Government of the People's Republic of Bangladesh

Department of Livestock Services (DLS)

Implementation Progress Report
NATP-2: Livestock Component
As of 30th June 2019

Project Implementation Unit (PIU): Livestock Component
National Agricultural Technology Program
Phase II Project (NATP-2)
Khrishi Khamar Sarak, Farmgate, Dhaka.

The World Bank

IFAD
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT

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Abbreviations

AD	:	Assistant Director
ADLO	:	Additional District Livestock Officer
ADP	:	Annual Development Program
AI	:	Artificial Insemination
AIF	:	Agricultural Innovation Fund
AO	:	Appellate Officer
APP	:	Annual Procurement Plan
BCRDV	:	Baby Chick Ranikhet Disease Vaccine
BDT	:	Bangladesh Taka
BLRI	:	Bangladesh Livestock Research Institute
BQ	:	Black Quarter
BSC	:	Balanced Scorecard
CDIL	:	Central Disease Investigation Laboratory
CEAL	:	Community Extension Agent for Livestock
CIG	:	Common Interest Group
CONTASA	:	Convertible Taka Special Account
CPTU	:	Central Procurement Technical Unit
DAE	:	Department of Agricultural Extension
DD	:	Deputy Director
DEA	:	Decentralized Extension Approach
DECC	:	District Extension Coordination Committee
DG	:	Director General
DLO	:	District Livestock Officer
DLS	:	Department of Livestock Services
DOF	:	Department of Fisheries
DOSA	:	Dollar Special Account
DPP	:	Development Project Proposal
EC	:	Executive Committee
ECNEC	:	Executive Committee for National Economic Council
EMP	:	Extension Microplan
EOI	:	Expression of Interest
ERD	:	External Relation Division
FA	:	Field Assistant
FD	:	Field Day
FDIL	:	Field Disease Investigation Laboratory
FIAC	:	Farmer’s Information & Advice Centre

FY	:	Fiscal Year
CAAP	:	Governance and Accountability Action Plan
GDP	:	Gross Domestic Product
GO	:	Government Organization/Government Order
GOB	:	Government of Bangladesh
GRM	:	Grievance Redress Mechanism
GRC	:	Grievance Redress Cell
GRO	:	Grievance Redress Officer
HOPE	:	Head of Procuring Entity
HYV	:	High Yield Variety
ICT	:	Information and Communication Technology
IDA	:	International Development Association
IFAD	:	International Fund for Agricultural Development
IMED	:	Implementation Monitoring and Evaluation Division
IPS	:	Instant Power Supply
ISM	:	Implementation Support Mission
JPSC	:	Joint Project Steering Committee
LEAF	:	Local Extension Agent for Fisheries
LEO	:	Livestock Extension Officer
M&E	:	Monitoring & Evaluation
M&IE	:	Monitoring and Impact Evaluation
MEP	:	Micro Extension Plan
MIS	:	Management Information System
MOA	:	Ministry of Agriculture
MOFL	:	Ministry of Fisheries and Livestock
MTR	:	Mid-term Review
NATP	:	National Agricultural Technology Program
NECC	:	National Extension Coordination Committee
NGO	:	Non-Government Organization
OTI	:	Officers Training Institute
PAD	:	Project Appraisal Document
PABX	:	Private Automatic Branch Exchange
PCR	:	Polymerase Chain Reaction
PDO	:	Project Development Objectives
PIC	:	Project Implementation Committee
PIMS	:	Project Information Management System
PIU	:	Project Implementation Unit
Ph D	:	Doctor of Philosophy
PMU	:	Project Management Unit

PO	:	Producer's Organization
PPR	:	Peste des Peptits Ruminants/Public Procurement Rules
PRA	:	Participatory Rural Appraisal
PS	:	Personal Secretary
RADP	:	Revised Annual Development Program
RDA	:	Rural Development Academy
RDPP	:	Revised Development Project Proposal
RPA	:	Reimbursable Project Aid
SAAO	:	Sub-Assistant Agriculture Officer
SAFE	:	Special Account for Foreign Exchange
SOE	:	Statement of Expenditure
TOR	:	Terms of Reference
TOT	:	Training of Trainer
UECC	:	Upazilla Extension Coordination Committee
UEFT	:	Union Extension Facilitation Team
ULA	:	Upazila Livestock Assistant
ULO	:	Upazilla Livestock Officer
UMEP	:	Union Micro Extension Plan
UMS	:	Urea Molasses Straw
UP	:	Union Parishad
US$	:	United States Dollar
UZ	:	Upazila
UzEP	:	Upazila Extension Plan
URT	:	Upazilla Resource Team
VFA	:	Veterinary Field Assistant
VS	:	Veterinary Surgeon
VTI	:	Veterinary Training Institute
WB	:	World Bank

Executive Summary

This Implementation Progress Report is prepared for the Technical Mission of World Bank scheduled to be held on 14-18 July 2019 which describes the present implementation scenario of major activities as well as achievements so far made since inception to 30 June, 2019 by the livestock component of the project. The report also measures the progress achieved from MTR Mission to the Technical Mission. The overall objective of the long-term program (NATP in three phases over 15 years) is to support GOB strategy to improve national agricultural productivity, market linkage and farm income. After successfully implementation of NATP: Phase-1, Government of Bangladesh and World Bank agreed to undertake Phase II of NATP. The Project Development Objective (PDO) of this project is to increases agricultural productivity of smallholder farms and to improve smallholder farmer's access to markets in selected districts. The project has 5 (Five) components and the Livestock Component i.e. Component # 4 of NATP-2 would contribute to the PDO by promoting an integrated approach to achieve productivity and output increase through enhanced technology transfer, service delivery as well as better access for livestock farmers to market. Extension program/activities of the project is being implemented in 270 upazilas of 57 districts across the country which includes 107 upazilas selected from NATP-1, plus 163 new upazilas selected under NATP-2. On the other hand, research program/activities have nationwide coverage.

The livestock component is one of the important components of the project. As the Department of Livestock Services (DLS) has no extension service delivery system at union level, NATP-2 would support to engage private service provider to fulfill the gap. Improved and climate resilient animal husbandry practices are being supported by the project. The project would also support for expanding outreach program through fodder development, preventive measures and reproductive management. Marketing and value chain development issue has been considered an important agenda for development of this sector and the issue will be addressed through forming Producers Organization (POs). Institutional strengthening and capacity building of laboratories of DLS are important for meet up present demand of the people. Interested livestock farmers were organized in a group and they would be supported for boost up production. The knowledge and skills of extension personnel are also important for effectively carry out the technology diffusion activities. Emphasize is given to use ICT in implementation of project activities.

The Project Implementation Unit (PIU): Department of Livestock Services (DLS) is responsible for implementing the stipulated activities of livestock component (Component-4) of the project. PIU-DLS prepares Annual Work Plan and Budget for every year which has to be reviewed by the Project Implementation Committee (PIC) of respective unit and approved by the Joint Project

Steering Committee (JPSC). The demand led extension activities are identified through conducting bottom up micro planning process at CIG level and accordingly Annual Work Plan and Budget is prepared, and implemented. The implementation of project activities could not start in 1st and 2nd year as planned due to late approval of DPP, signing contract agreement with WB and IFAD as well as release of initial advance from the development partners. The release of fund in 3rd year was not regular due to change the project account from CONTASA to SAFE account though remarkable financial progress was made during the fiscal year 2017-18.

The total financial allocation for livestock component is million 59.4300 US$, of which GOB is million 13.8920 US$ and RPA is million 45.5380 US$. Since inception to 30 June 2019, PIU-DLS expended million 21.5477 US$, of which GOB is million 2.9482 US$ and RPA million 18.5995 US$. The overall financial achievement is 36.26%, of which GOB is 21.22% and RPA is 40.84%.The financial progress is less compare to elapsed time of the project due to delay approval of DPP, signing of loan agreement with donor and release of initial advance from donor. In case of procurement progress, out of 79 packages, 59 packages have already been completed. The achievement of procurement is 74.68%. The remaining procurement packages will be initiated in next year.

The implementation of project activities at the field level has got momentum in the 3rd year though initial starting was delayed about 2 years. Before going implementation, PIU-DLS prepared implementation guidelines/instructions for all field activities. A total of 8082 Common Interest Group (CIG) were formed comprising 207750 farmers at village level and 2681 Community Extension Agents for Livestock (CEALs) have been engaged at union level in the project area. The female share in CIG is 44%. After formation of CIGs, the emphasis was given on mobilization of group activities i.e. holding monthly meeting, raising group fund through accumulating savings, open bank account for fund management, registration of CIG etc. 87.56% CIGs started savings, 100% CIGs opened bank account, 33.56% CIGs started investment and 35.18% CIGs have got registration. The capacity of CIGs to prepare micro plan is increasing. The member of Executive Committee (EC) of CIGs are being trained on group management and leadership development. As a result, functionality of CIGs towards sustainability is increasing over time.

As per project document, PDO will be achieved through diffusion of new knowledge and management practices to the farmers. That's why, improved management practices and climate resilient livestock technology are being supported by the project. As part of technology dissemination activities, the implementation of stipulated extension activities are being carried out at the village level. Since inception to June 2019, about 78.70% of CIG farmers training, 46% technology demonstration & field days, 40% exposure visit, 33.12% CIG & non-CIG farmers rally, 38.40% vaccination campaign, 49% de-worming campaign, 15.47% infertility campaign etc. activities so far completed. In case of implementation of AIF-2, 34 sub-projects have been awarded

and more 86 sub-projects are under evaluation. On the other hand, 16 sub-project have already been awarded for funding under AIF-3 and evaluation of more 26 sub-projects is in progress.

The project has provision to undertake capacity building activities i.e. DLS officer & staff training, CEAL training, foreign training & study visit, workshop etc. About 35% of officer & staff training on knowledge & skill development in different issue has been completed. As part of fulfilling the gap of service delivery system at union level, 65% training on skill development of CEAL so far completed. PIU-DLS also completed 55% workshop which are organized in every year at regional level to review the implementation progress and next year planning. NATP-2 has a provision for enhancing institutional capacity of the Department of Livestock Services (DLS) and PIU-DLS supplied motorcycles, desktop computer, laptop, multimedia projector, mobile tablet etc. to the field level. PIU, DLS also provided some equipment and materials for Public Health laboratory, Animal Nutrition Laboratory and Central Diseases Investigation Laboratory (CDIL). Renovation and maintenance of Officer Training Institute (OTI)-Savar, Veterinary Training Institute (VTI)-Mymensingh, Animal Nutrition Laboratory, CDIL and 5 FDILs were also completed.

As a result of successfully implementation of these activities, the functionality of CIG is improving day by day. CIGs are gradually becoming capable to prepare microplan properly and implement planned activities. The institutional efficiency of DLS and capacity of human resources are improving towards organization and implementation of decentralized extension services successfully. Awareness of CIG and non-CIG farmers on use of new and improved livestock production technology is increasing and they are being motivated to adopt the improved technology to increase livestock production and productivity and finally to achieve project development objectives. Since inception to 31 March 2019, 62170 CIG farmers adopted improved livestock technology which represents about 47% of total target of adopter. Due to adoption of technology, the productivity of dairy milk and beef meat has been increased 16% and 19 % respectively over the baseline value.

Implementation Progress

1. Formation and Mobilization of Common Interest Group (CIG)

1.1 Formation of Common Interest Group (CIG)

CIG is an association of farmers at village level having same socio-economic condition and common interest in same type of livelihood activity. As per project target, 3 livestock CIGs will be formed in each union comprising 30 farmers per CIG in the newly selected 163 upazilas under NATP-2 and existing CIGs of NATP-1will be revisited and restructured. Accordingly, a total of 4611 CIGs comprising 138330 farmers have been formed in the new 163 upazilas, of which 49% farmers are female. On the other hand, 3471 CIGs comprising 69420 farmers have been revisited and restructured in the old 107 upazilas, of which 35% farmers are female. Both new and old areas together, a total of 8082 CIGs have been formed comprising 207750 livestock farmers. The overall share of female farmers in CIG is 44%. PIU, NATP-2, DLS prepared necessary instructions and guidelines for forming new CIGs and restructuring the existing CIGs.

During selection of farmers for a new CIG, specified criteria were followed to identify a potential livestock farmer for CIG. The ownership of livestock, permanent residency, eagerness, commitment to the project, physical accessibility, age etc. among others the criteria were followed to identify a suitable farmer. The category of farming i.e. 80% from small and marginal farmers' category and 20% from medium and large farmers group was also considered for formation of CIG. Under livestock component, CIGs were formed with either only male famers or only female farmers or male and female farmers i.e. Male CIG, Female CIG and Mixed CIG. Preference was given to ethnic, minority and under privileged community to include in CIGs considering scope/availability of the location. The information of CIG formation is given in the Table-01:

Table-01: Information of CIG formation and farmers enrolment in CIG

Sl. #	Activity/Output	NATP-1	NATP-2	Total	Remarks
1	CIG formed and restructured (No.)	3471	4611	8082	3 CIG per union.
2	Total farmers enrolled (No.)	69420	138330	207750	NATP-1: 20 farmers per CIG and NATP-2: 30 farmers per CIG.
3	Female farmers enrolled (Share of female farmers) (No.)	24444 (35.21%)	67893 (49.08%)	92337 (44.45%)	Project Target: 35% share of CIG will be female.
4	Ethnic farmers enrolled in CIG (No.)	894	2624	3518	1.69% of total CIG farmers.

