GOVERNMENT OF BANGLADESH

GOVERNMENT OF THE KINGDOM OF THE NETHERLANDS

### **Blue Gold Program**



Training of Trainers Course for FFS Organizers On Dairy FFS Modules 06-09 April, 2016 Mozaffar Garden & Resort, Satkhira

> Embassy of the Kingdom of the Netherlands, Dhaka, Bangladesh

Bangladesh Water Development Board (BWDB) Department of Agricultural Extension (DAE)

Dhaka, Bangladesh, April, 2016

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Issue and revisi	on record				
Revision	Date	Originator	Checker	Approver	Description
Draft Report		Sumona, Munir	Hein		First draft
Draft Report					Second draft
Final Report					Final Report

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## Contents

Chapter	Title	Page
1.	Introduction	1
2.	Day 1	2
3.	Day 2	5
4.	Day 3	7
5.	Day 4	9

#### Annexes

Appendix 1 Daily schedules	11
Appendix 2 Participants list	177
Appendix 3 Test results	18
Appendix 4 Some photos	1919

# List of Abbreviations

BWDB	Bangladesh Water Development Board
DAE	Department of Agricultural Extension
DoF	Department of Fisheries
DAE	Department of Agriculture
DLS	Department of Livestock Services
EKN	Embassy of the Kingdom of the Netherlands
FFS	Farmer Field School
SP	Service Provider
FO	FFS Organizer
RFLDC	Regional Fisheries and Livestock Development Component (DANIDA)
NGO	Non Government Organization
ТОТ	Training of Trainers

# 1. Introduction

Bangladesh Water Development Board (BWDB) has 14 polders in Satkhira district. Among them Blue Gold program has a plan to working with one polder, P-2. Starting point of Polder 2 is very adjacent from District head quarter and it is also included the Paoroshava. The location of Polder 2 is North part surrounded by polder 6/8 Extension, Northeast part surrounded by polder 6/8, southeast part surrounded by Polder 7/2 (part), south part surrounded by polder 4, and west part surrounded by polder 1. One of the main objectives of Blue Gold programme is to improve income and food security of WMG members through increased agricultural production. With improved water management in the blue gold polder area the potential for agricultural production will change. Famers in all agricultural sectors (Livestock, fisheries, crops) will receive support to adapt their farm management and make optimal use of the changing environment and be better prepared for changes in the future. Farmer Field School (FFS) is an extension approach to empower farmers and help them become more confident in making their own farm. Improvements in farming methods, productivity increases, improved quality and introduction of new technology will require assistance from local government institutions such as DAE, DoF, DLS and NGOs and private sector service providers (SP) operating in the locality.

Agricultural production of food and cash crops is the main livelihoods option of this Polder. Rice is the main crop for both food and cash purposes with two main season of production. Water logging in that area making a big problems for crop producers. Farmers are trying to cope this season by shifting their farming to cattle rearing nowadays. According to District Livestock office, there are 2086 registered dairy farms, 06 Artificial Insemination Centres, 05 chilling centres located in the district. Fodder crop getting popularity and some farmer engaged to produce fodder crop commercially. Considering the existing opportunities Blue gold programme planning to do piloting on dairy rearing through FFS approach.

A 04 days long Training of Trainers (TOT) course was organized on dairy module for Farmer Field Organizer (FOs) to update their knowledge and skills and to familiarize them with the FFS curriculum that will be used during the 7th cycle of FFS in Satkhira. The duration was from 06-09 April 2016.

Objective of the course:

- To capacity build-up of the FOs on dairy technology
- To transfer dairy technology among FFS group's members
- Training and Facilitation Techniques as well as knowhow of interacting training sessions
- To motivate the FOs to be more professional trainers make them more confident and more competent.
- To explore the ways how adults learn and take a systematic approach to deliver training sessions that meet participants' needs.
- To orient the course which gives access to practical tools, strategies, and techniques that will make training dynamic, engaging, and effective.
- To orient different actors of dairy supply chain for example Milk vita, brac.

