Government of the People's Republic of Bangladesh

Ministry of Agriculture
&
Ministry of Fisheries and Livestock

National Agricultural Technology Program – Phase II Project

# Indicative Terms of Reference

For Hiring a Consulting Firm

For

Baseline Survey, Concurrent Monitoring, Evaluation and Impact Assessment

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|---|---|
| Assignment Title | Baseline Survey, Concurrent Monitoring, Evaluation and Impact Assessment |
| Assignment Duration | Till the end of project period i.e., September 2021 |
| Assignment location | Dhaka and Project areas |
| Funding source (s) | IDA/IFAD, |
| Contracting entity | Project Director, PMU, NATP-2 |

## 1 Introduction

National Agricultural Technology Program (NATP) is a three phases over 15 years long programme, designed to support the strategy of the Government of Bangladesh to improve national agricultural productivity, market linkage and farm income, with a particular focus on small, marginal and female farmers. NATP Phase II (NATP-2) supports research, extension and value chain programs/activities at field level. The Project Development Objective (PDO) of NATP-2 is to increase agricultural productivity of smallholder farms and improve smallholder farmers' access to markets in selected districts. The project development objective of NATP-2 will be achieved through: (i) strengthening the capacity of research, extension services and farmers to generate, adopt and diffuse agricultural technologies aimed at increasing farm productivity and reducing post-harvest losses; and (ii) promoting the sustainability of existing and newly created farmer groups and producer organizations (PO) by facilitating their stronger participation in commodity value chain, market-linkages, and improving their knowledge and skill base. Thus PDO will be achieved through the generation and release of more productive and locally adapted technologies, enhancing availability of quality seed/breeds/fingerlings/breeding materials at the small farm level and providing relevant production, value addition and marketing support.

## 2 Project Components

The NATP-2 project is comprised of five interrelated components details of which are described below:

### Component I: Enhancing Agricultural Technology Generation

Agricultural Technology Generation component is being implemented by the Bangladesh Agricultural Research Council. The objective of this component is to generate innovative agricultural technologies and improve the performance of the National Agricultural Research System (NARS) by strengthening agricultural research institutions include technology generation, human resource development (higher studies and capacity building training) and research & training facilities development.

The component will support need based research of crops, fisheries and livestock. Agricultural research is central for technology generation which ensures food and nutrient security, adaption of climate change, diversification of agricultural productivity, conservation of natural resources, safe food and environment, postharvest processing, value addition and farm machinery, bio-security and bio-technology, and research-extension-farmers linkages. Developing modern/high yielding/hybrid varieties of crops, fish and animal species coupled with bio-fortified vitamins and minerals through security. Development of stress tolerant/resistant crop, fodder, animal and fish species against drought, salinity, flood and submergence, soil acidity, temperature extremes etc. help endure climate change impacts. Technologies for higher water productivity, nutrient use efficiency, bio-fertilizer development and bio-rationally pests control measures, integrated water, nutrient and pest management etc have binding effects in natural resources conservation. Development of organic farming in specific AEZs including good agriculture practices (GAP), selecting and adopting bio-control agents/parasitoids/predators for controlling pests, solar energy and bio-gas plant development, sanitation measures, developing kits for checking adulterations, promote safe food development and environment. Developing control measures for emerging and trans-boundary disease of crops, fish and animal species, vaccine development against livestock infectious and viral diseases will ensure bio-security measures. Developing postharvest processing and value addition of high value agriculture, farming system research, technology adoption/identification through up-scaling measures, rice-fish, and rice-duck mix culture and surgeon mix-culture of fish-crops-livestock in coastal areas will promote research-extension-farmers linkages.

NATP-2 technology generation component may include above areas after conditional revisiting previous prioritized areas for direct funding in subprojects delineated with: (i) competitive research grants (CRG) in support of smaller activities hosted with a recognized research provider (NARIs and non-NARIs), will be led by the qualified and awarded proponents; and (ii) program based research grants (PBRG) in support of a research program specific to a NARI, will be led by the awarded NARI.

Agriculture Innovation Fund (AIF) -1 grants would be used to cover total research cost. Selected research proposals will receive 100% AIF-1 grants; each GRC research proposal will get up to USD 74,300 (BDT 57.58 lakh) and each PBRG will get up to USD 500,000 (BDT 387.50 lakh) depending on the size and nature of the proposal.