Different categories of CIGs were formed on the basis of potentiality of farming activity regarding production of livestock commodity as well as species-wise ownership patterns of livestock. Eight categories of livestock CIGs were formed and out of 8 categories, 44.17% are cow rearing CIG, 23.21% are beef fattening CIG, 14.98% are goat rearing CIG, 14.53% are poultry rearing CIG and remaining 3.11% are duck, sheep, pig and buffalo rearing CIGs. The category wise CIG information is stated in the following Table-02:

Table 02: Information of Category-wise number of CIG Formation

Category of CIG	Number of CIG formed			Number of Farmers in CIGs			% of total CIG
	NATP-1	NATP-2	Total	NATP-1	NATP-2	Total	
Cow rearing	1481	2071	3552	29620	62130	91750	44.17
Beef fattening	867	1029	1896	17340	30870	48210	23.21
Goat rearing	544	675	1219	10880	20250	31130	14.98
Poultry rearing	555	636	1191	11100	19080	30180	14.53
Duck rearing	12	145	157	240	4350	4590	2.21
Sheep rearing	9	42	51	180	1260	1440	0.69
Pig rearing	-	11	11	0	330	330	0.15
Buffalo rearing	3	2	5	60	60	120	0.06
Total	**3471**	**4611**	**8082**	**69420**	**138330**	**207750**	**100**

1.2 Mobilization of Common Interest Group (CIG)

Formation and revisit/restructure of CIGs were completed at the end of fiscal year 2016-17. After formation of CIGs, efforts were undertaken to increase the mobilization of CIGs i.e. holding regular monthly meeting, raising group fund through accumulating savings, fund deposit to bank through opening bank account, invest savings money to undertake income generating activities, CIG registration, prepare extension plan and implement planned activities etc. Functionality of CIG is very necessary to implement project activities properly as well as realization of the project objectives.

1.2.1 Provide Leadership Development Training to EC Member of CIG

An Executive Committee (EC) comprising 9 members has been formed for management of CIG. The role of Executive Committee (EC) mainly includes holding regular group meeting of CIG, raising group fund through accumulation savings, invest group savings to undertake income generating activities, prepare and implement CIG microplan, liaison with CEAL, facilitate group

members for getting FIAC service, CIG registration, market linkage, technology diffusion to non-CIG members etc. Successfully implementation of the above activities mainly depends on proper leadership and effective managerial skill of Executive Committee (EC) of CIG. The project has the provision to provide leadership development training for the members of CIG executive committee. Since inception to June 2019, 54660 members of executive committee have been provided training on leadership development, group mobilization, savings and credit management etc. topics are included in the leadership development training. Due to leadership development training, CIG mobilization activities is improving day by day.

1.2.2 Capacity Building of CIG for Planning through PRA Technique

Preparation of CIG micro plan is an important component of Decentralized Extension Approach. Micro plan is prepared using Participatory Rural Appraisal Technique (PRA) and every year CIGs conduct this planning activity. It is the part of demand driven and bottom up planning approach finally which is consolidated at Upazila Extension Plan. Livestock related major problems of CIGs farmers, probable solutions, actions to be undertaken to address the problems, responsibilities for implementation etc. are included in the CIG Micro plan. DLS officers, staff and CEALs facilitate to prepare and implement micro plan. The capacity of CIG on problem identification, determination of activity or solving the problem etc. is increasing through practicing CIG micro planning activity.

1.2.3 Progress of Holding Monthly Meeting and Documentation of Meeting Minutes

Holding regular group meeting is one of the important activities for a well-functioning CIG. CIGs were pursued to fix up monthly group meeting schedule mentioning specific date/day, time and place of the meeting so that all members of CIGs are well informed about the fixed schedule. CIGs started holding monthly group meeting regularly and members present in the meeting shared their problems, knowledge and experiences. Field data showed that 85.72% CIGs have been holding monthly meeting regularly.

CIGs also documented the meeting agenda, discussions and decisions of the meeting in the resolution register. The monthly meetings create opportunity for mutual interaction, discussion on problems and solutions of the problems. Through mutual discussion and decision of these meetings, CIGs can nominate members for training, exposure visit, demonstration, determine the schedule of field day, vaccination and de-worming campaign etc. CIG member can deposit the monthly savings installment in the meeting.

1.2.4 Progress of Savings and Investment Activities of CIGs

The mobilization of CIG is a continuous process and it will be continuing until they become graduated. As part of mobilization, CIGs were motivated through organizing training and group

meeting to raise group fund by accumulating regular savings from the members on monthly basis. Regular savings is one of the important criteria to qualify for matching grant under Agricultural Innovation Fund (AIF). 87.56% CIGs have initiated savings accumulation and 33.56% CIGs already started investment to undertake income generating activities using group fund. CIGs were also advised to maintain a bank account to manage the group fund and 100% CIGs have opened bank account in the different scheduled banks.

1.2.5 Progress of Registration of CIG

Registration of CIG is an important milestone for becoming a sustainable organization in future. Registration provides a legal evidence for formal recognition of CIG as an organization. CIGs have to apply to the Upazila Cooperative Officer for getting registration with necessary information and documents. By-laws for CIG was prepared during NATP-1 and it was approved by the Department of Cooperatives. The Upazila Livestock Office and CEALs provide necessary cooperation and assistances for preparation of application and related documents. A very few number of CIG from NATP-2 areas got registration from the Cooperative Department under NATP-2. The Cooperative Department is not ready to process any application from CIG because the department has not sufficient manpower and logistics to handle the large number of CIGs. Mainly 1st generation CIGs have got registration during implementation of NATP-1 and 2nd generation CIG have got registration in few upazilas. The upazila data showed that 2843 CIGs have registration from the Department of Cooperatives. Information of CIG mobilization activity is given the table-3:

Table-3: Information of CIG mobilization activity for sustainability of CIG

Sl. #	Activity/Output	Project Target	Progress up to MTR	Progress up to June 2019	Cum. Ach. (%)
01	No. of EC members trained on leadership development training	83640	40500	54660	65.35
02	Number of CIG microplan prepared and implemented	40410	16164	24246	60.00
03	No. of CIG holding monthly meeting	8082	6854	6928	85.72
04	No. of CIG started group savings	8082	6865	7077	87.56
05	No. of CIG opened bank account	8082	8082	8082	100.00
06	No. of CIG started investment from savings	8082	2643	2712	33.56
07	No. of CIG got registration	8082	1870	2843	35.18

CIGs are continuously pursuing to hold monthly meeting on regular basis. CIGs are also motivating to raise group fund through accumulating savings from member and invest the group fund to undertake income generating activity. On the other hand, registration of CIGs is a critical issues. CIGs would not interested to apply for registration. Because the benefit of registration is not clear to the CIG members. Registered CIGs under NATP-1 expressed their bitter experiences with the Department of Cooperatives especially for annual audit. So the necessity of CIG registration should be reviewed.

2. Selection and Engagement of Community Extension Agent for Livestock (CEAL)

DLS has no manpower at union level as like as DAE. But union has been identified as the lower level institution under the project and the project has made provision to engage one Community Extension Agent for Livestock (CEAL) in each union under livestock component. A total of 2681 Community Extension Agent for Livestock (CEAL) have been engaged to deliver extension services to CIG and community people as well as to facilitate the implementation of project activities.

Out of 2681, 1537 CEALs were selected and engaged in 163 new upazilas and the remaining 1144 CEALs had been engaged in 107 old upazilas during NATP-1. **The newly selected CEALs were given training for two weeks duration on improved rearing system of livestock, implementation strategy of project activities, planning using PRA technique, delivering extension services etc. CEALs were already equipped with one bi-cycle, one starter kit box and one mobile tablet under this project.** Besides performing roaster duty at FIAC, they also assist Upazila Livestock Officers to organize CIG farmers training, vaccination, de-worming & infertility campaign, establishment of demonstration, field day etc. They also help CIG members and community people to get health care services for their livestock and to get others required information. CEALs attended FIACs at least twice in a week as per duty roaster and delivered advices and services for solutions of farmer's problems. CEALs have the capacity on vaccination, primary treatment, AI service etc. and they were being paid for these services. CEALs receive fees from farmers for rendering the services. It is revealed from the field data that one CEAL can earn on average Tk. 9700.00 per month. CEAL does not have office space or does not need to maintain specific office hour to delivery services to the community people as they are permanent resident of that locality.

3. Establishment and Functioning of Farmer's Information and Advice Centre (FIAC)

Farmer's Information and Advice Centre (FIAC) have been established in two rooms together of the newly built two-storied Union Parishad (UP) offices of project upazilas. FIACs are being developed by 3 extension departments jointly as outdoor extension hospital, training center for farmers training and source of agricultural information center. FIAC is also used one-stop service center for livestock extension services. The physical facilities of FIACs are being provided by DAE and furniture and other required logistics for CEAL and LEAF have been supplied by the respective components of the project i.e. DLS and DOF. The list of services available in the FIAC is shown outside of the office room through signboard to draw attention of local people. A total of 967 FIACs have been established and supplied furniture in the FY 2017-18. On the other hand, 654 FIACs which were established under NATP-1 are also functioning at union level. Initially, 546 FIACs will also be equipped with small refrigerator for storage vaccine and medicine.

The members of UEFT i.e. SAAOs, CEAL and LEAF attended FIAC as per prepared duty roaster and provided coordinated services to the farmers. A register for listing problems of visiting farmers, advice given to farmers and other related information are being maintained in the FIAC. To make a resource center, FIAC is being continuously supported with technology leaflet, booklet, poster and other necessary information so that local farmers can get the necessary information from FIAC. The services from FIAC is being broadened to provide technical supports through field visits, primary treatment and diagnostic services, expansion of crossbred livestock through motivation, linking producers to the markets etc. along with advice. Both CIG and non-CIG farmers can get the necessary services from FIAC. On average, 22 farmers visited per FIAC per month for getting necessary services and advices. **Various initiatives have been undertaken to popularize FIAC among the community people. Distribution of leaflet, hanging banner & signboard etc. are among other major initiatives.**

4. Progress of Preparation of Extension Plans

Extension planning process, a common and regular activity is carried out in every year through identifying the farmer's problems and supports needed for addressing the problems through prioritizing demand-led extension activities. Crop, Livestock and Fisheries CIGs prepare Microplans separately during the month of April-May for the next year activity. At union level, CIG Microplans are consolidated in Union Extension Microplans for Crop, Livestock and Fisheries components. Finally Union Extension Microplans are consolidated in Upazila Extension Plans at upazila level for preparing Upazila Extension Plan. The prepared Upazila Extension Plans sent to DECC for review and comments. UECC approves the Upazila Extension Plan incorporating comments and suggestions made by DECC and submit to respective PIUs for fund allocation. A total of 8082 CIG Microplans, 2681 Union Extension Microplans and 270 Upazila Extension Plans are prepared in every year. The progress of extension planning activities is given in the following Table-4:

Table- 4: Information on preparation of extension plans

Sl. #	Particulars	Project Target	Progress up to MTR	Progress up to June, 19	Cumulative achievement (%)
1	Preparation of CIG Microplan	40410 no.	16164 no.	24246 no.	60.00
2	Preparation of Union Extension Microplan	13405 no.	5362 no.	8043 no.	60.00
3	Preparation of Upazila Extension Plan	1350 no.	540 no.	810 no.	60.00

Before the starting of planning activity at the field level, PIU, NATP-2, DLS prepared necessary guidelines and instructions for preparation of extension plan. Necessary planning and budgeting forms and formats have been included in the guidelines. During preparation of CIG microplan, first of all, CIGs identify the problems that they are facing. **The identified major problems are: disease susceptibility, worm infestation. ill health, lack of knowledge, low quality of inputs, high price of inputs, lack of capital, scarcity of green grass, marketing of products etc.**

5. Implementation of Technology Diffusion Activities

The main focus of the project is to provide supports for diffusion of improved and climate resilient livestock technology to increase production and productivity of meat, milk and egg. The per unit production of meat, milk and egg is low in our country compare other countries due to lack of knowledge and traditional rearing practices of livestock. Considering the existing knowledge and practices of livestock farmers, the project has included some extension activities for dissemination of improved livestock technologies to the farmers. The extension activities are: CIG farmers training on management of improved livestock technology, technology demonstration, fodder cultivation demonstration, field days, exposure visit/motivational tour, CIG & non-CIG farmers rally, vaccination campaign, de-worming campaign, infertility campaign etc. Besides these, the farmer are being supported by extension personnel through farm visit, group meeting and FIAC services also for technology dissemination. The implementation progress of extension activities so far made under livestock is summarized here:

5.1 Implementation of CIG Farmers Training on Management of Improved Livestock Technology

Training is an important extension activity for creating awareness and motivating the farmer. The researcher are continuously inventing new knowledge and technologies over time. Among other extension activities, training is one of the primary steps to reach to the farmers with new knowledge and technologies. To update with new knowledge and to motivate the farmer to accept new technology, the project is providing need based training to CIG farmers. Since inception to June 2019, 14533 batches training were organized and 435990 client days training were given to 207750 CIG farmers. The duration of the course was 1 day and 30 farmers participated in each course. The training were mainly organized at the nearest venues, where CIGs are located. The detail including focused areas of CIG farmer training on management of improved livestock technology is given in the table-5 and 6.

Table-5: Information of CIG farmers Training on Management of Improved Livestock Technology

Sl. #	Particulars	Project Target	Progress up to MTR Mission	Progress up to June,19	Cum. Ach. (%)
1	No. of batch organized on Improved Livestock Technology Management for CIG farmers	18467	13847	14533	78.70
2	No. of participants/Client days	554010	415410	435990	78.70
3	No. of female participants/Client days	248750	186633	195758	78.70

Table 6: Information of Technology Focused of CIG Farmers Training

Sl. No.	Type of the CIG Farmers	Contents of Training Courses
1	Cow rearing CIG	Orientation of different breed & selection of breed, housing management, feed management, health management, cow dung management, bio-security, environmental safeguard etc.
2	Beef fattening CIG	Selection of cattle for fattening, housing management, feed management including UMS preparation, health management, bio-security, environmental safeguard etc.
3	Goat rearing CIG	Selection criteria of goat, housing management including slat system housing, stall feeding, balanced feeding, health management, environmental safeguard etc.
4	Poultry rearing CIG	Improved housing, feeding management, feeding management, health management, shed management, waste management, compost making etc.
5	Duck rearing CIG	Introduction of different breed of duck, management of feed, housing management, health management, waste management etc.
6	Sheep rearing CIG	Introduction of various types of sheep, housing management, stall feeding, balanced feeding, health management, environmental safeguard etc.
7	Buffalo rearing CIG	Introduction of various types of buffalo, housing management, feed management, health management, environmental safeguard etc.
8	Pig rearing CIG	Housing management, feed management, health management, environmental safeguard etc.

