# Program Information Documents (PID)

Appraisal Stage | Date Prepared/Updated: 14-Dec-2022 | Report No: PIDA261916

## BASIC INFORMATION

### A. Basic Program Data

| Country | Project ID | Program Name | Parent Project ID (if any) |
|---|---|---|---|
| Bangladesh | P176374 | Program on Agricultural and Rural Transformation for Nutrition, Entrepreneurship, and Resilience in Bangladesh(PARTNER) | |
| **Region** | **Estimated Appraisal Date** | **Estimated Board Date** | **Practice Area (Lead)** |
| SOUTH ASIA | 11-Jan-2023 | 09-Mar-2023 | Agriculture and Food |
| **Financing Instrument** | **Borrower(s)** | **Implementing Agency** | |
| Program-for-Results Financing | People's Republic of Bangladesh | Department of Agricultural Extension, Ministry of Agriculture | |

Proposed Program Development Objective(s)

The Program Development Objective (PDO) is to promote diversification, food safety, entrepreneurship, and climate resilience in the agri-food systems of Bangladesh.

## COST & FINANCING

### SUMMARY (USD Millions)

| | |
|---|---|
| **Government program Cost** | 2,950.00 |
| **Total Operation Cost** | 1,343.00 |
| Total Program Cost | 1,343.00 |
| **Total Financing** | 1,343.00 |
| **Financing Gap** | 0.00 |

### FINANCING (USD Millions)

| | |
|---|---|
| **Total World Bank Group Financing** | 500.00 |
| World Bank Lending | 500.00 |

| | |
|---|---|
| **Total Government Contribution** | 800.00 |
| **Total Non-World Bank Group and Non-Client Government Financing** | 43.00 |
| Multilateral and Bilateral Financing (Concessional) | 43.00 |

Decision

The review did authorize the team to appraise and negotiate

## B. Introduction and Context

### Country Context

1. **Bangladesh made rapid social and economic progress in recent decades and reached lower middle-income status in 2015.** Annual Gross Domestic Product (GDP) growth has averaged close to 6 percent since 2000. Strong labor market gains contributed to a sharp decline in poverty, with the national poverty rate falling from 48.9 percent to 24.5 percent between 2000 and 2016, while extreme poverty declined from 34.3 percent to 13.0 percent.[1] However, the pace of poverty reduction has slowed in recent years even as growth accelerated, particularly in urban areas and in the west of the country. Annual consumption growth of the bottom 40 percent (1.2 percent) trailed that of the overall population (1.6 percent) from 2010 to 2016.
2. **GDP growth declined to 3.4 percent in 2020 because of the COVID-19 pandemic, but rebounded in FY21 and FY22, although significant new headwinds have emerged.** Real GDP growth rebounded as pandemic-related restrictions were progressively lifted in FY21, accelerating to an estimated 7.2 percent in FY22 as private consumption and investment growth strengthened. Exports rose by 31.3 percent (year-on-year), buoyed by a gain in readymade garment market share in Europe and the United States. However, the economy faces new headwinds. Inflation rose to 7.5 percent as of July 2022 from 5.3 percent a year ago following a global surge in commodity prices, prompting the Bank of Bangladesh to raise the main policy rate by 100 basis points. The current account deficit widened as imports rose, exacerbated by a decline in official remittance inflows. A series of import suppression measures were subsequently adopted, including rolling electricity blackouts, reductions in liquified natural gas imports, and reduced business and market hours. The overall balance of payments deficit rose to US$5.4 billion in FY22, and gross foreign exchange reserves declined to US$36.5 billion by September 2022.
3. **GDP growth is expected to decelerate to 6.1 percent in FY23.** Rising inflation, uncertainty in the commodity price outlook, import suppression measures and deteriorating global growth prospects will weigh on economic growth. Inflation is expected to dampen growth in private consumption, with

[1] Household Income and Expenditure Surveys 2000/01 and 2016/17

a disproportionate impact on the poor. Import suppression measures and gas rationing will hamper industrial activity and constrain private investment. Remittance inflows are expected to rise, underpinned by a higher outflow of workers and resilient demand for workers in the gulf region, supported by elevated oil prices. However, external sector pressure is expected to persist. Export growth is expected to moderate due to weakening global growth, while imports will remain elevated due to higher prices of consumer products, intermediate goods, and commodities. Subsidy and incentive expenditures are expected to rise in FY23. However, lower government investment expenditure and moderate government consumption are expected to keep the fiscal deficit within 5 percent of GDP.

4. **Structural reforms are needed to support a faster pace of growth over the medium term.** Shocks to all major components of domestic demand implies that GDP growth will remain just above 6 percent up to FY24. The balance of payments is projected to return to surplus as import growth moderates over the medium term, if appropriate monetary and exchange rate policies are adopted. To achieve the vision of attaining upper middle-income status by 2031, Bangladesh needs to create jobs and employment opportunities by creating a competitive business environment, diversifying exports, increasing human capital, building efficient infrastructure, deepening the financial sector and establishing a policy environment that attracts private investment.