### Component II: Supporting Crop Development

Crop Development Component is being implemented by Department of Agriculture (DAE) and will contribute to achieving the PDOs by increasing farm yields, diversifying agricultural production, and improving market linkages for smallholder farmers. To that effect, a comprehensive program of activities will be implemented under this component that will be geared at: (i) improving the outreach and quality of crop extension and advisory services by strengthening the skills of public extension workers from DAE, promoting ICT in agricultural extension services, and supporting farmer-to-farmer extension; (ii) developing farmers' skills to scale-up the dissemination of Good Agricultural Practices (GAP) including those developed under NATP-1, as well as indentifying technologies for a sustainable production of safer food, (iii) promoting farm and off-farm mechanization to increase efficiency in crop handling, reduce post-harvest losses and support processing; (vi) facilitating stronger collaboration with the private sector for agri-business development on agro-processing, market access for smallholders, as well as for the establishment of machinery hire-services; and (v) strengthening institutions involved in the crop subsector through capacity development and selected investments in infrastructure.

### Component III: Supporting Fisheries Development

Fisheries Development Component is being implemented by Department of Fisheries (DOF) and will contribute to achieving the PDOs by promoting an integrated approach to achieve productivity, quality and output increases through technology transfer, as well as a better access to market opportunities for fish farmers. To achieve the PDOs, NATP-2 will provide support for the sustainable development of inland culture fisheries (small scale aquaculture ponds) and inland capture fisheries (open water fisheries in beel and haor). To achieve the component objective, the project will scale-up NATP Good Aquaculture Practices for the production systems prevailing in the project area, promote community-based fisheries management, support the participation of fisheries CIGs and Pos in value chains, reinforce research-extension-farmers linkages and strengthen the capacity of fisheries institutions. NATP-2 will further explore linkages with fishery activities under the on-going IFAD and USAID supported operations. The high degree of economic opportunities and benefits offered by the currently available and underutilized aquatic areas for aquaculture development, as well as the gender and nutrition dimension of fisheries, will be a major consideration for NATP-2.

In addition to capacity enhancement and institutional strengthening, this component will support a number of investments in support of further developing fish farming in the project area. These include investments for: (i) the promotion of specific fish production models involving improved fish varieties, (ii) the production of better quality fish seed, (iii) the introduction of appropriate fish feed, (iv) the application of relevant fisheries management tools, (v) the restoration of aquatic habitat, and (vi) the creation of more suitable market linkages for better access to markets and improved realization of value for the product. Through this component, NATP-2 will also invest in promoting climate-resilient and innovative aquaculture technologies.

### Component IV: Supporting Livestock Development

Livestock Development Component is being implemented by Department of Livestock Services (DLS) and will contribute to achieving the PDOs by promoting an integrated approach to achieve productivity and output increases through enhanced technology transfer, service delivery, as well as a better access for livestock farmers to markets. To that effect, NATP-2 will focus on (i) strengthening livestock institutions (including food and feed safety and quality, animal health), improving livestock extension services, and reinforcing the linkages between research, extension and livestock farmers; (ii) scaling up outreach programs to reach out to a larger number of farmers; and (iii) facilitating the participation of smallholder farmers in selected livestock markets. To achieve significant and lasting productivity development in the dairy and beef sector, NTTP-2 will focus on improving farm management (including animal nutrition, fodder production, animal health, improved animal husbandry practices, as well as marketing) and work towards strengthening the artificial insemination system in accordance with the national breeding programs. This component will also support better interaction between the Bangladesh Livestock Research Institute and Central Cattle Breeding Station and Dairy Farm; particular attention will be given to the need for synergies between BLRI's dairy program and the herd improvement program of the Breeding Station.

Under this component, NATP-2 will cover dairy farming, goat rearing, beef fattening, and poultry farming. Project activities will be implemented to help smallholders take advantage of emerging market opportunities. The component will also promote food and feed safety issues at various levels of the community value chain, particularly for meat and dairy products. Goat rearing and poultry farming are livestock activities that involve a large number of near landless farmers, in particular women. Opportunities are emerging for dairy farmers to take advantage of the increased demand from the dairy industry: IFC is facilitating the dialogue with dairy companies seeking to expand their operations and procure milk from NATP-2 dairy farmers. For goat and beef meat, the project will encourage community-level product aggregation, simple slaughter facilities, and market linkages through close collaboration with the private sector for further processing and marketing.