5.2 Implementation of Livestock Technology and Fodder Cultivation Demonstration

Demonstration is one of the most effective extension techniques for dissemination of improved/modern technology to the farmer's level which is the main driving activity for achieving the Project Development Objectives (PDO) i.e. to increase livestock productivity. Through demonstration, farmers can learn the practical knowledge on use of technology, effect of technology on production and subsequently confidence is built of the farmers about technology. Since inception to 30 June 2019, a total of 18440 demonstrations were established at CIG level, of which 12735 demonstrations on different livestock technologies as well as improved livestock management practices and 5705 on high yielding variety of fodder with improved cultivation practices. The technology used in the demonstration were selected on the basis of problems

identified through CIG micro planning activity. The progress of establishment of demonstration is shown in the Table-7:

Table -7: Information of Establishment of Demonstrations: Since Inception to 30 June 2019.

S L. #	Title of Demonstration	Source of Technology	Major Technology of Demonstration	Project Target (No.)	Progress : MTR Mission (No.)	Progress: Up to June, 19 (No.)	Cum. Ach. (%)
1	Cow rearing	BLRI/BAU	Balanced feeding and health management of cow	13800	5939	5939	43%
2	Beef fattening	BLRI	Beef fattening using UMS	6441	2830	2830	44%
3	Goat rearing	BLRI	Goat rearing using slat system housing	4210	1850	1850	44%
4	Poultry rearing	BLRI/BAU	Balanced feeding of sonali/local poultry	4120	1769	1769	43%
5	Duck rearing	BLRI/BAU	Balanced feeding of duck	605	242	242	40%
6	Sheep rearing	BLRI/BAU	Sheep rearing using slat system housing	170	75	75	44%
7	Pig rearing	BLRI/BAU	Pig rearing using balanced feeding and health management	44	19	19	43%
8	Buffalo rearing	BLRI/BAU	Balanced feeding and health management of buffalo	25	10	10	40%
9	Fodder cultivation	BLRI	Improved cultivation practices of HYV fodder	11100	5390	5705	51%
Total				**40515**	**18124**	**18440**	**46%**

5.2.1 Establishment of Demonstration on Cow Rearing Technology

The major and largest source of milk is cow in our country. The milk yield of our cow is low in contrast to many countries of the world. It was identified during micro plan preparation that low productive native cow and acute scarcity of feeds and fodder as well as poor knowledge and skills on improved management of cow i.e. housing, feeding, health management, bio-security of farm etc. are the basic problems for low productivity. To improve the knowledge and skills of the farmers, 5939 demonstrations were established. Cow rearing demonstration mainly focuses on improved management practices i.e. improved housing, balanced feeding, scheduled vaccination, scheduled de-worming, bio-security etc. Most of the demonstrations were mainly conducted with cross-bred cows. In case of crossbred cow, the analysis of upazila sample data of Cow Rearing demonstrations showed an increase of average milk production by 2.8 liter per day per cow with the demonstrated farmers over the non-demonstration farmers. The average production of non-demonstration farmers' was about 5.3 liter per day per cow where 8.1 liter in demonstrated farmers. In case of local cow, an average milk production increased by 0.9 liter per day per cow. The average milk production per day per cow is 2.3 liter in case of demonstrated farmers where 1.4 liter in other than demonstrated farmers. The data indicates that cow rearing activity has the potentiality to increase milk production in the country.

5.2.2 Establishment of Demonstration on Beef Fattening Technology

Animal origin Protein is the essential food element for human body and the cattle are the major source of meat in our country. The demand of meat is increasing day by day with the increasing income of people. In future, the demand of meat will be increased gradually as the level of income of population will be increased.

Due to increasing demand for meat and increase of income, beef fattening has been become a profitable income generating enterprise for smallholders farmers in many areas of Bangladesh. As per findings of Bangladesh Livestock Research Institute (BLRI), the body weight of fattening cattle by practicing modern technology can be risen 700-900 gram per day per cattle instead of normal growth rate 200 to 350 gram per day per cattle. To maximize the productivity at farmer's level by practicing technology, 2830 demonstrations were established since inception to 30 June 2019. Mainly Urea Molasses Straw (UMS) or Urea Treated Straw, Concentrate feed, de-worming, vaccination etc. interventions were applied in fattening demonstration and cattle have been fattened for 3 to 6 months.

The results of demonstration showed that the daily growth rate of cattle under demonstration was higher than the traditional practice. In case of cross-bred cattle, the average daily growth was 536g in demonstrated cattle where 344g in other than demonstration cattle. About 192g daily growth

rate increase was observed in demonstrated cattle over other than demonstration cattle. In case of local cattle, an average 332g weight increase was observed in demonstrated cattle where 207g in other than demonstration cattle. About 125g daily growth rate increase was observed in demonstrated cattle over other than demonstration cattle.

5.2.3 Establishment of Demonstration on Goat Rearing Technology

Meat production of goat is very low in Bangladesh but it can be increased by modern management practices. The meat of Black Bengal Goat has the reputation not only in Bangladesh also in outside the country. Bangladesh has mammoth potentiality for rearing Black Bengal Goat for prolific breed, quality of hides and popularity of meat. To increase the production of goat meat, PIU-DLS established 1850 demonstrations on goat rearing since inception to 30 June 2019. Most of the demonstrations were established using Black Bengal Goat. Slat system housing was used in the demonstration along with feeding, vaccination, de-worming etc. technology.

The demonstrated farmers reported that no goat was affected by diseases (particularly PPR) during demonstration. The physical growth of goat was good, they observed. As a result, most of the goat has been conceived on regular basis i.e. mostly every after six months. Besides these, average body weight increased 47g per day per goat where 34g weight was increased other than demonstration farmers.

5.2.4 Establishment of Demonstration on Poultry Rearing Technology

Poultry produces both meat and egg. Many of the consumers in our country like to eat local poultry meat and egg. The availability of local poultry is decreasing day by day due to low growth and productivity against the high demand. The market price is also high for local poultry meat and egg compare to commercial poultry. So, it is necessary to increase the production of meat and egg of local poultry by conserving the genetic character. NATP-2: DLS has taken initiatives to increase the knowledge and skills of farmers on improved management and use of new technology. To increase the knowledge and skills of farmers on improved management and use of new technology, NATP-2: Livestock Component established 1769 demonstrations since inception to 30 June 2019. High yielding breed, improved housing, balanced feeding, health management, bio-security etc. technologies were practiced in the demonstration activities.

The results of demonstrations conducted in last year, revealed that the number of egg production was 68 per local bird per year in the demonstrated farms where 57 in other than demonstrated farms. The analysis of upazila sample data showed that about 19% production has been increased in the demonstration farms over other farmers' practice. In case of Sonali bird, the number of egg production was 184 per local bird per year in the demonstrated farms where 153 in other than demonstration farms, which was about 20% higher than traditional farmers practice.

5.2.5 Establishment of Demonstration on Duck Rearing Technology

Meat and egg of duck is one the important sources of animal protein in our country. Many small and poor farmers are involved in duck rearing with both local and exotic breed. Though rivers, haors (Water bodies), cannels, pond etc. in the rural areas are most suitable for duck rearing but duck farmers don't get optimum production from duck due to limited use on improved rearing practices of duck and due to gradually reduction of natural feeds. To create awareness on improved management and rearing practices of duck, 242 demonstrations were established by the CIG farmers since inception to 30 June 2019. Improved breed, house management, balanced feeding, health management, bio-security etc. technologies were practiced in the demonstration activities.

The field data on result of demonstration of duck rearing revealed that the number of egg production per duck per year was 169 in the demonstrated farms where 141 in other than demonstration farms.

5.2.6 Establishment of Demonstration on Sheep Rearing Technology

Though sheep is being reared in limited areas of Bangladesh, sheep can play an important role in agricultural GDP by producing meat and wool. Sheep is comparatively more disease resistant than goat. So sheep rearing may be more suitable than goat in the low lying areas.

To expand the sheep rearing and to disseminate improved sheep rearing technology, PIU-DLS established 75 demonstrations since inception to till date. The result of demonstration showed that the disease infection has been reduced and body weight increased.

Besides the above technology demonstrations, PIU-DLS also established 10 demonstrations on buffalo rearing and 19 demonstration on pig rearing technology.

5.2.7 Establishment of Demonstration on Fodder Cultivation Technology

Scarcity of fodder is one of the major constraints for sustainable dairy farming as well as other livestock rearing in Bangladesh. Due to in-sufficient production of fodder, cattle in Bangladesh faces different problems such as low growth, low re-productive performance, susceptible to various diseases and finally low productivity. To overcome the acute scarcity of green grass, special emphasis was given to expand fodder cultivation in the project area through organizing fodder demonstration. As part of different initiatives for expanding fodder cultivation, since inception to 30 June 2019, 5705 fodder cultivation demonstrations were established Mainly 4 types of HYV of fodder were practiced in demonstration plots.

5.3 Implementation of Field Day, Exposure Visit and CIG & non-CIG Farmers Rally

5.3.1 Implementation of Field day

Field Day (FD) is an extension tool generally conducted at the site of technology demonstration. It is an effective "farmer to farmer" technology dissemination process. Field Day provides opportunity to surrounding farmers to visit demonstration site, learn about the activities and results of demonstrated technology, ask questions and encourage themselves to grasp the technology and subsequently try to implement the new idea(s) at his/her own farm. Since inception to June 2019, 17111 Field Days were arranged at demonstrations sites. On average, the neighboring 25 CIG and non-CIG farmers attended the field days activities. The detail information of Field Day is given the table-8.

5.3.2 Implementation of Exposure Visit

Exposure Visit is an effective way of learning and disseminating technologies from one area to others area. It involves taking a group of farmers, staff, officers or other stakeholders from their village or area to other village or area. Exposure Visit exposes farmers to develop and adopt new technologies which are being practiced by farmers of another area or are being developed at research stations or activities being implemented by other organizations. Since inception to till date, 540 exposure visits were organized at the upazila level. In each exposure visit, generally 25 CIG farmers, 3-4 CEALs, 1-2 staff and officers from DLS were attended as participants. The participated farmers expressed high satisfaction on visiting new or improved management practices observed in other areas or locations. The detail information of Exposure Visit is given the table-8.

5.3.3 Implementation of CIG and non--CIG Farmers Rally

CIG & non-CIG Farmers Rally is an experience sharing extension method for technology diffusion from farmers to farmers. It is organized at village level focusing a well performing CIG. The main objective of this activity is to increase the technology adoption beyond CIG or neighboring farmers of CIG in order to fulfill the project target of CIG and non-CIG technology adoption ratio i.e. one CIG farmers would motivate 3 non-CIG farmers. Since inception to 30 June 2019, 1776 CIG & non-CIG farmers rally have been organized at the field level. Each rally includes 50 farmers, 5 from CIG and 45 from neighboring non-CIG farmers. The duration of the rally is half day. The adopting CIG farmers present their experiences before the non-CIG farmers, how they are using technology as well as how they are being benefitted by the technology and motivate the non-CIG farmers to adopt the technology. The detail information of CIG & non-CIG Farmers Rally is given the table-8.

Table-8: Information of Implementation Progress of Field Day, Exposure Visit and CIG & non-CIG Farmers Rally

Sl. #	Activity/Output	Project Target (No.)	Progress: MTR Mission (No.)	Progress: Up to June, 19 (No.)	Cum. Ach. (%)	Remarks
1	No. of Field Day implemented	40515	17111	17111	42.23	Total 427775 participants attended Field Day
2	No. of Exposure Visit implemented	1350	340	540	40.00	Total 18360 participants attended Exposure Visit
3	No. of CIG & non-CIG Farmers Rally implemented	5362	1341	1776	33.12	Total 67050 participants attended Farmers Rally

5.4 Implementation of Vaccination Campaign, De-worming Campaign and Infertility Campaign

5.4.1 Implementation of Vaccination Campaign

Vaccination is one of the most important activities of health management for livestock. Scheduled vaccination can play a vital role to decrease mortality and increase productivity of livestock. Except commercial farming in Bangladesh, the vaccination coverage of cattle, goat and back yard poultry is very low which causes of various onset of diseases, increases mortality and decreases productivity of livestock. Since the beginning of the project to 30 June 2019, 22406 vaccination campaigns were organized at the field level. Mainly FMD, Anthrax, HS & BQ vaccine for cattle; BCRDV, RDV, Gumboro, Fowl Pox & Fowl Cholera vaccine for poultry and PPR & Goat Pox vaccine for goat were given through these campaigns. On average 94 cattle, 31 goats and 146 poultry birds were vaccinated in these campaigns. The main purpose of vaccination campaign was to motivate farmers to vaccinate their livestock on regular basis. Due to vaccination campaign, awareness on importance of vaccination has been created. As a result, a large number of farmers have already been motivated and many farmers vaccinated their livestock regularly. The detail of vaccination campaign is given in the table-9.