#### 2.1 Inaugural

First all the participants registered their name. Registration format was filled-up by individual participants. Component C3 staffs helped the participants to do it.

Then participants attended a pre-test. A formal questions set was used for pre-test. All Participants spend one hour for the test. The question set was on Dairy FFS module.

After that Munir welcomed every participant for 04 days TOT on dairy FFS modules at Mozaffar garden & resort. .

Then he welcomed Mr. Ashraf, Deputy Component Leader to say few words in front of participants. Ashraf welcomed every staff for TOT with new modules at Satkhira. He spoke on his experiences and motivate to participants for better implementing the program.

Munir welcomed Mr. Hein, Component Leader, and Component 3 for his introductory speech. Hein welcomed everybody and expressed his happiness to come in training. Hein said that Satkhira is a milk pocket area and we are piloting Dairy FFS in this district. We are hoping, we will learn and use our learning in future from dairy module. The FFS would be little bit longer and we could start 8<sup>th</sup> cycle as FOs will remain in same WMG. He mentioned here that we need to focus on contact farmer at the onset of the FFS That will help to sustain the project activities after the project duration.

Focal point welcomed all participants and said that to make the dairy FFS pilot a success need active participation with practical and participatory discussion sessions during 04 days training. He said that the facilitators are not a professional teacher rather they will help to disseminate the learning session in a friendly manner. As a focal point of this programme he assured all kind of cooperation from DLS to run the activity smoothly.

District livestock officer thanks the Blue Gold programme for selecting dairy module as a pilot in Satkhira. He said that Livestock is getting attention from all corners like the donors, development projects with Government priority. DLO made some key point on importance of milk production and its food value. Than he inaugurated the training

#### 2.2 Participants Expectation

#### Facilitator: C3 staffs Methods: Interactive, participatory

Before going to technical session Sumona conducted expectation session of participants. They mostly wanted to know criteria of dairy cattle selection, different types of housing, feeding management of calf, pregnant & lactating cows, and disease management of dairy cattle. They also eager to know about milk marketing system in Satkhira.

Group works on expectation were put in the training room so that every participant could see their expectation at a glance.

#### 2.3 Overview on course contents

#### Facilitator: Dr. Munir, Methods: Interactive

Facilitator focused on the course content on livestock modules. He explained to the participant that module will covered the interactive and practical sessions of dairy farming, field practice, live demo etc. It will also review the introductory module especially on BBT.

#### 2.4 Economic Importance of Dairy rearing

### Facilitator: District Livestock officer, Satkhira Method: Interactive discussion, examples, presents statistics

Facilitator started his discussion on food value of milk and its importance for human health. The present situation in Bangladesh showed that the availability of milk/person/day is 80 ml, but the requirement is 200 ml/person/day. From Satkhira per day 80,000 liters milk is supplied to different actors. Through improved management the production may improve up 1,00,000 liters /per day. The soil is fertile and there is scope to produce fodder crops.

He focused on the main problems of dairy rearing and those are;

- Lack of improved breed
- Lack of good management of housing, feeding, breeding and health care of animals.

There are some problems prevailing with service on artificial insemination in Satkhira. But if farmer improve overall management than it is possible to increase the present production volume.

FOs were mainly made queries on what is the present management practice of a dairy farmer at grass root level and the ways of improvement.

# 2.5 Stage 1 – Pre-calving (the month before calving), Special topic-Calf pen management

### Facilitator: Munir, Blue Gold Livestock Expert, Focal Point DLS, BG experts Method: Interactive discussion, Group Excises

Facilitator started the discussion on the Farm management Analysis session on poultry module. He took a feed back from every participants on FMA. They narrated the sessions how they are conducting with other modules. After that he discussed on what is DESA (Dairy Eco-system Analysis) and its importance for Dairy module. He mentioned referring component leader that, dairy module will be DESA based. The starting point of each session will start on DESA.