### Component V: Project Management

Project Management Component is being implemented by the Project Management Unit (PMU) which will coordinate the activities under the direction and supervision of the Joint Project Steering Committee (JPSC). PMU will be responsible for the overall implementation of the project activities and support the realization of the PDO by ensuring that: (i) the project Annual Work Plan will be developed and implemented in line with the provisions in the official project documents (DPP, PAD, PIM, Extension Guideline, AIF Operational Guideline, etc.), in particular all fiduciary and governance aspects; (ii) interventions undertaken under the project are properly planned, coordinated and aligned with project design and development objectives; (iii) implementation arrangements and activities are in line with relevant fiduciary and safeguards policies, procedures and standards; (iv) liaison mechanisms established between the Bank and the project, as well as between the project and the GOB, concerning operation and management of the project; and (v) submitting progress/audit reports to the World Bank and Project Steering Committee in due time. PMU is headed by a full-time Project Director (PD) deputed from the Government Service. PD is assisted by a Deputy Project Director (DPD) also deputed from the Government Service. PD and DPD are selected from two different ministries (MOA and MOFL). In addition, the PMU recruited a number of technical specialists/experts for operation of the project's cross-sectional work: Research-Extension Linkage Specialist (1), Sector Coordinator-Extension (1), Training and Communication Specialist (1), Monitoring and Evaluation Specialist (1), Producer Organization Mobilization Specialist (1), ICT Specialist (1), Gender Specialist (1), Procurement Specialist), Procurement Support Specialist (1), Project Management Specialist (1), and one Manager

(Financial Management). PMU also have one Assistant Manager (Administration), two Assistant Managers (Account), one Assistant Manager (Procurement) and other 23 recruited support staff.

### 3. Monitoring and Evaluation of the Project Activities under NATP-2

Overall responsibility of the project M&E, impact assessment and reporting will rest with the PMU. PMU will provide support for development, implementation and institutionalization of rigorous monitoring and evaluation mechanisms for project activities implemented by the NARIs and Extension Organizations. Day-to-day duties will be carried out by the M&E Specialist of PMU supported by M&E Consultants/Officers of the PIUs. Each implementing agency (BARC, DAE, DoF and DLS) will be required to provide M&E capacity and design its specific M&E plan to meet its own requirements as well as those of the project management. The bulk of the implementation of the Results Monitoring and Impact Evaluation (M&IE) system will be carried out by the outsourced third-party M&IE specialized firm. PMU thus seeks to hire a consulting firm with national and international technical expertise to support establishing a comprehensive M&IE system including updating the results framework, conducting of Baseline Survey, Concurrent Monitoring & Evaluation and Impact Assessment of the Project.

#### 3.1 Objectives of the Assignment

The overall objective of the assignment is to develop and implement under the guidance of PD, NATP-2, and in close collaboration with the Monitoring and Evaluation Specialist of PMU, NATP-2 a project monitoring and impact evaluation system for NATP-2. This includes designing and implementing all activities related to routine monitoring, conducting Baseline Survey, Mid Term Impact Assessment and End - of- Project Impact Assessment covering all parameters mentioned in the DPP (Table of PDO and log frame) should be considered while presenting the results of above mentioned indicators. The specific objectives are to:

- Review all parameters mentioned in the project development objectives and logframe of the project, define key processes and performance monitoring indicators, data collection frequencies, and formats for collecting the relevant information;
- Design and develop a computerized project Monitoring Information System (PMIS) for monitoring all NATP-2 Project activities including physical and financial information as per project development objectives, logframe of the project and the approved annual work plans;
- Provide on the job training to strengthen the capacity of the project implementing agencies to monitor project impacts and use the PMIS;
- Conduct Baseline survey, Mid-term Impact Assessment Survey and End-of-Project Impact Assessment Survey, comprising all components of the project covering all indicators mentioned in the project results framework and logframe (Annex 1.1);
- Perform continuous monitoring of all components of the project covering all indicators mentioned in the project results framework and logframe including monitoring the
    - implementation of Program Based Research Grant (PBRG) and Competitive Research Grant (CRG) research sub- projects.
    - progress of trainings activities and technology dissemination in increasing productivity and farm income.
    - activities of supply chains development component from production to marketing, performance of commodities collection centers; price gap between the farm gate price and retail price, high value commodities produced by CIGs, trader's link established with CIGs, farmers income enhanced, etc as per NATP development objectives.
    - extension activities, outputs, outcomes and impacts of PIUs of DAE, DOF and DLS.
- Monitor and evaluate the efficiency and transparency of procurement and beneficiary selection procedure;
- Monitor and evaluate the compliance with environment and social safeguards;
- Carry out participatory monitoring through the use of balance score card, focus groups' discussion, and participatory social auditing to identify problems; Collects, process and compile all data from the PMU, PIUs and fields for preparing the reports on all indicators mentioned in the project results framework and logframe.
- Prepare and submit Baseline, Quarterly, Annual, Mid-term and End-of-Project Impact Assessment Survey reports in time;

#### 3.2 Technical Approach and Methodology

The consulting firm should explain its understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, outcomes and the degree of detail of such outcome. The firm should highlight the problems being addressed and its importance, and explain the technical approach and methodology that would adopt to tackle them. The firm should also explain the methodologies that it proposes to adopt and highlight the compatibility of those methodologies with the proposed approach.