5.4.2 Implementation of De-worming Campaign

The Parasitic Infestation of (worm) is a common problem in health management of livestock in Bangladesh. The objective of de-worming campaign is to control parasite of livestock. The livestock farmers of Bangladesh are not aware about the affect of worm. To create awareness and control the worm, 14319 de-worming campaigns were organized since the inception of the project

to 30 June 2019. On average 76 cattle and 31 goats were given de-worming medicine in these campaigns. As a result, awareness among farmers on de-worming has been increasing day by day, which might contribute to increase the production of livestock. The purpose of de-worming campaign is to encourage farmers to provide de-worming medicine to their cattle and goat as per requirement. The CIG and non-CIG farmers have been benefitted from these campaigns. The detail of de-worming campaign is given in the table-9.

5.4.3 Implementation of Infertility Campaign

Infertility is the inability to become pregnant or carry a pregnancy to full-term. It is a great threat and has an adverse effect on reproductive performance of a cow/heifer. Some of the common causes for infertility are: non-detective estrus, anestrus, ovulatory defects (delayed ovulation, anovulation), persistent corpus lutein, cystic ovaries, luteal deficiency, repeat breeding, nutrition deficiency, stress condition, genetic factor etc. Ultimately, these type of problems affect on productivity and production of milk and meat. Keeping this in mind, PIU, NATP-2, DLS has taken initiative to address the issue and minimize the causes of reproductive disorder. Since inception to 30 June 2019, 3547 infertility campaign have been implemented at CIG level. First of all, Veterinary Surgeon attend these campaigns and they highlight the issue, reasons of problem, as well as how to overcome the incident. Then they physically examine the gathered animal and prescribe for treatment the animal. The detail of infertility campaign is given in the table-9.

Table-9: Information of Implementation Progress of Vaccination Campaign, De-worming Campaign and Infertility Campaign

Sl. #	Activity/Output	Project Target (No.)	Progress : MTR Mission (No.)	Progress : Up to June 19 (No.)	Cum. Ach. (%)	Remarks
1	No. of Vaccination Campaign implemented	58338	22406	22406	38.40	Total 20.83 lac cattle, 9.19 lac goat and 32.49 lac poultry were vaccinated in these campaign
2	No. of De-worming Campaign implemented	29169	14245	14319	49.10	Total 10.74 lac cattle and 4.841lac goat were given de-worming medicine.
3	No. of Infertility Campaign implemented	22925	3547	3547	15.47	Total 42564 cow/ heifer were diagnosed and prescribed.

5.5 Technology Adoption by CIG and non-CIG Farmers

Technology adoption means a change of practice or change in use of a technology that was introduced and/or promoted by the project. The project has a specific target for technology adoption by the CIG and non-CIG farmers. At least 60% CIG farmers would adopt technology and 3 non-CIG farmer would adopt technology against one CIG adopter. Technology means a behavior or a practice which brings change in production level. Technology adoption is not an effect of a single extension activity but adoption is the combined result of a wide range of technology diffusion activities which were carried at CIG level. The major extension activities are: CIG farmers training, technology demonstration, fodder cultivation demonstration, field days, exposure visit, non-CIG farmers rally, vaccination, de-worming campaign, infertility camping etc. As a result of implementation of various technology diffusion activities, CIG farmers have started to adopt improved livestock technology in their farming activity. The following combined effects were observed at the field level as a result of various technology diffusion activities:

- Enhanced the knowledge and skills of farmers on use of improved livestock technology
- The rate of vaccination, de-worming, balanced feeding, improved housing etc. are increasing both CIG and non-CIG level.
- The rate of susceptibility of diseases has been reduced also.
- The adoption of technology by the farmers is increasing over the time
- The productivity of livestock farms is increasing due to adoption of technology
- The awareness of farmers on environmental and social safeguard issues improved
- The farmers are starting the livestock farming as business.

The major technologies adopted by the farmers are: Improved housing management, balanced feeding, schedule vaccination, scheduled de-worming, bio-security etc. Since inception to June 2019 (Data used as of March 2019), 62170 CIG farmers adopted different livestock technology. It may be mentioned here that the adoption rate of vaccination and de-worming technology is comparatively high because farmers are very interested to vaccinate their animals for prevention of diseases as well as de-worming for improvement of herd health and increase productivity of animals. The detail information of technology adoption is provided in the table-10.

Table-10: Information of adoption of Technology by CIG and non-CIG farmers as of June 2019

Sl. #	Adoption Level	Project Target	Progress up to March 2019	Progress up to June 2019	Progress in %	Adoption of Major Technologies
1	CIG farmers (60% of CIG farmers)	133152	62170	62170	46.69%	Improved housing, Slat system housing for goat, balanced feeding, UMS, vaccination & de-worming, bio-security etc.
2	Non-CIG farmers (CIG and non-CIG ratio is 1:3)	374190	91298	91298	24.40%	
Total		507343	153468	153468	30.25%	

5.6 Increase Livestock Production/Productivity Due to Adoption of Technology

A wide range of extension activities have been implemented for disseminating need based improved livestock technology to the farmers. The major extension activities implemented are: training for CIG farmers, technology demonstrations, fodder cultivation demonstration, field days, exposure visit, CIG & non-CIG rally, vaccination campaign, de-worming campaign, infertility campaign etc. As a result, a large number of CIG farmers adopted improved livestock technology in their farm level. The adoption of improved technology is contributing to increase the productivity and production of farm. According to the data obtained from the field level, the livestock productivity of dairy milk and beef meat has been increased 16% and 19% respectively over baseline. The information of productivity of dairy cow, beef cattle, goat, poultry and duck is given in the table-11.

Table-11: Information of productivity of dairy cow, beef cattle, goat, poultry and duck as of June 2019 (Data used as of March 2019)

Products	**Measuring unit**	**Baseline Value**	**Project Target**	**Progress up to MTR**	**Progress up to June, 19**	**Increase (%)**
Dairy cow	Ltr./Day/Cow	3.00	3.90	3.48	3.48	16%
Beef Cattle	Live body weight (Kg)	160	225	190.40	190.40	19%
Goat (Body weight gain)	g/Day/Goat	38	47	44	44	15%
Poultry	No. of egg/ Year./Hen	156	180	169	169	8%
Duck	No. of egg/ Year./Duck	122	145	134	134	10%

6. Implementation of Human Resources Development Activities

6.1 Training for DLS Officer, Staff and CEAL

The long-term objective of NATP is to improve the effectiveness and efficiency of national agricultural technology system in Bangladesh. Knowledge based, skill and efficient manpower is urgent necessity for implementation of effective agricultural technology system. Training is the important tool for development of efficient manpower. That's why, training in home and abroad has been considered an important activity in this regard under this project. The primary objectives of this activity is to build capacity in order to enhance knowledge & skill for DLS officers and staff, extension workers, farmers and other stakeholder of the project. Implementation strategy of project activities, various extension methods and techniques, accounts, finance & procurement management, ICT skill development, community mobilization, extension planning, orientation of newly released technology from research etc. are the major areas of training activities.

Since inception to 30 June 2019, 60 batches of officers training, 18 batches of staff training and 91 batches for CEAL were implemented. Besides these, 24 workshops were also organized for progress review and annual planning at regional level. As a result, efficiency of DLS officer, staff and CEAL to implement the project activities is increasing day by day. The detail information of progress of various training activities is given in the Table-12 and 13:

Table-12: Information of Implementation Progress of DLS Officer, Staff and CEAL Training

Sl. #	Title of the Training Course	Project Target	Progress up to MTR Mission	Progress up to June, 19	Cum. Ach. (%)
A	**DLS Officers Training**				
A.1	Local Training				
A.1.1	No. of batch organized on Project Orientation, PRA Technique and Implementation Strategy for DLS officer	21	18	18	85.71
A.1.2	No. of batch organized on Accounts, Finance and Procurement Management for DLS officer	14	9	9	64.28
A.1.3	No. of batch organized on Newly Released Livestock Technology for DLS officer	21	8	10	47.62
A.1.4	No. of batch organized on Data Collection and Reporting for DLS officer	20	14	14	70.00
A.1.5	Training on TOT for Master Trainer	1	1	1	100.00

Sl. #	Title of the Training Course	Project Target	Progress up to MTR Mission	Progress up to June, 19	Cum. Ach. (%)
A.2	International Training and Study Tour				
A.2.1	No. of batch organized on International Training for DLS officer	6	2	4	66.67
A.2.2	No. of batch organized on International Study Tour for DLS officer	8	2	4	50.00
B	**DLS Staff Training**				
B.1	No. of batch organized on Project Orientation, PRA Technique and Implementation Strategy for DLS staff	27	11	12	44.44
B.2	No. of batch organized on Accounts, Finance and Procurement Management for DLS staff	18	6	6	33.33
C	**CEAL Training**				
C.1	No. of batch organized on Skill Development of CEAL	52	52	52	100.00
C.2	No. of refresher batch organized on Skill Development for CEAL	90	33	39	43.33

Table-13: Information of Category-wise Total Trainees, Female Trainees and Training Days as of 30 June 2019

Sl. #	Title of the training course	Total no. of batch	Total no. of trainees	No. of female trainees	Total no. of training days
A	**DLS Officer Training**				
A.1	Local Training				
A.1.1	Training on Project Orientation, PRA Technique and Implementation Strategy for DLS officer	18	527	45	2575
A.1.2	Training on Accounts, Finance and Procurement Management for DLS officer	9	269	13	1345
A.1.3	Training on Newly Released Livestock Technology for DLS officer	10	273	29	1208

A1.4	Training on Data Collection and Reporting for DLS officer	14	457	56	641
A.1.5	Training on TOT for Master Trainer	1	20	5	240
A.2	International Training and Study Tour				
A.2.1	International Training for DLS officer	4	40	4	520
A.2.2	International Study Tour for DLS officer	4	40	6	280
B	**DLS Staff Training**				
B.1	Training on Project Orientation, PRA Technique and Implementation Strategy for DLS staff	12	360	23	1800
B.2	Training on Accounts, Finance and Procurement Management for DLS staff	6	181	6	543
C	**CEAL Training**				
C.1	Training on Skill Development of CEAL	52	1562	165	21868
C.2	Refresher Training on Skill Development for CEAL	39	1168	78	3504

6.2 Organization of Workshop, Seminar, Meeting etc.

As per project provision, implementation progress and performance of field level activities are reviewed through organizing regional workshop in every year. The next year planning is also discussed in these workshops. The Regional Progress Review Workshops are organized in April and June, in every year. The District Livestock Officers presented the district wise implementation progress, constraints/ bottleneck, recommendations etc. in these workshops. Divisional Deputy Director, DLO, AD (AI), ULO, VS and LEO were the participants of the workshops. Timely fund release, supply of motorcycle, laptop, multimedia to old upazilas, recruitment of Field Assistant, increase CEAL TA/DA etc. recommendations were made by the field level officials in these workshops. Farmer's friendly payment system of training allowances, increase rate of training allowances and honorarium, initiative needed to retain the project recruited manpower, enhance TA/DA for CEAL etc. recommendation were made by the field level officials in these workshops. Since inception to till date, a total of 24 regional progress review workshop were organized and more 4 workshops will be organized in May-June of the current fiscal year. The duration of the workshop was one day. The detail of workshop is presented in the Table-14:

Table-14: Implementation Progress of Regional Progress Review Workshop

Sl. #	Particulars	Project Target	Progress up to MTR Mission	Progress up to June 2019	Cum. Ach. (%)
01	No. of Workshop organized	44	20	24	54.54
02	No. of participants attended	3300	1348	1644	49.82

On the other hand, PIU DLS has already arranged 5 meetings of Project Implementation Committee (PIC)-DLS, one in the FY 2016-17, two in the FY 2017-18 and two in the FY 2018-19. PIC-DLS reviewed Annual Work Plan & Budget and Annual Procurement Plan and made recommendation for approval to Joint Project Steering Committee (JPSC). PIC-DLS also reviewed the implementation progress of planned activities in these meetings.

6.3 Development of Training and Communication Materials

Before starting the stipulated training and technology dissemination activities as per project document, PIU-DLS assessed the training needs of the stakeholders and accordingly necessary training modules were prepared for conducting different training programs. As part of Mass Campaign, PIU-DLS also prepared two types of leaflets and posters on regular vaccination and de-worming of livestock. The list of module prepared for training courses are mentioned below:

- Training module on Project Orientation, PRA Technique and Implementation Strategy of Project Activities for DLS officer and staff.
- Training module on Accounts, Finance and Procurement Management for DLS officer
- Training module on Data Collection and Reporting for DLS officer
- Training module on Training of Trainer (TOT) for DLS officer
- Training module on Accounts, Finance and Procurement Management for DLS Staff
- Training module on Skill Development of CEAL
- Training module on Newly Released Livestock Technology
- Eight training modules on Improved Livestock Production Technology and farming as a Business for CIG farmers.