Facilitators discussed on the key point on DESA; these are as follows;

- House visit on different learning sessions
- Observation
- Problem identification

Record keeping

.

- Drawing and analysis
- Conclusions and decision making

After that facilitator took the topics on housing, feed management and ideal pen for calf and maternity pen. FOs did a group work on housing and feed management and presented their output. Facilitator related their group activities with DESA.

Then he made a pictorial presentation on different housing model, calf and maternity pen management and its importance.

#### 3.1 Recap

#### House team Leader: Popy & Zakir, Methods: Interactive and participatory

Recap started with ice braking. It was a question, answer methods. It was a competitive session and all participants nicely reviewed their learning.

#### 3.2 Trial set-up and record keeping, Care / Management of milking cow,

### Facilitator: Munir Ahmed, Focal point DLS Methods: Interactive, Group discussion, Multimedia presentation

Facilitator discussed on dairy trial set-up at FFS and highlighted how DESA can help to set-up FFS trial on Dairy module. Based of FOs working experiences at Satkhira there was a participatory discussion took place on trial set up. Facilitator focused on the objective of trial on Dairy. Participant shared their views on it. That is the comparison between traditional and improved methods which will help to increase production. Trial should be set to show the result to FFS member practically. Facilitator emphasized on farmers' selection for trial, need based trial set-up, locally available input use for trial, record keeping etc. He showed a demo on record keeping.

A dummy trial record keeping form was discussed and filled up by the participant. Through an open discussion the form was finalized.

Special emphasized discussion took place on care and management of milking cows and its importance. Facilitator had a pectoral presentation on milking cows housing, feeding and health management.

#### 3.3. Stage 3 Early lactation-1, special topics- Concentrated Feed management

#### Facilitator: Munir Ahmed, Focal point DLS Methods: Interactive, Practical

Facilitator reviewed the FOs knowledge on what is concentrated feed, its ingredients, and importance and preparation methods through a participatory discussion. Concentrated feed ingredients were shown to the participants. He explained about how to fix the quantity of a concentrated feed for a dairy cow. Then he showed one kg ration formulation for a dairy cow. FOs prepared one kg ration for a cow.

#### 3.4. Stage 3 Early lactation-1, special topics- Fodder crop cultivation

Facilitator: Munir Ahmed, Focal Point , DLS Methods: Interactive, Practical

Facilitator discussed on different type of fodder crops, their characteristics, production technologies and benefits of fodder. Emphasis was given on fodder crop for dairy rearing and its importance for milk production etc. After that a practical session took place on Napier transplantation. All participants prepared bed and transplanted Napier Grass. According to the fodder characteristic Napier was transplanted at high land.

#### 3.4. Stage 4 Mid lactation-1, Special topic- Breeds, breeding /Artificial insemination,

#### Facilitator: Munir Ahmed, Focal Point, DLS, Methods: Interactive, pectoral presentation

Participatory discussion took place on local breed and improved breed, their characteristic, differences between each other, availability and their production status. Identical characteristic was shown through pictures. A brief discussion took place on artificial insemination, local facilities, benefits and precaution, the timing for artificial insemination, symptoms etc. Focal point narrated the government facilities at Upazila level. He opined that for increasing milk production cross breed is a must. Go for artificial insemination is essential for improving the breed.

#### 4.1 Recap

#### House team Leader: Firoz & Asma Methods: Interactive and participatory

Recap started with ice braking. It was a question, answer methods. It was a competitive session and all participants nicely reviewed their learning.

#### Stage 4 Mid lactation-2, Care/management of pregnant Cow

### Facilitator: Munir Ahmed, Focal Point , DLS , veterinary surgeon Satkhira Methods: Interactive, pectoral presentation

Veterinary surgeon talked on overall management of a pregnant cow. Through participatory discussion he shared his experiences on farmer practices for pregnant cow management. He explained the necessity of de-worming, feed management, proper rationing, disease management etc. Responding to participants queries he shared a thumb rule for concentrated feed and mentioned here that the ration need to readjust with the milk production. He also talked on improved breed and primary health care for a pregnant cow. The primary health care for a pregnant cow focused on clean house, proper resting and proper feeding, maternity pen for safe delivery etc.