### 3.3 Work Plan

The work plan should contain the main activities of the assignment, its content and duration, phasing and interrelations, milestones and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan.

### 3.4 Team Composition and Person Months

The proposed tentative Team composition, number of persons, total person months and type of engagement is proposed in **Table 1**. The firm may propose the structure and composition of its team members. It may list the main disciplines of the assignment, the key experts responsible, and proposed technical and support staff.

**Table 1: Team Composition (Key Professionals) and Person Months (Indicative)**

| Designation | Numbers | Total person months | Type |
|---|---|---|---|
| 1. M&E and Impact Assessment Specialist (Team Leader) | 1 | | Continuous |
| 2. Research Management Specialist | 1 | | Intermittence |
| 3. Crop Production Specialist | 1 | | Intermittence |
| 4. Livestock Production Specialist | 1 | | Intermittence |
| 5. Fish Production Specialist | 1 | | Intermittence |
| 6. Supply/Value Chain Management Specialist | 1 | | Intermittence |
| 7 ICT/MIS development Specialist/Expert | 1 | | Intermittence |
| 8. Gender and social safeguard Expert | 1 | | Intermittence |
| 8. Data Analyst | 1 | | Intermittence |
| 9. Data entry Operators/Computer Operators | 4 | | Continuous |
| 10. Data Collectors | 8 | | Continuous |

### 3.5 Qualification and Experiences of the Key Professionals

Position wise qualification and experiences of the expected team members is provided in **Table 2.**

**Table 2: Qualification and Experiences of the Key Professionals**

| Position | Qualification | Experiences |
|---|---|---|
| 1. M&E and Impact Assessment Specialist (Team Leader) | Master in Agricultural Economics/Economics/PhD in Agricultural Economics/Economics. | At least 10 years working experience in the area of monitoring, evaluation and impact assessment in public sector development projects and experience in results-based monitoring of donor funded/aided projects. |
| 2. Research Management Specialist | Master in Agricultural Sciences/PhD in relevant fields. | At least 10 years working experience in the field of Agricultural Research in public sector having experience in management of donor funded/aided projects. |
| 3. Crop Production Specialist | Master in Agronomy/PhD in Crop Science | At least 10 years working experience in the field of crop production in public sector having working experience in donor funded/aided projects. |
| 4. Livestock Production Specialist | Master in Livestock/PhD relevant fields | At least 10 years working experience in the field of livestock production in public sector having working experience in donor funded/aided projects. |
| 5. Fish Production Specialist | Master in Fisheries/PhD in relevant fields. | At least 10 years working experience in the field of fish production in public sector having working experience in donor funded/aided projects. |
| 6. Supply Chain Management Specialist | Master in Agricultural Marketing/Supply Chain Management/PhD in relevant fields. | At least 10 years working experience in the field of agricultural marketing/value chain analysis in public sector having working experience in donor funded/aided projects. |
| 7 ICT/MIS development Specialist/Expert | Minimum Bachelors in Computer Science/MIS and software development | At least 10 years working experience in the field of M&E & MIS software development for any public sector and or donor funded/aided projects. |
| 8. Gender and social | Masters in sociology, | At least 10 years working experience in the field of gender |

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| safeguard Expert | anthropology/gender studies | inclusion and social safeguard in agriculture sector projects and programmes |
| 7. Data Analyst | Graduate in any discipline | At least 5 years working experience in data analysis. |
| 8. Data entry Operators/Computer Operators | Graduate in any discipline | At least 5 years working experience in data entry. |
| 9. Data Collectors | Graduate in any discipline | At least 5 years working experience in data collection. |

### 3.6 Deliverables

Types of deliverables, content of the deliverables, persons to receive the reports and period of submission is presented in **Table 3**.