Besides the training module, PIU-DLS prepared leaflet, poster and other communication materials which are mentioned below:

- Prepared and printed leaflet on regular vaccination of livestock- 4 lakh copies

- Prepared and printed leaflet on regular using de-worming medicine to livestock- 4 lakh copies
- Prepared and printed poster on regular vaccination of livestock- 20 thousand copies
- Prepared and printed poster on regular using de-worming medicine to livestock- 20 thousand copies
- Prepared and printed poster on vaccination and de-worming campaign- 10 thousand copies
- Prepared and printed savings passbooks for CIG farmers - 76 thousand 8 hundred copies

6.4 Preparation of Implementation Instructions and Guidelines

PIU-DLS developed necessary Instructions and Guidelines to effectively and systematically implementation of every project activities at the field level. The list of prepared instructions and guidelines are given below:

- Prepared guidelines for CIG formation and mobilization for upazila
- Prepared guidelines for selection and engagement of CEAL for upazila
- Prepared guidelines on preparation of CIG Microplan, Union Extension Microplan and Upazila Extension Plan
- Prepared guidelines for implementation of CIG farmers training.
- Prepared guidelines for establishment of Demonstration
- Prepared guidelines for organization of Field Days
- Prepared implementation guidelines for organizing CIG and non-CIG farmers rally
- Prepared guidelines for organization of Vaccination Campaign
- Prepared guidelines for organization of De-worming Campaign
- Prepared implementation guidelines for organizing Infertility Campaign
- Prepared guidelines for organization of Exposure Visit
- Prepared guidelines for maintaining Books of Accounts.
- Prepared guidelines on data collection, storing and documentation at CIG, Union and Upazila level
- Prepared operational guidelines for AIF-2 and AIF-3 in Bengali.
- Prepared implementation guidelines for establishment of Bio-gas plant

7. Implementation Status of Strengthening Institutional Capacity of DLS

Institutional capacity is very essential for effectively implementation of technology dissemination activities at the field level. The project has provision to provide supports for strengthening the institutional capacity of DLS. The Upazila Livestock Office, training centers, different laboratories of DLS etc. institutions were supported with motorcycle, bi-cycle, laboratory equipment & materials, computer, laptop, multimedia, ICT equipment etc. under the project. PIU-DLS also carried out repairing and maintenance of different laboratories and training centers. The list of equipment and materials supplied is given in the Table-15 & 16.

Table-15: Information of Equipment and Materials Supplied to Upazila

Sl. #	Name of equipment and materials	Number/Quantity	Remarks
1	Motorcycle	163 no.	Supplied to 163 new Upazilas Livestock Offices
2	Bi-cycle	1527 no.	Supplied to CEALs of 163 new upazilas
3	Starter Kit Box	1527 no.	Supplied to CEALs of 163 new upazilas
4	Mobile Tablet	2681 no.	Supplied to all CEAL for carrying out ICT based extension activities
5	Furniture for FIAC	967 unit	Supplied to newly established FIAC for sitting arrangement of CEALs
6	Desktop Computer	178 sets	Supplied to 163 new Upazilas Livestock Offices and PIU
7	Laptop	178 no.	Supplied to 163 new Upazilas Livestock Offices and PIU
8	Scanner	164 no.	Supplied to 163 new Upazilas Livestock Offices and PIU
9	Pico Projector	100 no.	Supplied to 5 districts
10	Multimedia Projector	164 no.	Supplied to 163 new Upazilas Livestock Offices and PIU
11	Furniture	2 set	Supplied to OTI and VTI

Table-16: Information of Equipment and Materials Supplied to DLS Laboratories

Name of Laboratory	Name of equipment and materials	Remarks
Public Health Laboratory	Bio-safety Cabinet, Analytical Balance, Real Time PCR Machine, ELISA Reader with Computer and Monitor, Micro Centrifuge Machine, Horizontal Gel Electrophoresis System with Power Supply etc.	• Technical and physical facilities of the laboratories have been improved. • They can handle a large number of sample at a time. • The accuracy of examination, detection as well as diagnostic system has been improved. • The capability of lab personnel has also been improved due to training provided by the supplier on use of equipment.
Animal Nutrition Laboratory	Ultra High-Performance Liquid Chromatograph (UHPLC) with DAD detector, ELISA Reader, Fiber Analyzer, Bench P^H Meter and Laboratory Oven etc.	
Central Disease Investigation Laboratory (CDIL)	Real Time PCR Detection System, Micro Volume Spectrophotometer, Fluorometer and DNA/RNA/Protein Purification System	

Besides supplying equipment and materials, PIU-DLS also carried out small renovation and maintenance works for two training centers and 8 laboratories as part of strengthening the institutional capacity of DLS. The list of training centers and laboratories renovated is given in the Table-17:

Table 17: List of training centers and laboratories renovated

Sl. No.	Description	Number/Quantity	Remarks
1	Renovation and Maintenance of Officers Training Institute (OTI), Savar, Dhaka.	1 unit	Improved physical facility of training institute.
2	Renovation and Maintenance of Veterinary Training Institute (VTI), Mymensingh.	1 unit	
3	Renovation and Maintenance of Central Disease Investigation Laboratory (CDIL).	1 unit	Improved physical facility of laboratories
4	Renovation and Maintenance of Field Disease Investigation Laboratory (FDIL).	5 unit	
5	Renovation and Maintenance of Animal Nutrition Laboratory.	1 unit	
6	Renovation and Maintenance of Public Health Laboratory.	1 unit	

8. Research Extension Linkage Mechanism

The development objective of this project is to increase agricultural productivity of smallholder farms and improve smallholder farmers' access to markets in selected districts. PDO will be achieved by increasing per unit production through practicing the improved and modern technology at the farm level. NATP-2 has given emphasis for strong linkage between technology generation and technology diffusion. Research Institutes would generate the new technology and update/refine the existing technology. On the other hand, Extension Departments would diffuse the generated technology to the farmers according to their needs. Farmers will be able to increase production through using the generated technology. NATP-2 has the provision to establish institutional and functional linkage among research, extension and farmers. Theoretically, the problems identified by the farmer through preparing micro plan will be the priority areas of research. But there is no specific standard modality regarding translate/conversion the identified problems into research issue/agenda. On the other hand, there is no functioning mechanism for generated technology by the research institute to reach the farmers through standard extension system. However, PIU-DLS initiated some specific activities to operationalize research extension linkage system within the project provision. The initiatives are briefly mentioned below:

- PIU-DLS has the provision to provide training to 630 DLS officers on Newly Released Livestock Technology. Bangladesh Livestock Research Institute (BLRI) is conducting the whole training courses including course design, training manual preparation etc. The scientists of BLRI are conducting the sessions. By this time, 302 DLS officers (10 batch) were provided training on Newly Released Livestock Technology by BLRI. The field level officers of DLS and the scientists of BLRI have got an opportunity to directly interaction with each other through this type of training courses. The remaining training courses will be organized in the next financial year.

- Every year, PIU-DLS organizes 8 regional progress review and planning workshop at the regional level. PMU-NATP-2 also organizes same type of workshop at different region of the project area. The scientists of regional research centers are invited in these workshop to share their research activities which are carried out in the respective region. The extension officers highlighted the researchable issues in the workshop along with other issues. The researchers get the opportunity to know the farmers problems through extension officers as well as researchable issues. So, the regional progress review workshops is considered an important event for research extension linkage.

- The project has the provision to organize Exposure Visit by the upazila offices in every year separately. Many of the upazilas of DLS conducted Exposure Visit at Bangladesh Livestock Research Institute (BLRI). The participating farmers can get an opportunity to observe BLRI activities directly and can make interaction with scientists of the BLRI.

- ❖ The scientists of national and regional research centers are invited to attend the UECC, DECC and NECC meeting to share their activities with Extension Departments. Both the researchers and extension officers can discuss their problems, experiences etc. in these meetings. In this way, UECC, DECC and NECC meetings create an environment to sit together as well as to link between research and extension personnel.

Alongside with the extension departments, the research institutes should have specific initiatives for identification of research priority areas and to hand over the generated technologies to the Extension Departments.

9. Implementation Status of Agricultural Innovation Fund (AIF-2)

AIF-2 is a core scale-up- strategy and one of the sources of direct funding to CIG farmers for technology transfer which will in -turn contribute to achieving the PDO. The selected sub-project proposals submitted by CIGs will be funded with a matching grant not to exceed 70 percent of the total sub-project costs and recipient CIGs are expected to contribute at least 30% in cash. The potential areas for using matching grant under AIF-2 are:

- Chopper machine for grass/straw chopping,
- Milking machine for milking of cow,
- Feed mixing machine for preparing concentrate feed,
- UMS mixing machine for preparing Urea Molasses Straw,
- Biogas plants established for animal waste management
- Cream separator
- Milk pasteurization machineries
- Milk chilling plant
- Milk can
- Establishment of Mini feed mill
- Establishment of Incubator/growth chamber, egg setter (Mini hatchery)
- Collection of Milk processor
- Collection of Van/vehicle

The operational guidelines/manuals in Bengali for implementation of AIF-2 has been prepared and sent to field level and orientation training for field level officers of DLS was completed. The total project target for sub-project funding through AIF-2 matching grant is 940 no. for livestock component of the project.

The 1st call for submitting sub-project proposal was made on 28 June 2018 and 2nd call on 06 December 2018. A total of 120 sub-project proposals have been submitted. The Technical Committee examined the submitted proposals and sent to National Evaluation Committee for

making recommendations for approval of qualified proposals. A total of 34 sub-project proposals have been awarded and the evaluation of more 86 proposals is in progress. AIF-2 matching Grant to be used for collecting Chopper machine, Feed mixing machine, Pasteurization machine, packing machine, Cool van, Incubator, Freezer etc. are the major equipment and materials. The detail implementation progress of AIF-2 is given in the table-18.

Table-18: Information of implementation progress of AIF-2

SL.	Particulars	Project Target (No.)	Progress up to MTR Mission	Progress up to June 19	Remarks
1	Sub-project to be awarded during project period	940	10	34	• More 76 sub-projects are under processing.
2	Fund released (Million US$)	4.7006	-	0.0359	0.76%

Note: 1 US$ = BDT 77.50

10. Implementation Status of Agricultural Innovation Fund (AIF-3)

AIF-3 is another scale up strategy and sources of direct funding for market access facilities. The selected sub-proposals will be funded with a grant not exceed to 50 percent of the total sub project costs and recipient rural entrepreneurs are expected to contribute at least 50% in cash. AIF-3 grant recipient will be registered as rural entrepreneurs and private sector companies with a business history and whose sub projects benefit to smallholder farmers in the project area. The total project target for sub-project funding through AIF-3 matching grant is 127 no. The potential areas for using matching grant under AIF-3 are:

- Mini poultry hatchery
- Diagnostic facility
- Artificial insemination machineries and equipment
- Establishment of commodity collection point with packaging, grading and washing facilities
- Sorting, grading, storing packaging equipment and shed/facilities
- Egg preservation facility
- Milk collection container
- Chilling plants for milk preservation
- Machineries and equipment for improved slaughter house and beef/meat packaging facilities for domestic and export markets
- Milk pasteurization machineries
- Milk transportation container/ van

- Cream separation equipment
- Meat processing equipment
- Beef processing equipment.
- Electric generator
- Cold/cool room facilities
- Any other innovative activities

The 1st call for submitting sub-project proposal was made in August 2018. A total of 42 sub-project proposals have been submitted. The Technical Committee examined the submitted proposal and sent to National Evaluation Committee for making recommendation for approval of qualified proposals. As of today, 16 sub-project proposals have been awarded. AIF-3 matching Grant to be used for collecting Incubator, Generator, Pick-up, Chopper machine, Feed mixing machine, Brooder, Pasteurization machine, packing machine, Cool van, Incubator, Freezer etc. are the major equipment and materials. The detail implementation progress of AIF-3 is given in the table-19:

Table-19: Information of implementation progress of AIF-3

SL.	Particulars	Project Target (No.)	Progress up to MTR Mission	Progress up to June 2019	Remarks
1	Sub-project to be awarded during project period	127	16	16	• More 26 sub-projects are under processing.
2	Fund released (Million US$)	1.2000	00	0.0744	6.20%

Note: 1 US$ = BDT 77.50

CIG and non-CIG both type of farmers will be benefitted through utilization of AIF-2 and AIF-3 supports. The scope/benefit will be created by AIF 2 & 3 at rural level are mentioned in the following table 20:

Table-20: Scope/Benefits to be created through AIF Supports

Technological Areas	**Scope of use the AIF support**	**Benefits to be created**
Farm Mechanization	Straw/grass chopper machine, UMS mixing machine, Milking machine etc.	Ease to farm management, work load minimization, minimization of labor crisis problems etc.
Marketing	Pick up van, Cool van, Freezer, Packing machine etc.	Getting proper price of products, market promotion, linkage with nearest markets etc.

Backward Forward Linkage	Feed mixing machine, Incubator, Brooder machine etc.	Availability of input, low price of inputs etc.
Processing and preservation	Chilling machine, pasteurization machine, Cream separator, Freezer, Generator etc.	Value addition, diversification products, labor employment etc.

11. Implementation of Supply Chain Development Activities

The one of the important PDO of the project is to improve smallholder farmers' access to market in the selected areas of the project. The PDO will be achieved and measured through establishing the processing and marketing structure/enterprises for livestock products and quantity of product processed and marketed from these structures/enterprises. There is a provision in the project document that one specialized technical firm will be hired by PIU-DLS as service provider to carry out value chain activities. PIU-DLS engaged one short-term consultant for preparing Terms of References (TOR) for specialized technical firm to be hired for the whole project period. The consultant was also responsible for conducting some value chain analysis for dairy, goat and beef as well as for identifying the specific activities related to value chain and their implementation guidelines. The Request for Expression of Interest was issued for hiring the service provider and 6 EOIs were received within the stipulated time. The submitted EOIs are under evaluation.