## Sectoral and Institutional Context

5. **Bangladesh has had an impressive track record of agricultural growth since the mid-1990s.** The sector grew by over 4 percent annually between 1996 and 2019[2] and domestic food production almost doubled during the last two decades. Much of the past success in agriculture was driven by the policy reforms implemented since the 1980s, followed by strategic investments in research and infrastructure.[3] The reforms were made in order to liberalize the agricultural inputs market in the 1980s, particularly in relation to fertilizer and irrigation. These were then followed by reforms in the seed sector in the 1990s. These reforms were accompanied by strategic investments in agricultural research and development (R&D) and extension, with a sustained policy focus on increasing rice production. As a result, Bangladesh achieved rice self-sufficiency and overall food security, two paramount objectives of past agriculture strategies. Other crops, particularly horticulture crops, have also maintained sustained growth since the 2000s and the land area under fruits, flowers, fiber, spices, and pulses increased by more than 60 percent between 2008 and 2018.[4]

6. **Agriculture[5] is a key driver of rural poverty reduction in Bangladesh.** Primary agriculture is a major source of employment, accounting for 54 percent of rural employment and 43 percent of national employment.[6][7] Between 2000 and 2010, agriculture growth contributed 69 percent to rural poverty

[2] World Bank. 2021. World Development Indicators.
[3] Dynamics of Rural Growth in Bangladesh, World Bank 2016.
[4] Bangladesh Bureau of Statistics. 2020. Agriculture Census 2018.
[5] Agriculture sector in Bangladesh is comprised of three subsectors- crop (including horticulture), livestock, and fisheries.
[6] Bangladesh Bureau of Statistics. 2017. Quarterly Labor Force Survey 2016.
[7] World Bank. 2019. Bangladesh Poverty Assessment.

reduction in the country, with a more modest contribution of about 27 percent between 2010 and 2016, as the impacts of the earlier sector reforms and investments on productivity started plateauing and agricultural growth started trending downward, with increased growth opportunities in industry and services.[8]

7. **To continue the process of agriculture transformation towards higher productivity and diversification, with higher income earning potential for rural producers, a new wave of reforms and investments is needed.** Such reforms must help reduce the current yield gaps in rice, help the sector diversify to take advantage of the shifting urban consumer demand, and expand services to boost productivity, marketing, and processing. **Firstly,** a substantial push in improving access to improved technologies, in partnership with the private sector, is needed. There remain substantial rice yield gaps, particularly during the Aman and Aus seasons (i.e., over 75 percent yield gap). The HYV seeds and technologies newly released by the Bangladesh Rice Research Institute (BRRI) would need to be disseminated more broadly. New stress-tolerant/low-carbon HYV and climate-smart technologies need to be developed and disseminated. **Second,** crop diversification and changes in cropping choices will need both policy reforms and investment support to address binding constraints such as land, soil health, water, and climate impacts. With the limited scope for land and irrigation expansion, increasing rice productivity could help release land during the Boro season for crop diversification while maintaining food security. Improving rice technology and diversification would enhance farm profitability since rice production has become comparatively less profitable due to a significant increase in labor and irrigation costs (e.g., farmers make US$56 per hectare from rice cultivation, whereas returns on alternative crops can range between US$300 and US$600 per hectare[9]). Moreover, a more diversified production base would contribute to increasing the sector's climate resilience, as well as catering to demands for a growing urban population and a more complex food system. With rapid urbanization and fast income growth, the demand for fruits, vegetables, meat, eggs, and fish is expected to expand by more than 50 percent by 2030. However, domestic production faces challenges in meeting that growing demand, which has resulted in a three-fold increase in food imports, from US$3.6 billion in 2007 to US$10.7 billion in 2017. **Third**, crop diversification could increase feed production to support the growing livestock and fisheries sector while creating new opportunities for these sectors to in turn improve productivity, food safety, and export potential.

8. **Agricultural diversification will support additional improvements in nutritional outcomes.** Bangladesh has made significant strides in reducing malnutrition. Nationally, the prevalence of stunting fell from 41 percent in 2011 to 28 percent in 2019.[10] However, the food consumption pattern remains poorly diversified, with as much as 64 percent of the dietary energy supply coming from cereals in 2016-17[11] and with an inadequate protein and micronutrient intake. Fruit and vegetable consumption in Bangladesh is, for instance, only 204 g/person/day, significantly below the minimum dietary requirements defined by the Food and Agricultural Organization of the United Nations (FAO) and the World Health Organization (WHO) of 400 g/person/day.