**Table 3: Deliverables**

| Type of deliverables | Content of the deliverables | Persons to receive the reports | Period of submission |
|---|---|---|---|
| 1. Inception Report | Includes the workplan for all components specifying a schedule consistent within the duration and activities required, staff plan, logistics plan with timeline, technical description and outline for the detailed methodology and approach for Baseline Survey, Mid-term Impact Assessment and End - of- Project Impact Assessment, full list of indicators to be measured and reported in the project MIS along with full description of project MIS. | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Two months after signing of the contract. |
| 2. Baseline Report | Comprise conceptual framework, objectives, methodology, sampling procedure, activity plan, time frame and analytical findings along with recommendations covering all parameters mentioned in the log frame of the project. | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Six months after acceptance of the Inception Report |
| 3. PMIS | PMIS user manual and the online software installed in the NATP2 web portal, the PMIS training guideline | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Within one year after signing of the contract |
| 3. Quarterly Progress Reports | Covering all information on physical and financial progress achieved, constraints faced etc. (all components) during the reporting quarter covering specific parameters and recommendations including cross-cutting issues. The PMIS spreadsheet (once developed) also be included in the report | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Within 15 days after end of each quarter of each financial year. |
| 4. Annual Progress Reports | Consist of information on physical and financial progress achieved, constraints faced etc. (all components) during the reporting year covering specific parameters and recommendations including cross-cutting issues. | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Within 30 days after end of each financial year. |
| 5. Mid-term Impact Assessment Report | Comprise conceptual framework, objectives, methodology, sampling procedure, activity plan, time frame and analytical findings on status of project implementation, relevancy of components and activities, challenges faced, mechanism to overcome the challenges, factors causing delay if any, impact generated so far covering all parameters mentioned in the project development objectives and logframe of the project and also the cross-cutting issues. | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Within 30 days after completion of the Mid Term Impact Assessment. |
| 6. End-of-Project Impact Assessment Report | Comprise conceptual framework, objectives, methodology, sampling procedure, activity plan, time frame and analytical findings on impact of the project covering all parameters mentioned in the project | Project Director PMU, NATP-2 & M&E Specialist, PMU, NATP-2 | Within last month of the contract period. |

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| | development objectives and logframe of the project along with sustainability, lessons learned and recommendations. | | |

### 3.7 Consulting Firm's Qualification and Experiences

1. The firm should be a registered under the Joint Stock Company/Society Act (Bangladeshi Firms) and in the country of origin (Foreign Firms);
2. The firm should have at least 10 years of experience in activity, output and outcome monitoring, baseline survey, evaluation, impact assessment and related works of R&D in agricultural projects t including experience in the design and development of an online Project Monitoring and Information System (PMIS);
3. It should have experienced and qualified manpower for conducting baseline survey, monitoring & evaluation, impact assessment and related works of R&D in agricultural projects;
4. The firm should have established office premise, valid trade license and Tax and VAT Registration (Bangladeshi Firms);
5. Associated firm, if any (maximum one) should have at least 10 years experience in baseline survey/monitoring & evaluation/ impact assessment works of R&D in agricultural projects and must qualify along with principal firm;;
6. Working experience on M&E and Impact Assessment in Bangladesh particularly in agriculture sector will be given preference.

### 3.8 Evaluation Criteria for Short Listing of Firms

1. Registration under Joint Stock Company/Society Act (Bangladeshi Firms) registraion in the country of origin (Foreign Firms)
2. Assets of the Firm (Office space, Air Cooler, Computer, Fax machine, Photocopy machine, Telephone, e-mail service, car/micro-bus, etc.).
3. Key professionals of the firm.
4. Work experiences in related service in last 10 years (Attached sheet is to be filled up for each assignment, not more than 20 assignments Annex -3).
5. Work experience in related work (other than M&E and Impact Assessment) in the last 10 years (attached sheet has to be filled up for each assignment, not more than 10 assignments).
6. Valid Trade License, Income Tax certificate, VAT Registration number Bangladeshi Firms)..
7. Bank solvency certificate.
8. Associated firm, if any (maximum one) should qualify along with principal firm;;