Facilitators discussed on major disease of dairy cattle. He emphasis on calf naval ill, maggot infestation on naval, FMD, Mastitis, Milk fever, dystocia. He advised to participants if any difficulty arises from animals during FFS conduction, they could contact respective veterinary surgeon for veterinary services.

Facilitators focused on what is housing, why housing is important for dairy rearing, characteristic of a good housing. He showed different types of housing systems for dairy cow and their benefits. Explained about the locally available housing materials like bamboo, straw, sacks, coconut leaves etc. After that he gave a measurement of a house for a dairy cow. Importance of housing;

#### 4.2. Collective action, How collective action creates more business opportunity

#### Facilitator: Munir Ahmed, Focal Point, DLS Methods: Interactive, pectoral presentation

It was a participatory discussion. Facilitator discussed what collective action is and why it is important for dairy farmers. It was also discussed how FFS famer can start this activities, how collective action can help the dairy rearing farmer and what type of initiative need for a good business.

#### 4.3. Stage 5 late lactation-1, Special topic- Vaccination and De-worming

#### Facilitator: Munir Methods: Interactive and participatory

Facilitators explained why de-worming and vaccination is so important for the dairy cow. Focal point explained the doses and timing of de-for a dairy cow. Facilitators made a vaccination chart and explained to the participants so that they can learn about the accurate vaccine for dairy.

# 4.4. Field visit on Housing, dairy cow and calf management, fodder crop cultivation, Artificial Insemination, Bio-security and DESA

A farm was selected for a visit which covered the whole dairy module learning session. Participants had a great opportunity to learn from the farm owners and learning by seeing. The Bangladesh Government awarded gold medal to the farm owner for his best performance

Farmer's name:Md Firoz Alam,Village: Town Shripur, Upazila;Debhata,Dist: Sathkira

The farmer has, 11 dairy cows, 06 female calf, 03 cow sheds, 01 calf pen, 01 fodder chopper, 01 bio-gas plant, and 03 fodder fields. He established a small pharmacy at his home for dairy.

The participants along with experts visited his every technology he adopted with his farm. First we visited the housing systems. There are two types of housing systems, one is on double row face-in and another is on loose housing system. The owner suggested the loose housing system as a good housing and explained the reasons. Then we visited the calf pen and the feeding systems of calf and learned about the benefit of these systems. Then we saw how he keeps clean his shed properly and established proper drainage and aeration systems in the shed. He also explained how he selects his cow for artificial insemination, when he vaccinate and administered deworming. He talked on dry cow management and its usefulness.

He establishes a system to keep his farm away from external elements. One person is nominated for milking the cows and the man is following proper hygiene before milking. No body allowed in the cattle shed without using antiseptic.

There are three kinds of fodder crops in his field. He is marinating the proper rationing for his dairy using fodder. This year he cultivated a new fodder named lucerne and that is containing more protein than other fodder.

Mr. Shah Alam mentioned here that good management is the key for his success.

After the farm visit the FOs had a practice session on DESA with a farmer named million Gazi. They did the DESA observed the situations on housing, feeding and health management, analyzed the situation and made decisions. They presented their DESA.

#### 5.1. House team Leader: Firoz & Asma Methods: Interactive and participatory

Recap started with ice braking. It was a question, answer methods. It was a competitive session and all participants nicely reviewed their learning.

#### 5.2. Stage 5 late lactation-2, Special topic- Primary Health care

#### Facilitator: Munir , ULO Satkhira Methods: Interactive and participatory discussion

ULO talked on primary health care of cattle population in Satkhira. He said that Satkhira is a border zone so illegal trading of cattle is a big threat for disease contaminations. Through FFS the message need to be given to the farmer that after buying a new cow they need to separate it for a couple of days for observation. FMD infestation is very high in this area and the vaccine supply is limited. So, primary health care and can help to reduce this situation.