9. **Several on-farm productivity constraints and off-farm value addition and commercialization**

[8] World Bank 2020. *Promoting Agri-Food Sector Transformation in Bangladesh: Policy and Investment Priorities*.
[9] World Bank 2020. Promoting Agri-Food Sector Transformation in Bangladesh: Policy and Investment Priorities.
[10] USAID. 2021. Bangladesh: Nutrition Profile
[11] Government of Bangladesh. 2018. National Agriculture Policy

**constraints are slowing down the transformation and diversification of the agriculture sector.** On-farm productivity constraints include (i) land fragmentation (around 85 percent of farm households operate less than 1 hectare, Ha)[12] and informality in land rental markets; (ii) limited access to quality seeds for non-paddy crops; (iii) limited knowledge and adoption of good agricultural practices (GAP); and (iv) limited use of farmer aggregation models, which constrains the delivery of extension services, access to finance, and market linkages. Key constraints hindering off-farm value addition and commercialization include (i) the limited number of formal off-takers and limited market linkages and coordination between such off-takers and producers; (ii) inadequate and costly marketing infrastructure and logistical services, which limit value addition, contribute to post-harvest losses, and increase costs along the agri-food value chain (VC); and (iii) inadequate upholding of appropriate food safety practices and product quality standards needed to access growing lucrative markets, both domestic and export. Foodborne diseases are causing an estimated US$1.5 billion productivity loss per year and poor compliance with international food safety and quality standards is estimated to have contributed to the 9 percent decline in food exports over the past 10 years.[13] The country lacks proper testing facilities, skilled scientists, and laboratory technicians. Some exporters and entrepreneurs are unaware of testing requirements and the MoA lacks a public-private partnership (PPP) framework to set up laboratories and facilitate testing certification. On-farm and off-farm constraints are exacerbated by other cross-sectoral issues such as access to finance and overall investment climate and competitiveness challenges.[14]

10. **Within this environment, a range of factors limit the ability of youth and women to fully benefit from opportunities presented by the transformation of the agriculture sector.** Women's labor force participation in Bangladesh remains less than half of that for men. In rural areas, however, 66 percent of women are engaged in agricultural work compared to 44 percent of men.15 In spite of the large representation and feminization of agriculture, women are mostly engaged in less lucrative post-harvest activities with comparatively limited involvement in production and marketing. Agricultural work for women is primarily home-based, low- or unpaid. About 11 percent of women who report working in agriculture are engaged in unpaid farm activities, compared to only two percent of men.16 Women's entrepreneurship along the agri-food VC is also very limited, with the share of women-owned agribusinesses at just below two percent.17 Based on the gender analysis carried out under the preparation of this Program, key constraints to enhancing women's productive participation and incomes along the agri-food VC are access to information and technical knowledge, access to finance, and access to markets. Women are, for instance, more likely to access information from informal

[12] World Bank 2020. Promoting Agri-Food Sector Transformation in Bangladesh: Policy and Investment Priorities.
[13] World Bank 2019. The Safe Food Imperative: Accelerating Progress in Low- and Middle-Income Countries. Agriculture and Food Series.
[14] To tackle the impact of some of these cross-sectoral constraints on the outcomes of PARTNER, the Program operates with the International Finance Corporation (IFC), which works on improving the overall business climate and the World Bank has an on-going memorandum of understanding (MoU) with IFC to work on improving food safety conditions in Bangladesh.
[15] Bangladesh Bureau of Statistics. 2016. *Bangladesh Quarterly Labour Force Survey (LFS) 2015–16.* Statistics and Informatics Division, Ministry of Planning, Dhaka: Bangladesh Bureau of Statistics (BBS).
[16] World Bank. 2021. Bangladesh Rural Income Diagnostic.

[17] World Bank. 2021. Promoting Rural Enterprises for Inclusive Jobs and Post-Covid Recovery in Bangladesh: Insights from An Enterprise Survey

sources and to have less information on crop and pest management, high-yielding varieties, efficient fertilizer use, and pest management, which are crucial to the adoption of climate resilient agricultural practices. Men, on the other hand, are more likely to receive agricultural information from a range of sources including extension services, service providers, and community meetings.18 Access to credit is essential to allow female entrepreneurs to secure inputs, labor, and equipment. Yet, Bangladesh has one of the world's widest financial gender disparities.19 The youth also face additional hurdles in succeeding in agribusiness, as only 25 percent of youth between 25 and 34 years of age are engaged in agriculture compared to 60 percent of those between 35 and 64 years of age.20 Considering that unemployment is rising among the youth and is particularly significant among female youth,21 efforts to support gainful employment and entrepreneurship for women and youth in agri-food VCs will be essential to cope with post-COVID-19 impacts and climate change, and to ensure them a growing space in the country's evolving food system.22

11. **Bangladeshi agriculture is significantly vulnerable to climate change impacts.** Climate change is already affecting agricultural production through temperature increases, sea level rise, saltwater intrusion, variation in the frequency and intensity of rainfall, and extreme weather events. These impacts affect crop productivity while increasing the risk of pest infestations. Increased soil and water salinity due to sea level rise is expected to result in a 15.6 percent yield reduction in rice HYVs by 2050.[23] Soil salinity is affecting 62 percent of coastal land, and sea level rise may reduce available cropland by about 25 percent in coastal divisions of the country. Late monsoon arrival can lead to water stress, and climate-induced changes in precipitation put pressure on groundwater recharge and surface water, affecting irrigation water supply and the timing of key cropping activities.