Besides the above, the formation process for 120 Producers Organization (POs) is going on. POs will be formed in a cluster targeting a CIG where CIG does not get fair price for their products. Since inception to till date, 25 POs have been formed comprising 30 farmers per Producers Organization. The hired service provider will provide supports for capacity building of POs and will take initiatives to solve the marketing problems of POs. The implantation progress of supply chain development is given in the table-21:

Table-21: Information of implementation progress value chain development activity

Sl. #	Description of Activity	Project target	Progress up to Last ISM	Progress up to MTR Mission	Cum. Ach. (%)
1	Engagement of short-term consultant for development TOR for specialized technical firm and analysis of some value chain	-	-	• Engaged 1 short-term consultant for 4 months, • TOR developed • 3 value chain analysis completed	

Sl. #	Description of Activity	Project target	Progress up to Last ISM	Progress up to MTR Mission	Cum. Ach. (%)
2	Engagement of Specialized Technical Firm for implementation of Value Chain Development Activities	1 Firm	-	• Ranking of submitted EOIs is completed • RFP issued to 1st ranking firm • Services will be commenced from 1st August, 2019.	
3	Formation and mobilization of Producers Organization (PO) (No.)	120	00	25	21%
4	No. of training batch organized on value chain development	120	-	-	-
5	No. of marketing solution undertaken	50	-	3	6%
6	Volume of commodities sold through new marketing structure/arrangement promoted by the project (In tons)	3400	-	56.40	1.66%

12. ICT Initiatives

The realization of project objective is mostly dependent upon how effectively and efficiently the technology reach to the farmers. The introduction of ICT can play an important role in reaching the technology to the farmers. The importance of use of ICT in disseminating technology to the farmers has been described in the project document and necessary financial allocation was kept in the DPP. The major ICT initiatives are: establishment of ICT based project management information system (PMIS), accounting information system (AIS), design & development of website for information management & communication, development of mobile Apps, service delivery management information system (SDMIS) development, integration of livestock knowledge (ILK), digitization of FIAC, video clip based extension etc. In pursuant to the above provision, PIU, DLS has taken necessary initiatives to implement the ICT related above activities. A well-functioning web-site has been established at PIU and Network System Design, Development, Configure and Implementation of LANs, WANs, WiFi, File Sever and PABX System of PIU, NATP-2: DLS have also been completed. The training on use mobile tablet for technology diffusion and digitization of 18 FIACs as pilot basis is going on. Training was provided to 1140 CEALs on Capacity Development for ICT. Due to pooled procurement system, the development of software for SDMIS and integration livestock knowledge could not start except PMIS.

On the other hand, the procurement of ICT related equipment and materials has been completed. The procurement of 178 Laptop, 2681 Mobile Tablet, 178 Desktop, 164 Multimedia Projector and 100 Pico projector has been completed and distributed to field level. The capacity building activities for field level officer and staff on use of ICT and ICT equipment is continuing. The Terms of Reference (TOR) for development of MIS has been uploaded in STEP after getting clearance from World Bank. **Most of the ICT related initiatives are related to pooled procurement system which are needed to speed up**.

13. Environmental and Social Safeguard Activities

NATP-2 is designed to support sustainable production practices of crops, fisheries and livestock with environment friendly and climate smart innovative technologies maintaining biodiversity. However, as per project document, environmental and social safeguard issues related to project intervention have to be complied by each of the component during implementation of all activities of the project.

Environmental and social safeguard issues have duly been addressed by the livestock component during implementation of project activities at field level of the project. One Environmental and Social Safeguard Specialist has been engaged recently to oversee environmental and social safeguard related activities and reporting of the livestock component of the project. The progress on compliance of environmental and social safeguard issues up to 30 June, 2019 under PIU-DLS are furnished in the following table-22.

Table-22: Information of progress on environmental and social safeguard activities

SL #	Initiatives	Activities	Output/Outcome	Remarks
A.	**Environmental Safeguard issues**			
A.1	Awareness building	Training	Environmental safeguard issue has been institutionalized through incorporating the issue in all type of training courses.	
		Vaccination campaign	22402 no. of campaign has been organized at CIG level which prevents the spread of zoonotic diseases.	
		De-worming campaign	14315 no. of campaign has been organized at Upazila level.	

SL #	Initiatives	Activities	Output/Outcome	Remarks
A.2	Waste management	Establishment of Biogas plant	• 1366 Bio-gas plant established where 97 installed through project support which will contribute to reduce emission of methane gas and also save wood fuel and as well as produce organic manure. • CIGs are being inspired through motivation, training, group meeting and individual visit to establish bio-gas plant	Out of 97, 22 bio-gas plant set by female farmers.
		Dung pit installation	• CIG farmers are continuously motivated on properly management of dung through establishing cow dung pit • 2543 cow dung pit established by CIG farmers	
		Compost pit installation	• CIG farmers are continuously motivated on composting farm waste through establishing compost pit. • 504 CIG farmers are engaged in preparing compost using farm waste.	
A.3	Climate smart technology promotion	Introduction of climate smart technology	Introduced various climate smart technologies through technology dissemination activities such as improved house management, balanced feeding, slat system housing, fodder cultivation, vaccination campaign, de-worming campaign, maintaining bio-security of farm etc.	
B.	**Social safeguard issues**			
B.1	Female participation in CIG	Inclusion of female as member in CIG	92337 nos. of female farmer included in CIG which is 44% of total CIG members.	
		Demo established by female farmer	7894 nos. of demonstration established by female farmers which comes 43% of total demonstrations.	
		Participation of female farmer in training	92337 nos. of female farmer were imparted training which found 44% of total trained farmers.	

SL #	Initiatives	Activities	Output/Outcome	Remarks
		Adoption of technology by female farmer	22378 nos. of female farmer adopted livestock technology, which represents 37% of adopting farmers.	
B.2	Participation of ethnic group	Ethnic group inclusion in CIG	• 79 CIGs were formed with ethnic people which is 1% of total CIG. • 3518 no. of ethnic people included in CIG which is 1.69% of total CIG farmers.	
B.3	Participation of small & marginal farmers	Inclusion of small & marginal farmer in CIG	193208 CIG members are small & marginal farmer's category, which is 93% of total CIG farmers.	
B.4	Share of female in Executive Committee (EC) of CIG	Inclusion of female member in EC of CIG	36% of EC member are female member.	

14. Grievance Redress Mechanism

As part of Governance and Accountability Action Plan (GAAP), the project intends to implement a robust and responsive 3 tiers Grievance Redress Mechanism (GRM) by putting in place specific persons who shall be entrusted with the responsibility for the same. Grievance Redress Mechanism (GRM) is also an important part of the Social Safeguards which is focused in project document. An aim of functioning Grievance Redress Mechanism, 3 tiers Grievance Redress Cell (GRC) has been established in all of the NATP-2 project Upazila, District and PIU level to resolve the grievance (occurred if any).

Grievance Redress Mechanism (GRM) has been established through constituting 3 tier GRC in Upazila, District and PIU level assigning specific persons with specific ToR who shall be entrusted with the responsibility for the same. Grievance Redress Officer (GRO) and Appellate Officer (AO) also designated in all tier of GRC. At the Upazila level, Veterinary Surgeon (VS)/Livestock Extension Officer (LEO) and ULO are designated as GRO and AO respectively. At the district level, DLO and DD, Divisional office are designated as GRO and AO. Accordingly, at the PIU level, DD (Field Operation) and Director, PIU-DLS are designated as GRO and AO respectively. Complaint book (Register)/box has been kept in ULO office. **The necessary guidelines for documentation of complain and measures taken by GRO has been prepared and**

supplied to field offices for necessary actions. PIU-DLS also developed quarterly reporting format and upazila offices will prepare on GRM issue on quarterly basis. No major grievance was found from field. A very little bit complain found those were mitigated instantly but not documented properly at all.

Establishing GRM, created scope to remedy of the complaint found from the beneficiary and other relevant stakeholders if any grievance occurred during project implementation. But it is notable that the farmers are mostly illiterate and they are not interested to provide written complain. To overcome the constraint, need to develop Mobile phone based apps for GRM.

Terms of Reference (ToR) for GRC:

- In the 1st tier of GRM, Grievance Redress Officer (GRO) shall settle down/redress the complaints received from any aggrieved person within 30 days from receiving and also the appellate Officer (AO) shall settle down/redress the complaint within 15 days if the aggrieved person appeal to the AO for review of his complaint;
- Open a complain register and erect complain box at the upazila office and FIAC;
- Display the name, designation and contact numbers of designated officer as GRO and AO at appropriate visible places;
- Upazila level GRO shall prepare monthly report and submit it to the district level GRO by 7th day of every following month;
- If any appeal of complaint could not be possible to resolve by the Upazila or district level appellate authority, then the appeal is to be refer to PIU to resolve it.

15. Management and Coordination

The extension activities are being implemented following Decentralized Extension Approach (DEA) at the field level. The functionality of Decentralized Extension Approach largely depends on inter department coordination at union, upazila, district and national level. The coordinated extension service is very essential for the farmers because most of the farming systems are mixed. They want all types of extension services from one place. National Extension Coordination Committee (NECC) at national level, District Extension Coordination Committee (DECC) at district level, Upazila Extension Coordination Committee at upazila level have been formed and working to strengthen the coordination among the three extension service providers. NECC provides policy guidance and inter-agency coordination for the extension departments. NECC meets twice a year. DECC maintains overall oversight on technical guidance, input-output linkage and training support to extension officer and staff. DECC meets every after 3 months. UECC oversees planning, budgeting, coordination and implementation of extension activities at the field level and UECC meets every after 4 months. On the other hand, Union Extension Facilitation Team (UEFT) comprising SAAO, CEAL and LEAF from three extension departments have been

formed in each union of the project area. UEFT meets in every month at FIAC or other suitable places to coordinate the implementation at union level. The Upazila Resource Team (URT) provides technical guidance to UEFT and maintaining liaison between UECC and UEFT.

At PIU level, the Project Implementation Committee (PIC) for livestock component has already been formed to (i) review and recommend annual work plan, procurement plan & budget, (ii) review and monitor the implementation progress (iii) provide necessary guidance for successfully implementation of the project and (iv) any other issue as deemed necessary. As of today, 5 meeting of PIC-DLS were held so far. PIC-DLS reviewed Annual Work Plan & Budget and Annual Procurement Plan and recommended for approval to Joint Project Steering Committee (JPSC). PIC-DLS also reviews the implementation progress of planned activities in these meetings.

16. Financial Progress: Since Inception to 30 June 2019

GOB, WB and IFAD are the sources of funding for livestock component of the project. The total allocation of livestock component of NATP-2 is million 59.4300 US$, of which GOB is million 13.8920 US$ and RPA is million 45.5380 US$. Since inception to 30 June 2019, the total expenditure of livestock component was incurred million 21.5477 US$, of which GOB is million 2.9482 US$ and RPA is million 18.5995 US$. The overall financial achievement is 36.26%, of which GOB is 21.22% and RPA is 40.84%. The detail of financial achievement is presented in the following Table-23:

Table-23: Cumulative Financial Expenditure of GOB and Project Aid (PA): Since Inception of the Project to 30 June 2019 (Figure in million US Dollar) (1 US$ = BDT 77.50)

Source of Fund	Total Project Allocation	Progress up to MTR Mission	Progress up to June 2019	Cumulative Achievement (%)	
				MTR	TM
IDA	40.0735	14.3841	16.3676	35.89	40.84
IFAD	5.4645	1.9615	2.2319	35.89	40.84
USAID	00	00	00	00	00
Total of PA	**45.5380**	**16.3456**	**18.5995**	**35.89**	**40.84**
GOB	13.8920	2.4365	2.9482	17.54	21.22
Grand Total	***59.4300***	***18.7821***	***21.5477***	***31.60***	***36.26***

In case of RPA fund release, a total of million 18.9245 US$ was released against million 45.5380 US$, which represents 41.56% of total allocation. The achievement of fund release from last MTR Mission to this Technical Mission has been increased from 33.33% to 41.56%. The detail of source-wise fund release and estimation of fund projection is presented in the Table-24 and Table 25 respectively:

Table-24: Cumulative Fund Release of GOB and Project Aid (PA): Since Inception of the Project to 30 June 2019 (Figure in million US Dollar) (1 US$ = BDT 77.50)

Source of Fund	Total Project Allocation	Progress up to MTR Mission	Progress up to Technical Mission	Cumulative Achievement (%)
IDA	40.0735	14.9503	16.6536	41.56
IFAD	5.4645	2.0387	2.2709	41.56
USAID	00	00	00	00
Total of PA	**45.5380**	**16.9890**	**18.9245**	**41.56**

Table-25: Estimation of Financial Forecast for RPA Allocation (1 US$ = BDT 77.50)

Component	Total Allocation	Expenditure		Expenditure: 2018-19	Total Expenditure	Estimated expenditure for 2019-20	Forecast: 2020-21	Forecast: 2021-22
		2016-17	2017-18					
DLS (BDT in Lac)	35292.00	1014.83	5776.39	7623.42	14414.64	10000.00	9800.00	1077.36
DLS (Million US$)	45.5380	1.3095	7.4534	9.8366	18.5995	12.9032	12.6452	1.3901

17. Procurement Progress

Procurement of Goods, Works and Services are being implemented gradually in accordance with Total Procurement Plan provided in the DPP. Out of total 79 packages, 51 packages are under Goods, 14 packages are under Works and 14 packages are under Services category. Among the 79 packages 59 packages have already been completed, remaining 17 packages will be undertaken in next year and 3 packages will be excluded from the procurement plan. Total Procurement Plan envisages two mode of implementation: by PIU-DLS- NATP-2 and by PMU through Pooled Procurement. Progress so far achieved has been given in the Table-26.

Table-26: Information of Procurement Progress: Since Inception of the Project to March 2019

Procurement Category	**Number of Procurement**	**Progress up to last ISM**	**Progress up to Technical Mission**			**Cum. Ach. (%)**
			Completed	**On going**	**Total**	
Goods	51	35	39	0	39	76.47
Works	14	8	11	0	11	78.57
Services	14	9	8	1	9	64.29
Total	**79**	**52**	**58**	**1**	**59**	**74.68**

However, in case of services procurement, any action has been initiated as yet for 3 packages (Pooled Procurement) namely, PS/LS-19: Consultancy for ICT and Video Clip based Extension (International), PS/LS-21: Service provider for Integration Livestock Knowledge and PS/LS-23: Development of Livestock Extension Management Information System (LMIS). These packages are related to ICT leverage activity of the project. Immediate attention requires to be given on these packages on priority basis.