Mastitis is the more detrimental disease for dairy cow. The management includes maintaining hygiene especially for housing, milking management, utensils of milking etc. That will be very helpful to control the disease.

For proper de-worming he mentioned about the cow-dung test and the facilities are available at DLS. Through FFS famer can get this message for service. It will help them to proper de-worming of the animals.

#### 5.3. Stage 6 Dry cow management

#### Facilitator: Munir , Focal Point DLS Methods: Interactive and participatory, Practical

Facilitators talked on the dry cow management, its feeding, health care etc. It was mainly a participatory discussion. Focal point mainly focused on the existing farmer practice and steps need to take for improvement. FOs shared their farm visit experience on this issue.

#### 5.4. Training evaluation, post result sharing and certificate distribution

#### Facilitator: C3 staffs Method: Fill up an open ended questionnaire

An open ended questionnaire was used for training evaluation. Every participant evaluated individually. The questionnaire covered:

- Usefulness of topic discussed with dairy modules
- Facilitator's facilitation technique (usefulness/improvement)
- · Scope of participation by participants with different session (usefulness/improvement)
- Methods/input use by the facilitator (usefulness/improvement)
- Logistic support
- · Any others suggestions for next training

#### Summary of the output from the participants' evaluation;

- Discussed modules they found are useful.
- All facilitators' facilitation was nice
- Scope of interaction was good
- Practical session were most useful in the training
- Methods/input used by the facilitators was relevant
- Logistic support was good

#### 6. Closing

An informal ceremony took place at afternoon. Dr. Lutfor Rahman presided over the event. Two FOs spoke on that occasion. They gave over all opinion on training programme. They mentioned that the TOT was very useful for them and they will able to start 7<sup>th</sup> cycle on dairy FFS module. The Focal Point thanked to Blue Gold for organizing the TOT on Dairy FFS in Satkhira and hoped its success. He also suggested increasing trial budget on Dairy FFS. As it will be trial farm and farmer learn by doing, so we should continue the activities up to field day.

Then Munir declared pre-test and post test result among the participants. The result found was very satisfactory in comparison between two exams.

# Appendix 1 Training schedules

#### Day 01

Date & time	Торіс	Contents	Methodology	Resources person
08.30-09.00	Objectives of the course	Why this TOT is important for FOs? Course out line	discussions	
09.00 -10.00	Pre-evaluation	Questions on Livestock dairy module	Written test	
10.00-11.00	Experience Sharing	Field activities in the last days Expectation from participants	Participator discussion Regional observation	
11.00- 11.15		Tea break/ refresh	nent	
11.15 – 12.15	Introduction of dairy Module	<ul> <li>Introduction of FFS approach, objective &amp; activities</li> <li>Discussion on BBT questionnaire</li> <li>Introduction to the different topics of this module</li> </ul>	Participatory discussion Group Presentation on expectations from this module	
12.15 -13.15	Economic importance and production Planning	<ul> <li>Economic importance of Livestock rearing at homestead level</li> <li>Production planning for Dairy cattle</li> <li>Discuss benchmark data</li> </ul>	Participatory discussion Interactive discussion Group exercise	
13.15-2.15	Lunch & Prayer b		reak	
2.15-2.30		Group Dynamics	Participatory	
2.30-4.00	Stage 1 Pre- calving (The month before calving)	<ul> <li>Introduction to DESA</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing-Economic importance of maternity pen</li> <li>Criteria for ideal calf pen/ maternity pen</li> <li>Locally available low cost material for housing</li> <li>Feed-requirement, Ideal food, available food</li> <li>Health –weight, size diseases,</li> </ul>	Interactive discussion and group exercise	

