the demand for technologies.</p>	<p>✓ Photocopies to be made available. Exposure of project staff to collected materials.                  ✓ Reproduction for electronic media, printing media.</p>	<p>✓ Mostly common used materials should be found out among the basket of materials for immediate use.</p>	<p>✓ Technologies of FoSHoL perspectives and reproduce as fact sheet... etc.                  ✓ Transform information into farmers' language for their use.                  ✓ Should be very careful so that the basics of any technology not changed, may be consulted of technology developer.                  ✓ Only the very proven &amp; selected materials can be reproduced.                  ✓ Bangla version needs to be produced for farmers' use (where necessary).                  ✓ Based on copyright issue, DNGOs may reproduce the appropriate materials and reproduce in the best way for their use.                  ✓ Select the materials, review them by material development experts along with partners &amp; beneficiaries and reproduce.                  ✓ From materials what are useful for immediate boro / rabi season should go for digital.</p>
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## List of Attachments

Attachment-I	Proceedings of the workshop on "Introductory-planning Workshop on Technology Identification and Documenting for Knowledge Bank for FoSHoL Project"
Attachment-II	Proceedings of the workshop on "Identification and Recommendation of Location Specific Rice Technologies for FoSHoL Project"
Attachment-III	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Sunamganj District)
Attachment-IV	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Satkhira and Khulna Districts)
Attachment-V	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Faridpur, Rajbari, Madaripur & Shariyatpur District)
Attachment-VI	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Jamalpur District)
Attachment-VII	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Gazipur District)
Attachment-VIII	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Bogra District)
Attachment-IX	Proceedings of the workshop on " Technology Identification and Recommendation for FoSHoL Project" (Noakhali District)
Attachment-X	<b>Documented</b> Technological Materials for Food Security for Sustainable Households Livelihood (FoSHoL) Project
Attachment-XI	<b>Selected</b> Technological Materials for Food Security for Sustainable Households Livelihood (FoSHoL) Project