12. **The impact of climate change on crop and livestock production is exacerbated by environmental degradation caused by poor or maladapted farming methods**. This includes monocropping and high levels of synthetic pesticides and fertilizers, which are not only an inefficient use of resources but also acidify the soil, reduce water quality, depress crop yields, threaten food safety, undermine food exports, and increase greenhouse gas (GHG) emissions. GHG emissions from agriculture reached 91 MtCO2e in 2020, which represents 38 percent of national emissions, with livestock and rice accounting for 50 percent and 33 percent of agricultural emissions, respectively. In December 2020, the Ministry of Agriculture (MoA) issued the "Bangladesh Good Agricultural Practices Policy 2020", which includes measures to combat GHG emissions, among other things, and which is yet to be implemented. In addition, unsustainable water use patterns and arsenic contamination pose additional risks to sustainable agricultural production systems. In fact, water use efficiency in Bangladesh is one of the lowest in South Asia (e.g., MoA estimates that only 3 percent of total irrigated land uses water efficiently). Small and fragmented landholdings reduce this efficiency even further.

[18] Elizabeth Bryan, Edward Kato, and Quinn. 2021. Gender Differences in Awareness and Adoption of Climate-Smart Practices in Bangladesh. In Gender, Climate Change and Livelihoods. Eastin, Joshua; Portland, Jendra (Ed.)
[19] Only 36 percent of women have access to a bank account, compared to 65 percent of males. Roest, J. 2018. "2017 Global Findex: Behind the Numbers on Bangladesh."

[20] Farole, Thomas, and Yoonyoung Cho. 2017. Jobs Diagnostic Bangladesh. Job Series Issue 9, Washington, DC: World Bank.

[21] Farole, Thomas, and Yoonyoung Cho. 2017. Jobs Diagnostic Bangladesh. Job Series Issue 9, Washington, DC: World Bank.

[22] World Bank. 2021. Bangladesh Rural Income Diagnostic.
[23] World Bank. 2019. Bangladesh: Climate-Smart Agriculture Investment Plan.

Technologies to increase water use efficiency in agriculture have been introduced by Bangladesh Agricultural Development Council (BADC) and Barind Multipurpose Development Authority (BMDA) but are yet to be widely disseminated. They include solar pumping, buried pipes, energy-efficient sprinklers, and drip irrigation.

13. **Addressing the above challenges will require reforms to enable the participation of both the public and private sectors to support rapid improvement across the agriculture sector.** Current global constraints notwithstanding, Bangladesh appears prepared to usher in a new generation of reforms in the agriculture sector and to enable a greater level of private sector participation, including via farmer and producer organizations. Increased value addition and higher productivity will need to respond to market requirements, using market information systems, technology, and connectivity instruments.

14. **On-farm productivity and climate resilience constraints will require reforms that empower farmers' institutions, increase access to quality seeds, agricultural mechanization, and encourage widespread adoption of GAP and climate smart agriculture (CSA) technologies and practices, along with improvements in the delivery of public and private extension services.** Specifically, it will require (i) strengthening farmers' institutions such as producer organizations, common interest groups and water users' associations, which can help overcome land fragmentation, informality, and aggregation constraints; (ii) ensuring availability of, and access to quality and resilient seed varieties and other inputs to close the current yield gaps, notably by removing the remaining constraints for private sector participation in input markets; (iii) developing and promoting CSA technologies for greater resilience to climate change; (iv) promoting the use of labor-saving mechanization, particularly for crop establishment and harvesting; and (v) ensuring appropriate extension advice and climate information services to farmers to encourage uptake of CSA, more efficient use of water resources and agricultural inputs and adoption of GAP (including integrated pest management – IPM).

15. **Addressing off-farm constraints will require strengthening food safety systems and facilities, fostering better post-harvest management practices, improving marketing and logistics infrastructure, and encouraging greater private sector participation, coordination, and market linkages along the agri-food VC.** Needed actions include (i) strengthening food quality control measures and food safety standards, and making certification services more accessible; (ii) private sector led development of better marketing infrastructure and more effective logistical services, with a conducive policy environment promoted by the government; (iii) liberalizing input markets and promoting private sector participation in innovation, R&D, seed production and distribution, extension services, off-farm marketing and transport logistics, and processing; and (iv) expansion of VC promotional bodies to facilitate coordination and market linkages between participants from all stages of the same agricultural commodity VC and expand commodity markets through market research, product development, quality standard setting, and advertising and consumer awareness campaigns.