	Summary, message for horizontal learning, agreements for the action and next meeting.	
4.00-4.30	Tea break/ refreshment	
6.00-7.00	Planning meeting	Facilitator and HTL

Date & time	Торіс	Contents	Methodology	Resources person
08.30-09.00			Participatory discussion	HTL
09.00 - 10.00	Introducing trial set up	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Group dynamic ()</li> <li>Why we set trial? What will we observe in the trail? How we observe and interpret the result? How can it influences decision making (using practical example)</li> <li>Special topic -record book /Register for information keeping</li> <li>Summary, message for horizontal learning, agreements for the action and next meeting</li> </ul>	Participatory discussion and hands on	
10.00-11.15	Stage 2 Post calving fresh cows (Days 1- 30)	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing-</li> <li>Feed- Feed management</li> <li>Health-</li> <li>Group Dynamic ()</li> <li>Special topic- Care / Management of milking cow</li> <li>Marketing-inputs, services, medicines</li> <li>Summary, message for horizontal learning, agreements for the action and next meeting</li> </ul>	Interactive discussion and group exercise	
11.15- 11.30	Tea break/ refreshment			
11.30 – 01.00	Stage 3 Early lactation-1 (Days 30-130)	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> </ul>	Participatory discussion Hands on practice	

	<ul> <li>Housing-</li> <li>Feed- Feed management</li> <li>Health-</li> <li>Group Dynamic ()</li> </ul>
	Health-
	Special topic- Concentrate feed     formulation
	Marketing-inputs, services, medicines,
	Summary, message for horizontal learning, agreements for the action and next meeting
01.00-2.00	Lunch & Prayer break
2.00-3.30 Stage 3 Ea lactation-2 30-130)	ly       • Recap and present day's program       Interactive discussion and group exercise         • DESA with presentations, discussion, decision making       • Additional and group exercise         • Housing-       • Feed- Feed management         • Health-       • Group Dynamic ()         • Special topic- Fodder crop cultivation-Napier/Para/Jamboo       • Marketing-inputs, services, medicines,         • Summary, message for horizontal learning,       • Summary, message for horizontal learning,
3.30-4.30 Stage 4 Mi lactation-1 131-229)	
	Summary, message for horizontal learning, agreements for the action and next meeting.
4.30-5.00	Tea break/ refreshment
6.00-7.00	Planning meeting Facilitator and HTL

Day: 03	Taula	<b>O</b> sut sut s		Deserves
Date & time	Торіс	Contents	Methodology	Resources person
08.30-09.00		Recap	Participatory discussion	HTL
09.00 –10.15	Stage 4 Mid lactation-2 (Days 131-229)	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing</li> <li>Feed- Feed management</li> <li>Health-</li> <li>Group Dynamic ()</li> <li>Special topic - Care/management of pregnant Cow</li> <li>Marketing-inputs, services, medicines,</li> <li>Summary, message for horizontal learning, agreements for the action and</li> </ul>	Participatory discussion Group work	
10.15 11.15	Collective and collaborative action	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing-</li> <li>Feed-</li> <li>Health-</li> <li>Group Dynamic()</li> <li>Special topic-How collective action creates more business opportunity</li> <li>Quality and availability of inputs and services, invitation Milk vita /brac representative or any other trader</li> </ul>	Participatory discussion Group work	
11.15-11.30		<ul> <li>Summary, message for horizontal learning, agreements for the action and next meeting</li> </ul>	ment	
	Tea break/ refreshment			
11.30 – 01.00	Stage 5 late lactation-1 (Days 230-300)	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing</li> </ul>	Participatory discussion Hands on practice Group work	
		<ul> <li>Feed- Feed management</li> <li>Health-</li> <li>Group Dynamic ()</li> <li>Special topic- Vaccination,</li> </ul>		

6.00-7.00	Planning meeting	Facilitator and HTL
4.30-5.00	Tea break/ refreshment	
02.00-4.30	Field visit	All facilitators and Participants
01.00 -02.00	Lunch & Prayer break	
	<ul> <li>Summary, message for horizontal learning, agreements for the action and next meeting.</li> </ul>	
	<ul> <li>Marketing-inputs, services, medicines,</li> </ul>	
	de-worming	