18. Monitoring and Evaluation (M&E) Activities

18.1 Design and Development of M&E Plan

Every development project/program needs to prepare an effective Monitoring and Evaluation (M&E) Plan at the beginning of the implementation stage of a project. The Monitoring and Evaluation Plan (M&E) Plan serves as a roadmap for the successful implementation of M&E activities of a development project/program. The purpose of this M&E plan is to describe how the implementing authority would monitor and evaluate the project activities, outputs and outcomes of the project. The Monitoring and Evaluation (M&E) plan for livestock component of the project has been prepared compliance with the M&E framework included in the Project Appraisal Document (PAD). This plan describes the process to be used to perform M&E activities throughout the life of the project. Following the M&E Plan, an M&E cell has been set up at PIU level to supervise and monitor field level activities comprising six deputed officers, one M&E Specialist, one Assistant ICT Specialist, one Environmental & Social Safeguard Specialist and one Data Analyst. The members of M&E cell are responsible to make regular visit to monitor the implementation progress at the field level along with other M&E activities. M&E plan also includes data flow showing use of data.

18.2 Result Monitoring

As per Project Appraisal Document (PAD), Results Framework defines the results of project activities for different components separately. According to project document, five indicators for measuring Intermediate Outcomes and three indicators for measuring Project Development Objectives (PDO) have been included in the Result Framework (RF) for extension components. The data on results of Intermediate Outcome indicators and PDO level indicators are being collected from the field using specific formats developed by PIU, NATP- DLS. On the other hand, data for remaining indicators of PDO and Intermediate Outcome level will be measured through conducting annual sample survey by the hired M&IE firm**. According to PAD, the hired 3rd party specialized M&IE firm (Outsourced) will be responsible for implementation of Result Monitoring and Impact Evaluation System of the project and accordingly resources were allocated in the DPP under pooled procurement system**. The hired M&IE firm is among others responsible for conducting baseline, mid-line and end-line survey as well as concurrent

performance monitoring. Due to delay in engagement of M&IE firm, the progress of some indicators especially productivity and client satisfaction could not show without baseline value. But an attempt has been taken to collect information from field on productivity and adoption. **The implementation of Result Monitoring and Impact Evaluation System of the project by specialized M&IE firm should be reviewed as the recruitment process will not be completed soon**. The progress of result indicators included in the Result Framework is shown in Annex-2.

18.3 Management Information System (MIS) and Reporting

Management Information System (MIS) is a powerful tool for effective monitoring and evaluation system of a development project. It supports management to take timely proper decisions for planning, monitoring and managing a project. Generally MIS consists of physical and financial activities related to information. The necessary guidelines, forms and formats were development and supplied to field level to collect data, storing data and reporting on implementation progress. A prescribed register has been prepared and supplied to upazila offices to document the implementation progress of different activities properly and systematically. Every upazila will be able to provide any information as per need of the project using the register. The databases of following project related activities were already developed and maintained as part of Management Information System at PIU level:

- Database for Community Extension Agent for Livestock (CEAL)
- Database for Common Interest Group (CIG)
- Database for member of Common Interest Group (CIG)
- Database of project activities i.e. CIG mobilization, extension planning, training, demonstration and other extension activities.
- Developed format for Monthly Progress Report (UZ)

The project has a provision to develop an ICT based Project Information Management System (PIMS) as a platform of information of project implementation progress. The quarterly and annual reports of the project are supposed to be prepared using PIMS generated data. In absence of ICT based project information management system (PIMS), manual database generated data are being used in preparing monthly, quarterly, annual, ISM report and other necessary reports. The process of hiring a software firm for development of ICT based PIMS is going on by PMU, as this procurement is under pooled procurement. **The hiring process needs to speed up for the interest of the project.**

18.4 Field Level Monitoring

Each member of M&E cell makes 1 to 2 visits in every month and prepared a comprehensive visit report mentioning major findings and made recommendations to improve the quality of implementation, if needed. The following checklists for field visit/monitoring were developed:

- Monitoring checklist for CIG activities
- Monitoring checklist for training activities
- Monitoring checklist for FIAC and CEAL activities
- Monitoring check list for upazila office visit
- Monitoring checklist for demonstration activities
- Developed format for reporting demonstration performance
- Developed format for reporting Exposure Visit

A sample reporting format has also been developed for field level supervision and monitoring. The officers and consultants regularly visit filed level activities and they prepare a comprehensive report within 3 days after completion of each visit describing the type of visited activities, major findings/observations, recommendations for corrective action. They also provide hand on training to field level officials on implementation approach of project activities during field visit and monitoring.

The members of M&E Cell of PIU, NATP, DLS made 102 visits to monitor field level activities and visited 143 upazilas in the fiscal year 2018-19. The major findings of field visit are presented in the Table-27. The monitoring team mainly covered the following areas and activities during their visits:

- CIG activities,
- CIG farmers training course and utilization of training knowledge
- Demonstration activities,
- FIAC activities,
- CEAL activities,
- Record keeping and reporting etc.

The members of M&E Cell use field monitoring checklists for monitoring of each activity during field visit. The major observations/findings of field visits are summarized and presented in the Table-27:

Table-27: Major Findings of Field Visit and Monitoring

Sl. #	Activities Visited	Number of Event Visited	Findings/Observations of Visits	Recommendations
01	CIG mobilization	102 CIGs	• Member of CIGs were selected as per criteria • 87.42% CIGs started savings. • 100% CIGs opened bank account at schedule bank. • 74.54% CIGs holding monthly meeting and maintain meeting minutes. • 34% CIG have registration. • 47% CIG maintain records related to extension activities	• Take necessary steps to initiate savings activity in all CIGs • Take necessary steps for holding monthly meeting regularly in all CIG. • Necessary data at CIG level should be maintained as per prescribed format supplied from PIU.
02	CIG training	59 courses	• Trainings are being organized at convenient places of CIGs • Participants' allowances and trainers' honorarium disbursed through A/C payee cheque. • Minimum use of audio visual equipment in the training. • Training handout supplied only 49.5% course.	• Use audio-visual equipment in the training for increasing effectiveness of training • Training hand out should be ensured for all participants
03	Technology Demonstration	128 demos	• 85.5% demonstration were established as per guidelines • Focuses of technologies in demonstration were: housing management, feed management, health management, bio-security etc. • Sign boards were placed	• All demonstrations should be set up according to project guidelines. • Demonstration farmers must be briefed about purpose of demonstration

Sl. #	Activities Visited	Number of Event Visited	Findings/Observations of Visits	Recommendations
			• Inputs were used as per requirements • In some cases demonstration activity related information were not kept properly. • Few demonstration farmers could not say the purpose of demonstration.	• Required information related to demonstration must be recorded in the demonstration register.
04	Fodder demonstration	54 plots	• Most of the demonstrations were established as per design. • Demonstration related data were not kept properly. • Types of soil and locations of fodder plot were not suitable in few cases.	• All demonstration should be established as per guidelines • Related data should be kept properly. • Soil type and location of plot should be considered during selection of farmers.
05	FIAC Activities	71 FIACs	• Duty roaster was prepared and followed in 51 (72%) FIACs • Visitors register opened and maintained in 54 (76%) FIACs • All the visited FIACs were decorated with extension related poster, leaflet etc. But more resource materials are needed to make available in the FIAC. • CEALs need more training on livestock technology extension and skill development • On an average 22 farmers visited FIAC per month.	• Duty roaster should be prepared and maintained. • Visitor register must be maintained in all FIACs. • Initiatives for popularization of FIAC should be taken.

Sl. #	Activities Visited	Number of Event Visited	Findings/Observations of Visits	Recommendations
06	CEAL activities	97 CEALs	• Selection criteria were followed during selection of CEAL. • CEALs' TA/DA is being paid through A/C Payee cheque. • Most of the CEALs facilitate in implementation of project activities at the CIG level. • About 79% CEALs have skills on vaccination and primary treatment.	• Initiatives are needed to mobilize CEALs in implementation of project activities. • .Remaining CEAL should be developed with skill on vaccination and primary treatment through Upazula Veterinary Hospital. • Arrange monthly meeting with CEALs and briefing them about implementation technique of the project activities.
07	Record Keeping and Documentation	143 upazilas	• Accounts related registers, books of accounts and other related documents were maintained properly by most of the upazilas • Physical and technical activities information were maintained by most of the upazilas but not properly in some upazilas	• Record for physical and technical activity should be maintained properly • Use a register to maintain records of various activities as per prescribed format of PIU

18.5 Organization of M&E Training and Progress Review and Planning Workshop

Since inception to March 2019, PIU-DLS arranged 16 (Sixteen) Regional Progress Review and Planning Workshops at divisional/regional level to review implementation progress, identify problems and find out ways to overcome the constraints and challenges. District-wise implementation progress were reviewed and the limitations/constraints exist in the field level are also discussed in these workshop. PIU-DLS imparted 14 refresher training courses on data

collection and reporting for Upazila Livestock Officer (ULO) and Livestock Extension Officer (LEO). A total of 270 Upazila Livestock Officer and 122 Livestock Extension Officers (LEO) participated in these refresher training course. The understanding on data collection, data storing and report preparation of ULO and LEO has been improved due to participation in these training courses.

18.6 CIG Performance Evaluation using Balanced Scorecard (BSC)

As per provision of the project, the performance of livestock CIGs is scheduled to be evaluated on annual basis. Following the provision of the project, the Balanced Scorecard for evaluation of CIG performance and evaluation guidelines were prepared in Bengali. During the fiscal year 2017-18, 8082 CIGs were evaluated using Balanced Scorecard (BSC) on the basis of grade, i.e. Grade-A: Very Good, Grade-B: Good, Grade-C: Average and Grade-D: Poor. Evaluation of CIG for the fiscal year 2018-19 is continuing and evaluation report of 1143 CIG is presented below. Out of 1143 evaluated CIGs, 5.86% obtained grade A, 51.35% obtained grade-B, 39.63% obtained grade C and 3.14% obtained grade-D. The performance evaluation of CIG is given in the following Table-28:

Table 28: Status of CIG Performance Evaluation using Balanced Scorecard.

Sl. #	Description	Year: 2017-18	Year: 2018-19
1	Total number of CIG	8082	8082
2	Number of CIG evaluated	8082	1143
3	No. of CIG obtained Grade A	271 (3.36%)	67 (5.86%)
4	No. of CIG obtained Grade B	3241 (40.10%)	587 (51.35%)
5	No. of CIG obtained Grade C	4049 (50.09%)	453 (39.63%)
6	No. of CIG obtained Grade D	521 (6.45%)	36 (3.14%)

19. Conduction of Implementation Support Mission of World Bank

As part of implementation review of the project, World Bank usually conducts Implementation Support Mission (ISM) every after six months. Since inception to March 2019, World Bank conducted 2 (Two) Implementation Support Mission (ISM). The 1st ISM for NATP-2 was held during December 10-14 2017 and the 2nd ISM was held during July 15-23, 2018. The implementation status of agreed actions of the MTR Mission is enclosed in Annex-1.

20. Lesson Learned

Through planning, implementation and supervision of project activities and sharing views with field level officers, staff, CEAL and farmers, the following lessons have been learned:

- ❖ Group approach like formation of CIG is a very effective approach for DLS to reach a large number of common people within short time and minimum cost.
- ❖ CIG micro planning process is an important way to identify and deliver location specific need based extension supports for the farmers.
- ❖ Financial support along with technological support would enhance the dissemination as well as adoption of technology by the farmers.
- ❖ FIAC establishment is a very effective and popular approach of the project to reach at the door step of the farmers with coordinated extension services
- ❖ CEAL is filling up the gap of extension services delivery system at union level of DLS, though their knowledge and skills need to be enhanced for greater success of this arrangement.
- ❖ AIF-2 and AIF-3 would create a great opportunity to establish an effective Backward Forward Linkage for commercial livestock farming activities in the rural area.
- ❖ Extension activities especially training, demonstration etc. are playing an important role for women empowerment and income generation.

21. Key Challenges/Constraints

The key challenges of livestock component of the project are presented below:

- About 50% union does not have FIAC and the services of FIAC cannot be ensured in these unions.
- Frequently drop-out of direct recruited officer and staff (Livestock Extension Officer and Field Assistant) due to uncertainty of job continuation after end of the project.
- TA/DA of CEAL is incompatible with their work load.
- Registration of CIG is a very difficult task.
- The equipment and materials supplied in the old upazilas under NATP-1 are not economically viable to use for implement project activities at the field level.
- The knowledge and skills of CEAL are not enough to implement extension activities with maintaining quality.

- As the commencement of the project was delayed about 2 years, it is a challenge to realize the target of some indicators both PDO and Intermediate Outcome level within the remaining period of the project.
- In absence of 3rd party M&IE Specialized firm, the implementation of Result Monitoring and Impact Evaluation Activities is also a challenge (Ref. PAD: M&E Framework Section)
- ICT based Project Information Management System (PIMS) is not developed as yet. It is a great challenge to prepare necessary reports in time without ICT based PIMS. (Ref. PAD: M&E Framework Section).

22. Epilogue and Way Forward

The project has got momentum after overcoming various difficulties during first 2 years of the project. CIGs are the core stakeholder of the project and the formation of CIG was completed at the onset. Presently, the functionality of CIG is improving day by day. CIGs are gradually becoming capable to prepare microplan properly and implement planned activities. The institutional efficiency of DLS and capacity of human resources are improving towards organization and implementation of decentralized extension services successfully. Awareness of CIG and non-CIG farmers on use of new and improved livestock production technology is increasing and they are being motivated to adopt the improved technology to increase livestock production and productivity and finally to achieve project development objectives. At present, the fund flow from development partners to the project level is satisfactory. The implementation of project activities are going in full swing. By this time, the project has achieved about 32% of financial progress. On the other hand, the achievement of implementation of most of the physical activities is about 40% except very few exceptions. The implementation of value chain activities especially formation of Producers Organization (POs) and engagement of specialized firm is in progress. The implementation of AIF-2 and AIF-3 has been started though a little bit late. A special team has been formed comprising one Deputy Director and two Assistant Director of PIU-DLS to expedite the implementation of AIF-2 and AIF-3 related activities. On the other hand, the evaluation process for engagement of Service Provider for implementation of Value Chain Development Activities will be completed as early as possible so that the firm can commence the services by 1st August 2019. Besides the above mentioned activities, the following issues are needed to review for further improvement of the project:

❖ Process for registration of CIG has been strengthened.