16. **Agricultural public policy and expenditures need to be reoriented to strengthen the delivery of key public goods services such as R&D and extension and to improve efficiency in the delivery of agriculture support programs.** In a departure from the heavy focus on rice and fertilizer subsidies of past agricultural policy, the Plan of Action (PoA) of the National Agricultural Policy (NAP) of 2018 emphasizes policies and investments that support diversification, nutrition, and VC development, while paying attention to rice for maintaining food security. With only around 5 percent of

Bangladesh's 16.5 million farm families visited annually by State agricultural agents, improved access to extension is an area of urgent reform. To address this, the Department of Agricultural Extension (DAE) plans on rolling out the "Krishak Smart Card" (KSC) to provide digital extension services and improve farmers' access to inputs and financial services. This system will require developing a farmers database, with adequate content, partnerships, and mobile phone interface. The PoA aims to raise expenditures in agricultural R&D, strengthen extension service delivery, promote food safety, enhance inputs use efficiency, and mainstream climate resilience. Institutes in the National Agricultural Research System (NARS) lack capacity in infrastructure and human resources, as well as a well-functioning performance evaluation system to demonstrate progress in quality research and prioritize and allocate scarce resources to R&D activities with the highest potential social and economic returns. This is in part hindered by the lack of quality agricultural statistical data, market information, and sector analysis, all of which are crucial for evidence-based policy making. Specific actions include (i) investments to improve R&D capacity, particularly for crops other than rice, and removing the remaining regulatory and institutional barriers to private sector participation (e.g., streamlining the cumbersome and lengthy process for registering new varieties); (ii) the generation of new stress-tolerant and nutrient-dense rice and non-rice varieties; (iii) completing the deployment, and expanding the use of the KSC; (iv) strengthening information and communications technology (ICT) infrastructure and systems, and human resource capacity for data collection, processing, and analysis; (v) fostering collaboration between VC participants and financial service providers (including for farmers using the KSC); and (vi) establishing Technology Villages to facilitate technology dissemination.

## PforR Program Scope

### The Government Program

17. **The objective of the GoB's PoA of the NAP is to achieve safe and profitable agriculture, and sustainable food and nutrition security in Bangladesh.** The NAP aims to transform the agriculture sector by improving the following: R&D capacity, extension service delivery, agricultural mechanization, GAP, irrigation efficiency, post-harvest management, marketing and logistics infrastructure and services, and food safety, among others. Through the NAP's PoA, the Government seeks to ensure food security and improve the people's socioeconomic conditions by increasing crop productivity and production, promoting crop diversification, ensuring nutritious and safe food, improving marketing systems, ensuring profitable agriculture, encouraging efficient utilization of natural resources, and promoting resilience to climate shocks.

18. **The NAP was launched in 2018 and its implementation PoA was finalized in 2020**. The PoA's implementation covers a five-year period, from 2021 to 2025. According to the provisions of the 8$^{th}$ Five-Year-Plan (FYP), the agriculture sector will need an allocation of US$2.9 billion to achieve the PoA's objectives. The PoA proposes 13 broad areas of intervention called "programs" under 3 corresponding "Thematic Areas". The NAP is expected to cover a period of ten years as previous NAPs did. Therefore, this PoA is a first phase, expected to be followed by a second one covering the same NAP orientations. PARTNER's Results Areas (RA) will be broadly aligned with each PoA program under the following NAP thematic areas.

19. **Thematic Area 1: Promoting Sustainable Food and Nutrition Security.** This Thematic Area aims at promoting sustainable intensification, diversification, and management of production systems in order to ensure food security and to help achieve nutrition security. This must be achieved in the face of an increasing population, projected to be 199.6 million by 2031, up from the current 170 million, and a binding constraint of projected reduction in available land for agriculture (due to land use conversion and climate loss). This will require strong measures to increase climate resilient productivity on the one hand and increase input use efficiency on the other. Six programs are grouped under this theme: (i) Crop diversification and sustainable production of safe and nutritious food; (ii) Sustainability of production systems and management of natural resources; (iii) CSA; (iv) Strengthening specialized agriculture, protected cultivation, and production systems in special geographical areas; (v) Efficient and economic extension services for fast and effective transfer of technology; and (vi) Enhancing availability of quality inputs including credit, storage, and marketing.