Day-04				
Date & time	Торіс	Contents	Methodology	Resources person
08.30-09.00		Recap	Participatory discussion	•
09.00 – 10.30	Stage 5 late lactation-2 (Days 230-300)	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing</li> <li>Feed- Feed management</li> <li>Health-</li> <li>Group Dynamic ()</li> <li>Special topic- Primary health care</li> <li>Marketing-inputs, services, medicines,</li> <li>Summary, message for horizontal learning, agreements for the action and next meeting.</li> </ul>	Participatory discussion	
10.30- 10.45		Tea break/Refresh	ment	
10.45-11.30	Stage 6 Dry cows (Days 300-330)	<ul> <li>Recap and present day's program</li> <li>DESA with presentations, discussion, decision making</li> <li>Housing</li> <li>Feed- Feed management</li> <li>Health-</li> <li>Group Dynamic ()</li> <li>Special topic- Care of dry cows</li> <li>Marketing-inputs, services, medicines,</li> <li>Summary, message for horizontal learning, agreements for the action and</li> </ul>	Participatory Group work presentation	

	ne	xt meeting		
11.30-12.30		Post evaluation	Written test	Sumona/Sani
12.30 -02.00		Lunch & Prayer break		
02.00 -03.00	Closin	g and leave training venue		All facilitators and participants

Facilitator List:

- Dr. Munir Ahmed
- Dr. Lutfor Rahman
- Dr. Shashanka Kumar Mondal
- Dr. Biplabjit karmokar
- Dr. Zillur Rahman
- KBD.Sumona Rani das
- Mr.Feroz, Dairy farmer

# Appendix 2 Participants list

Address	Mobile number
Asma Akter Vill: Shailabunia PO:Badura hat, PS:Galachipa District: Patuakhali <b>FO: Satkhira</b>	01771483550
Feroj Alom Vill- Sarikkhali, Post- Itbaria, Upazila- Patuakhali, Dist- Patuakhali. <b>FO: Satkhira</b>	01710618697
Md.Jakir Hossain, Vill:Kalkati PO: Bhangoora PS:Bhangoora Dist: Pabna <b>FO: Satkhira</b>	01917172749
Mijanur Rahman Vill: Mohshen uddin, P.O:Mohshenuddin UP: Patuakhali,Dist: Patuakhali <b>FO: Satkhira</b>	01721672201
Papi Rani Das Vill: Barun Baria, P.O: marich Baria, PS+Dist: Patuakhali <b>FO: Satkhira</b>	01747-079802
Md. Rasel Miah Vill: Fuldhalua,PO: Dhalbanga, Upazila: Barguna Sadar, District: Barguna <b>FO: Satkhira</b>	01727465316
Jahida Akter Vill: Shankarpara PO:Bashbaria,PS:Pirojpur Dist: Pirojpur <b>FO: Satkhira</b>	01735593977

# Appendix 3 Test results

	Address	Pre-test	Post test	Remarks
Carlo	Asma Akter FO: Satkhira	9	33	Third Out of 50 marks
	Feroj Alom <b>FO: Satkhira</b>	7	28	
	Md.Jakir Hossain, FO: Satkhira	8	33	Third
	Mijanur Rahman FO: Satkhira	10	33	Third
	Papi Rani Das <b>FO: Satkhira</b>	10	34	Second
	Md. Rasel Miah FO: Satkhira	13	41	First
	Jahida Akter <b>FO: Satkhira</b>	5	31	

# Appendix 4 Some photos



Pic 01: Inaugural session, Cluster Leader with DLO and Focal Point



Pic 02: Pictorial output on DESA



Pic 03: Practical Session on fodder crop



Pic 05 Milk marketing in Satkhira



Pic 4: Field visit on training