**Annex-1.1**

**Logframe for National Agricultural Technology Program-Phase II Project (NATP-2)**

| Narrative Summary | Objectively Verifiable Indicators (OVI) | Means of Verifications (MOV) | Important Assumptions (IA) |
|---|---|---|---|
| **I. Program Goal** | | | |
| **Goal:** The overall program goal of NATP-2 is to "Increase agricultural productivity of smallholder farm and improve<br><br>smallholder farmers' access to market in selected districts" | By the end of the project period:<br>• Yield of major agricultural commodities increased by 8-100% at the end of the project;<br>8,400 metric tons of agricultural commodities sold semi-annually through project arranged marketing facilities;<br>• Over 1 million farmers benefited directly from the project interventions;<br>• Postharvest loss in selected commodities (banana, vegetables, aromatic rice; tilapia, koi, pangus, shrimp; beef, goat, meat; etc) reduced by 5-10% | • Field monitoring, mid-term review/evaluation and impact assessment reports<br>• Annual reports<br>• Baseline/midline/endline survey reports | • Major climatic hazards do not occur in the project areas<br>• Price of agricultural inputs remain within the reach of the beneficiaries<br>• Producers-local market/ urban market linkages remain uninterrupted<br>• GOB's Agriculture Policy remains favourable |
| **II. Project Purpose (Outcomes)** | | | |
| Project Purpose is to improve effectiveness of the national agricultural technology generation, extension and marketing systems | By the end of the project period:<br>• Technology/information generation through 100 competitive research grants (CRG) and 33 program based research grants (PBRG) subprojects implementation;<br>• Supporting to 1 million farmers through mobilization and organization of 40710 CIGs;<br>• At least one technology adoption by 60% CIG farmers (35% female);<br>• Yield/productivity increase of selected agricultural commodities by 08-100% targeted;<br>• Providing 4.3 million client days training;<br>• 140 CCMC, rural business centers, rural markets, collection points, milk centers, etc established/improved;<br>• ICT facilities developed and connectivity established among the stakeholders;<br>• Food & food safety laboratories established and service provided | • Reports of PIUs of BARC, DAE, DOF, DLS<br>• Field monitoring report, evaluation report of sample upazilas | • Farmers' technological needs properly identified and addressed<br>• Inter-ministry and inter-agency coordination and cooperation effective and strengthened<br>• Research-extension-farmers-market linkages improved and maintained |
| **III. Project Outputs** | | | |
| **1. Research- outputs**<br>Improved performance of the NARS by supporting the development of innovative agricultural technologies and strengthening | By the end of the project period:<br>• 100 CRG and 33 PBRG subprojects implemented;<br>• 80 local PhD, 60 foreign PhD, short-term training, study visit, etc implemented;<br>• Research and training facilities in | • Field monitoring/ evaluation reports<br>• PIU-BARC, PMU, field visit reports, annual reports and ISM reports | • Priority researchable issues identified focusing farmers' and other stakeholders' needs<br>• Adequate number of relevant research proposals received for |

| Narrative Summary | Objectively Verifiable Indicators (OVI) | Means of Verifications (MOV) | Important Assumptions (IA) |
|---|---|---|---|
| agricultural research institutions | outreach stations (RARS/ ARS) improved;<br>• ICT facilities developed and connectivity established among ARS, RARS and NARI-HQs | | competitive selection<br>• Effective supervision and monitoring by the respective research organizations and BARC |
| **2. Extension-outputs** Increased productivity, quality and outputs through the enhanced transfer of improved technologies, as well as to facilitate farmers access to markets | By the end of the project period:<br>• 40,710 CIGs (crops-27150, fisheries-5,430 and livestock-8,130) formed, organized, mobilized and supported in 270 upazilas ensuring 35% women participation project;<br>• 60% of CIG farmers (including 35% female) adopted at least 1 improved technology promoted by the project;<br>• 194,835 demonstrations conducted by DAE (138,474), DOF (16290) & DLS (40071) ;<br>• 1080 validation trials conducted;<br>• Yield/productivity of selected agricultural commodities increased by 08-100% (rice 14%, wheat 10%, tomato 20%, eggplant 25%, banana 15%, lentil 16%, mustard 12%, maize 12%, potato 8%, onion 10%, garlic 10%, mungbean 16%; dairy 30%, beef 40%, culture fishery 60%, and capture fishery100%);<br>• 3000 technology adoption sub-projects with AIF-2 grants and 500 value chain and marketing sub-projects with AIF-3 grants implemented**;**<br>• 20 Horticulture centers, one central pesticide laboratory, 8 seed testing laboratory of SCA and 546 training facilities (district-16, upazila-80 and FIAC-450) of DAE in the project areas improved / modernized;<br>• 07 training rooms and 03 computer laboratory developed; 110 dormitory rooms renovated and furnished in DOF training centers; 02 fish landing centers established and supported with equipment and logistics; 2 Fish feed and ingredient testing laboratories and NRCP supported with equipment, reagents and chemicals; and 40 beels brought under appropriate fisheries management by establishing fish sanctuaries, beel nurseries, stocking fish fry/fingerlings and introducing fishing code under DOF;<br>• Laboratory equipment and materials for 01 cdil, 07 fdil, 01 central nutrition laboratory, 01 ai laboratory, 01 public | • PIUs/PMU Reports<br>• Field monitoring, mid-term review/evaluation reports<br>• Field visit reports | • Improved technologies (seeds, saplings, fingerlings, breeds semen, etc) available<br>• Improved technologies for field validations/ demonstrations available<br>• Farmers understood and accepted AIF operation and management procedures<br>• Enough women farmers available in project areas to make their participation<br>• No major natural hazards occurred during crop season |