20. **Thematic Area 2: Increasing Income and Livelihood Opportunities for Farmers.** This aims at increasing income for farmers by promoting systems that will help them reduce the cost of cultivation, reduce post-harvest losses, and improve marketing of their agricultural products through the following five program areas: (i) Post-harvest management (agro-processing and development of safe and quality VCs); (ii) Appropriate scale mechanization and use of clean energy at farm-level; (iii) Promotion of industrial and export-oriented crop clusters and collaboration with the private sector; (iv) Increasing real income of farmers, laborers, and women farmers for their empowerment; and (v) Attracting, skilling, and retaining youth for innovation-based development in agriculture

21. **Thematic Area 3: Modernization of Agricultural R&D, Education, and Extension.** This aims at supporting R&D for the development of problem-solving technology that will help increase productivity while maintaining a green and safe environment through judicious use of external inputs such as chemical fertilizers and pesticides and good management of natural resources such as soil, water, and biodiversity. This theme has two main program areas of: (i) Quality investment in agricultural research for development; and (ii) Intellectual property rights, sovereignty on natural resources, and international partnership.

22. **The proposed PforR is a subset of Government's program, the PoA of the NAP.** Table 1 below shows the three Thematic Areas of the PoA and their respective programs and highlights the PoA programs included in the PforR under the corresponding RAs. PARTNER's RAs are well aligned with the PoA's Thematic Areas. PoA programs selected for inclusion in PARTNER are the most critical in ensuring that that NAP achieves its overall objectives. A few PoA programs (such as 8, 11, and 13) have not been included in PARTNER for one or several of the following reasons: (i) they do not contribute directly to PARTNER's objectives; (ii) their impacts cannot be easily measured and attributed to PARTNER; (iii) they are not in line with recommendations of recent analytical studies; (iv) they are heavily influenced by other externalities; or (v) they are supported by other fully funded programs. The programs on "Promotion of Industrial and Export-oriented Crops Clusters & Collaboration with Private sector" and "Appropriate Scale Mechanization & Use of Clean Energy in Farm" under the thematic area II are excluded because they are fully funded, either by GoB or other development partner programs. The program on "Increasing Real Income of Farmers, Labors and Women Farmers for their Empowerment" is excluded as it aims at ensuring remunerative prices, which is heavily influenced by other externalities. The program on "Intellectual Property Rights (IPR) Sovereignty on Natural Resources and International Partnership" under thematic area III is excluded because setting up an IPR authority

for agriculture will require longer legislative and administrative actions, which are beyond the scope of PARTNER. The MoA's ongoing input subsidy program, which accounts for a major share of the MoA's annual budget is also excluded from the PforR.[24] PARTNER's geographic scope is nationwide.

**Table 1: Alignment between Thematic Areas of the PoA of the NAP and PARTNER's RAs**

| | NAP PoA (2021 – 2025) | | PARTNER Program (2023-28) |
|---|---|---|---|
| **Development objective** | ***To achieve safe, profitable agriculture and sustainable food and nutrition security*** | | ***To promote diversification, food safety, entrepreneurship, and climate resilience in the agri-food systems of Bangladesh*** |
| ***Thematic Area*** | ***Programs*** | ***RA*** | ***Activities*** |
| ***I. Sustainable Food and Nutrition Security*** | 1. Crop Diversifications and sustainable production of safe and nutritious food<br>2. Strengthening Specialized Agriculture, Protected Cultivation and Production Systems in Special Geographical Areas<br>3. Efficient and Economic Extension Services for Fast and Effective Transfer of Technology<br>4. Enhancing Availability of Quality Inputs including Credit, Storage and Marketing<br>5. CSA<br>6. Sustainability of production systems and management of natural resources | **I. Promoting Sustainable and Nutritious Food Production** | **1.** Development, rollout, and adoption of GAP standards in fruit and vegetable production<br>**2.** Development and adoption of High Yielding Rice Varieties<br>**3.** Crop diversification towards non-rice cereals, pulses, oilseeds, and horticulture crops<br>**4.** Adoption of efficient irrigation technologies by farmers |
| ***II. Increasing Income and Livelihood Opportunities for Farmers*** | 7. Post-Harvest Management: agro-processing and development of safe & quality VC<br>*8. Promotion of Industrial & Export-oriented Crops Clusters & Collaboration with Private Sector*[25]<br>*9. Appropriate Scale Mechanization (ASM) & Use of Clean Energy in Farm*<br>10. Attracting, Skilling and Retaining Youth for Innovation-based development in Agriculture<br>*11. Increasing Real Income of Farmers, Labors and women farmers for their empowerment*[26] | **II. Increasing Entrepreneurship and Access to Services along the VCs** | **5.** Expansion of digital agricultural service provision through KSC<br>**6.** Promotion of the accreditation of seed certification and food safety testing processes<br>**7.** Promotion of agri-food entrepreneurship for youth and women |
| **III. Modernization of Agricultural Research, Education & Extension** | 12. Quality investment in Agricultural Research and Extension Services for development<br>*13. Intellectual Property Rights Sovereignty on Natural Resources and International Partnership* | **III. Modernizing Institutions and Policies for Agriculture Transformation** | **8.** R&D activities for new technologies and innovations increased along with an operational evaluation system for NARS institutes<br>**9.** Establishment and operationalization of VC promotional bodies for select commodities<br>**10.** Improvement of quality information system (agricultural statistics and market research services incl. foreign markets) |

[24] In FY2020-2021, BDT 95,000 million (US$1.1 billion) was allocated as direct assistance to farmers under the form of "subsidizing fertilizers and other agricultural activities", which accounted for 61 percent of the MoA's total budget.
[25] There are other fully funded programs that cover proposed export crops of jute, sugarcane, and cotton.
[26] Proposed measures for ensuring remunerative prices to farmers have larger macroeconomic impacts beyond this operation.