❖ By this time, the construction of some more Union Parishad Complex has been completed, those are ready now for establishing FIAC. Provision may be made to establish FIAC in these unions.

- ❖ The implementation of Result Monitoring and Impact Evaluation System may be reviewed as the 3rd party M&IE firm cannot be hired and fielded very soon.
- ❖ The design and development of ICT based PIMS needs to be completed as soon as possible. A suitable procurement method may be applied for the interest of the project so that the recruitment process requires minimum time.
- ❖ The target of some indicators included in the Result Framework may be reviewed and adjusted with time.
- ❖ Provision for motorcycle, computer and other equipment for old upazilas needs to be made for the interest of the project.

Annex-1

Progress of Agreed Actions of Mid Term Review (MTR) Mission
(28 April 2019 to 09 May 2019)

Actions	Responsibility	Agreed Timeline	Implementation Status
Component I			
Update the number of technologies generated by CRGs and submit and review all PCRs for CRGs.	PIU, BARC	August 31, 2019	-
Select new proposals and contract beneficiaries using the unallocated PBRGs funds	PIU, BARC	August 31, 2019	-
Organize a workshop at BAU and BARC for the local PhDs supported by NATP-II	PIU, BARC	September 30, 2019	-
Component II-IV			
Support CIGs to meet registration requirements assuring that the implementation of AIF 2 & 3 is accelerated.	PIU DAE, DLS and DOF	Continuous	The registration of CIG has been increased from 23.14% to 35.18% during MTR to this mission.
Assure that market demand remains a core criterion for awarding project under AIF 2 & 3 by keeping farming as a business as a training topic for all CIGs.	PIU DAE, DLS and DOF	Continuous	• "Farming as a Business" has been included in farmers training as core topic. • Market demand is considered as key criterion in awarding AIF 2 & 3 sub-project.
Create a marketplace for showcasing validated technologies to entrepreneurs and provide information on how entrepreneurs can assess AIF 3 funds	PIU, DAE, DLS and DOF	December 31, 2019	
Safeguards & Climate Co-Benefit:			
Fully streamline reporting mechanisms as recommended under the GRM.	PIU DAE, DLS and DOF	December 31, 2019	Action taken. Register template for proper documentation of GRM issues and quarterly reporting format prepared and sent those upazila offices.
Prepare a matrix to capture women's participation and needs in project activities.	PIU DAE, DLS and DOF	August 31, 2019	

Actions	Responsibility	Agreed Timeline	Implementation Status
Regularly update the framework and monitor outputs.			
Incorporate beneficiary satisfaction issue while carrying out the project baseline, mid-line and end-line surveys.	PMU with technical backstopping by the project social Experts	December 31, 2019	Beneficiary satisfaction issue will be incorporated in the project baseline, mid-line and end-line surveys.
PMU to coordinate and collect data from DAE, DOF, DLS and PIUs for EX-ACT Data Questionnaire.	PMU together with PIU DAE, DOF and DLS	July 15, 2019	Data has been collected on sample basis from the upazilas.
ICT and Communication:			
Finalize and Implement an integrated communication and IT strategy applicable to the entire project.	PMU with IT specialist from PIU DAE, DLS and DOF	June 30, 2019 (finalize)	Draft integrated communication and IT strategy has been prepared and will be presented in the Technical Mission.
Fiduciary and Financial Management:			
Establish an Independent Procurement Panel working alongside the Procurement Executive Committee to instill confidence in procurement processes and expedite implementation.	PMU	July 31, 2019	-
Fill outstanding vacancies of FM staffs for DLS and DOF	PIU-DLS and PIU-DOF	June 30, 2019	Completed
Undertake a joint meeting with WB team and the internal auditor on inception report.	PMU	June 30, 2019	-
Receive the internal audit report of the project and share with bank.	PMU	June 30, 2019	-
Procure the accounting package and installation this package.	PMU	September 30, 2019	-
Resolve the outstanding external audit observation for FY 2016-17	PMU with PIU-BARC, DAE, DLS and DOF.	August 31, 2019	PIU-DLS had no outstanding external audit observation in FY 2016-17.
Appointment of Procurement Consultant for DOF and BARC	PMU with DOF and BARC	July 31, 2019	-
Appointment of Assistant Procurement Manager.	PMU	July 10, 2019	-

Annex-2

Updated Results Framework (June, 2019)

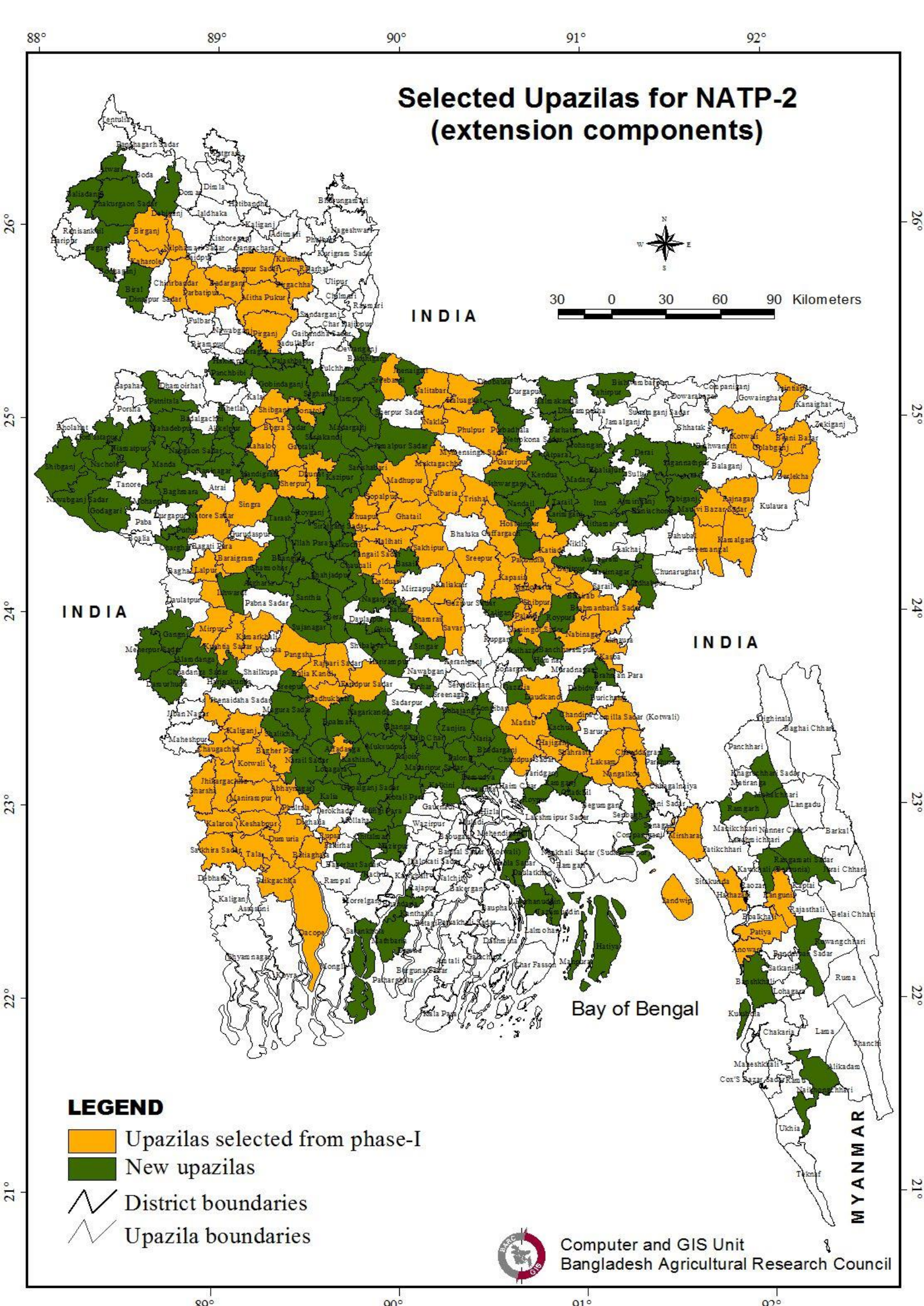
PDO: To increase agricultural productivity of small holder farms and improve small holder farmers' access to markets in selected districts

Outcome Indicators	Baseline Value	Target for 2018-19 (A)	Achievements from July 2018 till June 30, 2019 (B)	Level of Realization of 2018 target (%) (B/A) *100	Target End Project in 2021 (C)	Cumulative Achievements till 30 June 2019	Level of Realization of End Target (%) (B/C) *100	Remarks
Farm Productivity: Increase in the yield of selected agricultural commodities								
Rice (paddy) - t/ha								
Tomato - t/ha								
Dairy - ltr milk/day/cow	3**	3.2	3.48		3.9	3.48		Data provided based on field report as of March 2019
Beef - kg live weigh	160**	175	190.4		225	190.4		Data provided based on field report as of March 2019
Culture (ponds) - t/ha								
Capture (*beel*) - t/ha								
Market Access: Volume (in tons) of agricultural commodities sold annually through new marketing structures and arrangements promoted by the project	0	xxxx	xxxx		8,400	4303*		* includes data from PIU-DAE.
DAE								
DLS	xxxx	200	56.40	28.2%	3400	56.40	1.66%	
DoF								

Outcome Indicators	Baseline Value	Target for 2018-19 (A)	Achievements from July 2018 till June 30, 2019 (B)	Level of Realization of 2018 target (%) (B/A) *100	Target End Project in 2021 (C)	Cumulative Achievements till 30 June 2019	Level of Realization of End Target (%) (B/C) *100	Remarks
Project beneficiaries: Direct project beneficiaries, of which female [CORE INDICATOR]	3,52,900	8,00,000	1,009,270		1,000,000 (35%)	1,009,270		Selection of farmers and formation of CIGs completed in 2017. In last two years CIGs received technology training, opened bank accounts, mobilizing savings, involved in technology demonstration and group learning and sharing activities
DAE								
DLS	69,720	xxx	xxx		2,07,750	2,07,750	100%	44% female
DoF								
Intermediate Outcome Indicators								
Research: Technologies demonstrated in the project area [CORE INDICATOR]								**Based on DAE data on the following activities from March 2017 to now**: *Productivity enhancing technologies, Post-harvest reducing technologies, Agro-food processing technologies, Eco-friendly agricultural technologies, Climate smart agricultural technologies, Good agricultural practices, High value crops, Nursery management, etc.*
Research: Research sub-projects under								Completed implementation of all CRG sub-projects

Outcome Indicators	Baseline Value	Target for 2018-19 (A)	Achievements from July 2018 till June 30, 2019 (B)	Level of Realization of 2018 target (%) (B/A) *100	Target End Project in 2021 (C)	Cumulative Achievements till 30 June 2019	Level of Realization of End Target (%) (B/C) *100	Remarks
implementation or completed [CORE INDICATOR]								PBRG sub-projects are for 3 years and are under implementation
Extension: Targeted clients satisfied with agricultural and rural advisory services [CORE INDICATOR]	tbd	74%	n/a	-	93%		-	Data n/a. To be captured in the hiring M&E firm surveys
Extension: Clients who have adopted an improved agricultural technology promoted by the project [CORE INDICATOR]		2,26,000	n/a	-	6,40,000		-	
DAE								
DLS		30,000	15,440	44%	1,33,152	62,170	46.69%	Data provided as of March 2019.
DoF								
Market access: Marketing solutions implemented by the project (CUMULATIVE)		30	35	33	140			
DAE								
DLS		5	3	60%	50	3	6%	
DoF								
Agricultural Innovation Fund: Technology adoption				-	AIF-2: 3,000 AIF-3: 500		-	

Outcome Indicators	Baseline Value	Target for 2018-19 (A)	Achievements from July 2018 till June 30, 2019 (B)	Level of Realization of 2018 target (%) (B/A) *100	Target End Project in 2021 (C)	Cumulative Achievements till 30 June 2019	Level of Realization of End Target (%) (B/C) *100	Remarks
and marketing sub-projects under implementation or completed								
DAE								
DLS (AIF-2+AIF-3)		40+20	34+16	85%+80%	940+127	34+16	3.6%+13%	Evaluation of more 76 proposals for AIF-2 and 26 proposals for AIF-3 is in progress.
DoF								
Client-days of training provided [CORE INDICATOR]					4,300,000 (cumulative)			
DAE								
DLS		3,75,000	374954	100.00%	9,75,000	6,15,974	63.18%	42% female
DoF								


Selected Upazilas for NATP-2
(extension components)
88°
89°
90°
91°
92°
26°
25°
24°
23°
22°
21°
N
W
E
S
30 0 30 60 90 Kilometers
INDIA
INDIA
INDIA
MYANMAR
Bay of Bengal
LEGEND
Upazilas selected from phase-I
New upazilas
District boundaries
Upazila boundaries
Computer and GIS Unit
Bangladesh Agricultural Research Council

Implementation Progress Report
NATP-2: Livestock Component
As of 30th June 2019

Project Implementation Unit (PIU): Livestock Component
National Agricultural Technology Program
Phase II Project (NATP-2)
Khrishi Khamar Sarak, Farmgate, Dhaka.