| Narrative Summary | Objectively Verifiable Indicators (OVI) | Means of Verifications (MOV) | Important Assumptions (IA) |
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| | health laboratory, and upazila veterinary hospitals of dls provided;<br>• ICT connectivity among the stakeholders established/enhanced | | |
| **3. Market Access (Supply/Value Chains)**<br>Improvement of smallholder farmers access to markets | By the end of the project period:<br>• One PO mobilized in each production clusters (crops, fisheries and livestock);<br>• Value chains program established in:(i) 30 clusters in 30 upazilas for crops;(ii) 20 POs in 20 upazilas; and 02 special POs one each in Mymensingh and Natore districts established with logistic support and training for fisheries; and(iii) 120 potential CIGs for livestock;<br>• 8,400 metric tons of agricultural commodities sold semi-annually through project arranged marketing facilities (details in Attachment 4);<br>• Food safety laboratories modernized, awareness developed, quality ensured and service provided; | • Records of commodity collection and marketing points, rural markets, contract farmers, CIG and POs<br>• Field monitoring/visits, mid-term review/evaluation reports | •Improved packaging, storage and transport facilities available<br>• Sufficient quantity of consumers preferable commodities produced and available at collection points for transfer to urban markets |
| **4. Project Management**<br>Overall project management efficiently carried out, coordination among the PIUs, liaison with the ministries and development partners effectively maintained | • Project activities/ interventions of PIUs initiated, progressed and achieved as per targets;<br>• Fund provided to PIUs and achieved PDOs;<br>• Research-extension-farmers-market linkages facilitated;<br>• Program target of PIUs in research, extension and market access achieved;<br>• JPSC and other coordination meetings, monitoring, evaluation, impact assessment, audit, etc, arranged and communicated to PIUs | • Proceedings of JPSC, PIC and coordination meetings<br>• Monitoring, evaluation and impact assessment reports<br>• Audit reports<br>• Withdrawal applications submitted | • Regular SOE's from PIUs available<br>• Monitoring conducted and report submitted quarterly<br>• Decisions of JPSC meetings complied with<br>• Effective inter ministry and inter agency coordination and cooperation |
| **IV. Project Activities** | | | |
| **1. Research-activities**<br>• Awarding CRG and PBRG subprojects<br>• Implementing HRD programs<br>• Improving research and training facilities<br>• Organizing workshop /seminar /consultation meeting, etc. | By the end of the project period:<br>• 100 CRG subprojects and 33 PBRG subprojects implemented;<br>• 80 local PhD, 60 foreign PhD, short-term training, study visit, etc implemented;<br>• Research and training facilities in outreach stations (RARS/ ARS) improved;<br>• ICT facilities established/ improved;<br>• Planned/Necessary workshop /seminar /consultation meeting, etc. organized | • Field monitoring/evaluation reports<br>• PIU-BARC, PMU, field visit reports, annual reports and ISM reports | • Priority researchable issues identified focusing farmers' and other stakeholders needs<br>• Adequate number of relevant research proposals received for competitive selection<br>• Valid nominations for higher studies and foreign trainings/study visits received from implementing agencies<br>• Effective supervision and monitoring by the respective research organizations and BARC |