## C. Proposed Program Development Objective(s)

### Program Development Objective(s)

**22.** The Program Development Objective (PDO) is to promote diversification, food safety, entrepreneurship, and climate resilience in the agri-food systems of Bangladesh.

23. The Program's PDO will be assessed by the following indicators:

i. Increased area under non-rice cereals, pulses, oilseeds, and horticulture crops (hectare) (to capture increased diversification).

ii. Increased area under fruits and vegetables with GAP certification (hectare) (to capture food safety)

iii. Women and youth trained under the Program achieving at least a 30 percent income increase (number) (to capture entrepreneurship).

iv. Increased area under resilience-building, efficient irrigation technologies (hectare) (to capture increased climate resilience).

**23. Disbursement-Linked Indicators (DLIs).** The proposed Program will disburse against a set of agreed upon DLIs, in accordance with demonstrated evidence of achieving a selective set of strategic and monitorable targets (for a detailed discussion on each DLI, please see technical notes in Annex 2). The following indicative DLIs have been identified, discussed and preliminarily agreed with the Client during preparation taking into account the following criteria: (i) a realistic balance between output and outcome indicators; (ii) a focus on highly strategic program interventions whose effective implementation is key to achieving the Program development objective, as well as NAP goal and objectives; and (iii) realism in terms of implementation and scalability to prevent holding disbursements unnecessarily at critical stages of implementation. A notional allocation for each DLI and proposed lead implementation agency (IA) as well as other contributing IAs according to the provisions of the PoA are included in the Draft DLI Table 3 below.

**Table 2. PARTNER DLIs, Allocated Budget, and Lead IAs**

| RA | DLI | Scalability | Target[27] |
|---|---|---|---|
| **RA I.** Promoting Sustainable and Nutritious Food Production | DLI 1 – Development, rollout, and adoption of GAP standards in fruit and vegetable production (hectare) | Y | 300,000 |
| | DLI 2 – Development and adoption of High Yielding Rice Varieties (hectare) | Y | 200,000 |
| | DLI 3 – Crop diversification towards non-rice cereals, pulses, oilseeds, and horticulture crops (hectare) | Y | 200,000 |
| | DLI 4 – Adoption of improved and efficient irrigation technologies by farmers (hectare) | Y | 100,000 |
| **RA II**: Increasing Entrepreneurship and Access to Services along the VCs | DLI 5 – Expansion of digital agricultural service provision through KSC (number) | Y | 5,000,000 |
| | DLI 6 – Promotion of the accreditation of seed certification and food safety testing processes (number) | Y | 20 |
| | DLI 7 – Promotion of agri-food entrepreneurship for youth and women (number) | Y | 20,000 |

[27] Final targets to be agreed at appraisal.

| | | | |
|---|---|---|---|
| **RA III**: Modernizing Institutions and Policies for Agriculture Transformation | DLI 8 – Increase of R&D activities for new technologies and innovations along with development of an operational evaluation system for NARS institutes and extension services (percentage) | Y | 161% |
| | DLI 9 – Establishment and operationalization of VC promotional bodies for select commodities (number) | Y | 5 |
| | DLI 10 – Improvement of quality information system (agricultural statistics and market research services incl. foreign markets) (yes/no) | Y | Yes |

**24. The verification of achievement of the ten DLIs will be carried out by a third-party IVA based on agreed protocols.** DAE will prepare consolidated reports on the achievement of results using monitoring and evaluation (M&E) data collected by the IAs. All M&E data collected by the IAs will be uploaded into the management information system (MIS), which will be updated regularly. The third-party IVA will use the MIS data and undertake necessary protocols to verify the reported results (see Annex 2 for disbursement arrangements and verification protocols).

## D. Environmental and Social Effects

**25.** The Program will support a part of the overall Government program (PoA-NAP). The Environmental and Social Systems Assessment (ESSA) provides a comprehensive review of relevant government systems and procedures for addressing environmental and social (E&S) issues associated with the Program. The ESSA describes the extent to which the Government's E&S policies, legislation, program procedures, and institutional systems are consistent with the six 'core principles' of the World Bank Guidance[28] on E&S management in PforR operations. The assessment recommends actions to address the gaps and to enhance performance during Program implementation.