| Narrative Summary | Objectively Verifiable Indicators (OVI) | Means of Verifications (MOV) | Important Assumptions (IA) |
|---|---|---|---|
| **2. Extension-activities**<br>• Farmers mobilization and CIGs & POs formation<br>• FIACs establishment and UEFT formation& functionalization<br>• Farmers and entrepreneurs training<br>• Staff/Officers training<br>• Technology demonstrations and validation trials<br>• Organizing technology field days and exposure visits<br>• Improvement of training and laboratory facilities<br>• Organizing workshop/ seminar/ consultation meeting, etc. | • 40,710 CIGs (crops-27150, fisheries-5,430 and livestock-8,130) organized, mobilized and supported;<br>• CIG and union extension micro plans and upazila extension plans prepared;<br>• 4.3 million client days training provided and study/exposure visits organized;<br>• 194,835 demonstrations conducted by DAE (138,474), DOF (16290) & DLS (40071);<br>• 1080 validation trials conducted;<br>• 3000 technology adoption sub-projects with AIF-2 grants and 500 value chain and marketing sub-projects with AIF-3 grants implemented;<br>• 20 Horticulture centers, one central pesticide laboratory, 8 seed testing laboratory of SCA and 546 training facilities (district-16, upazila-80 and FIAC-450) of DAE in the project areas improved / modernized;<br>• 07 training rooms and 03 computer laboratories developed; 110 dormitory rooms renovated and furnished in DOF training centers; 02 fish landing centers established and supported with equipment and logistics; 2 fish feed and ingredient testing laboratories and NRCP supported with equipment, reagents, chemicals; and 40 beels brought under appropriate fisheries management by establishing fish sanctuaries, beel nurseries, stocking fish fry/fingerlings and introducing fishing code under DOF;<br>• Laboratory equipment and materials for CDIL, FDIL, Central Nutritional Laboratory, AI Laboratory, Public Health Laboratory, and Upazila Veterinary Hospitals of DLS provided;<br>• Necessary workshop /seminar/ consultation meeting, etc. organized | • PIUs/PMU Reports<br>• Field monitoring, annual/mid-term review/evaluation reports<br>• Field visit reports | • Farmers are interested for project intervention<br>• Farmers are interested for better market access and higher product price<br>• UP complex exists and space available for FIAC establishment<br>• Improved technologies (seeds, saplings, fingerlings, breeds semen, etc) available<br>• Improved technologies for field validations/ demonstrations available<br>• Farmers responded to AIF grants<br>• Enough interested women farmers available to participate in project activities<br>• No major natural hazards occurred during crop season<br>• Uninterrupted fund flow for carrying out project activities |
| **3. Market Access (Value/ Supply Chains)-activities**<br>• Establishing value chain programs<br>• Developing marketing facilities and enhancing marketing of agricultural | • Value chains program established in 30 clusters in 30 upazilas for crops; 20 POs in 20 upazilas; and 02 special POs one each in Mymensingh and Natore districts established and supported with logistic and training for fisheries and 120 potential CIGs for livestock;<br>• By the end of the project 8,400 metric tons of agricultural commodities sold semi-annually through project | • Records of commodity collection and marketing points, rural markets, contract farmers, CIG and POs,<br>• Field monitoring/visits, annual/mid-term/review/evaluation reports | • Improved packaging, storage and transport facilities available<br>• Sufficient quantity of consumers preferable commodities produced and available at collection points for transfer to urban markets |

| Narrative Summary | Objectively Verifiable Indicators (OVI) | Means of Verifications (MOV) | Important Assumptions (IA) |
|---|---|---|---|
| commodities<br>• Reducing post-harvest loss of high value commodities through improved practices<br>• Modernizing food safety laboratories<br>• Introducing improved post-harvest practices- grading, sorting, washing, packaging, transportation, etc. | arranged marketing facilities (details in Attachment 4);<br>• Food safety laboratories modernized, awareness developed, quality ensured and service provided | | |
| **4. PMU-activities**<br>• Overall project management and coordination<br>• Liaison with the ministries and donors<br>• Fund flow and disbursement<br>• Organizing capacity building in-country trainings on cross-cutting issues, and foreign trainings and study visits abroad<br>• Organizing awareness building workshops, seminars, regional/national review workshops, etc<br>• Regular progress monitoring, review and evaluation | • Project activities/ interventions of PIUs initiated, progressed and achievements made as per plan and targets;<br>• PIUs program target in research, extension and market access achieved;<br>• Fund provided to PIUs and achieved PDOs;<br>• Research-extension-farmers-market linkages facilitated;<br>• JPSC and other coordination meetings, monitoring, evaluation, impact assessment, audit, etc, arranged and communicated to PIUs;<br>• Capacity building in-country trainings on cross-cutting issues, and foreign trainings and study visits abroad organized;<br>• Awareness building workshops, seminars, regional/national review workshops, etc organized | • Proceedings of JPSC, PIC and coordination meetings<br>• Monitoring, evaluation and impact assessment reports<br>• Audit reports<br>• Withdrawal applications submitted<br>• Workshop proceedings | • JPSC & PIC meetings held regularly and decisions circulated and complied with in time<br>• Effective inter ministry and inter agency coordination and cooperation maintained<br>• Regular SOE's from PIUs received<br>• Training need assessed and demand exists<br>• Workshops provide forum for discussing and sharing progress and problems<br>• Monitoring conducted and report submitted quarterly |
| **Inputs/Budget**<br><br>NATP-2<br><br>Total budget | (in Lakh Taka)<br><br>Total-187800<br>(GOB- 27104 and RPA-160696) | • Progress report<br>• IMED Report<br>• Monitoring Reports<br>• DPP | • Uninterrupted fund flow<br>• Effective fund utilization<br>• Timely completion of procurement packages and approved annual work plans |

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