**26.** The ESSA has identified potential risks and opportunities and assessed the compatibility of the Program with respect to the core principles. MoA has considerable experience in executing World Bank-financed projects, with demonstrated capacity in managing E&S risk for similar activities. The Program will exclude any activity that may have significant adverse E&S impacts and are sensitive, diverse, or unprecedented.

**27.** Overall E&S risks of the Program are assessed to be 'Moderate'. The Program activities have no significant and irreversible impacts on environment and the associated risk is rated as 'Moderate'. The construction of infrastructure would be limited to renovation, repair, and modernization of various facilities within the existing complexes housing the IAs, where limited number of labor force would be employed. As such, the risk would be minimal, as effects would be localized and could be mitigated in situ by the contractors employed. There would not be any land acquisition and involuntary resettlement. Social discrimination and SEA/SH risks are also low. Thus, the social risk is also rated as 'Moderate'. An E&S screening was carried out to identify E&S risks and impacts with respect to contextual, institutional, capacity, and reputational risks facing the Program.

**28.** The potential investments may include small- and medium-scale civil and construction works, use of digital technology, pest management using naturally tolerable pesticides/herbicides for HYV and other crops diversification, promoting improved and efficient irrigation facilities, establishment of "Technology Villages", testing laboratories, training, research, market linkage, youth engagement, and piloting motivational incentives. The anticipated E&S impacts are mostly localized and reversible and can be mitigated through

[28] World Bank Guidance on Program for Results Financing Environmental and Social Systems Assessment (Annex-C)

proportionate management and mitigation measures. The Program Implementation Plan (PIP) will be developed at Program commencement and followed also for E&S risks management requirements and procedures (E&S Guidelines) and a subsequent E&S management framework (ESMF) including Environmental Code of Practice (ECoP) and social management procedures will be developed for the Program at the early stage of implementation. The PIP will be updated when the Program ESMF will be adapted.

**29.** The IAs manage E&S impacts following the national regulatory framework and policies in the regular operations, as well as in projects with finance from the Government's own resources. In case of international finance in their projects, they develop and implement project-specific E&S management plans (ESMPs) following the E&S compliance requirements of the international finance institutions to supplement the gaps of the national E&S management system (ESMS). The involvement of multiple IAs including research organizations with their low capacity to manage E&S risks is noted and would be addressed in the PAP.

**30.** Overall, the ESSA found that the country's E&S policies and legal framework applicable in agriculture sector are largely compatible with the E&S core principles for World Bank PforR finance. However, the ESSA recommends several measures under the Program to address institutional capacity constraints and gaps within the IAs across a range of the ESMS's limitations including policy principles and institutional setup. These measures are summarized as E&S actions incorporated in the PAP (see Annex 6). In addition, a more detailed description of the main E&S issues and recommended actions to strengthen E&S systems' performance for the Program are presented in Annex 5.

## E. Financing

**31. IDA and IFAD's contributions to the cost of PARTNER will be 37.2 percent and 3.2 percent, respectively**. The PoA of the NAP was developed for an initial five-year period from 2021 to 2025 while the NAP, like previous agricultural policies, provides policy orientations for ten years, from 2018 to 2028. PARTNER will be implemented from 2023 to 2028, with a total budget of US$1.343 billion. IDA and IFAD will contribute with US$500 million and US$43 million, respectively, while GoB's contribution will be the remaining US$800 million. This contribution comes from the available budget of the MoA's ongoing and approved programs that are aligned with PARTNER's RAs (US$625 million) and from an incremental contribution of US$175 million. The table 3 below details PARTNER's financing.

**Table 3: Program Financing**

| Sources | Amount (USD Million) | % of Total |
|---|---|---|
| **Counterpart Funding** | **800.00** | **59.57** |
| Borrower/Recipient | 800.00 | 59.57 |
| **International Development Association (IDA)** | **500.00** | **37.23** |
| IDA Credit | 500.00 | 37.23 |
| **Cofinancing - Other Sources (IFIs, Bilaterals, Foundations)** | **43.00** | **3.20** |
| International Fund for Agriculture Development | 43.00 | 3.20 |
| **Total Program Financing** | **1343.00** | |

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## CONTACT POINT

### World Bank

| | | | |
|---|---|---|---|
| Name : | Valens Mwumvaneza | | |
| Designation : | Senior Agriculture Economist | Role : | Team Leader(ADM Responsible) |
| Telephone No : | 5220+81633 / | Email : | vmwumvaneza@worldbank.org |
| Name : | Jean Edouard Albert Saint-Geours | | |
| Designation : | Senior Economist | Role : | Team Leader |
| Telephone No : | 5220+38816 / | Email : | jsaintgeours@ifc.org |
| Name : | Md Mansur Ahmed | | |
| Designation : | Economist | Role : | Team Leader |
| Telephone No : | 5220+80232 / | Email : | mahmed10@worldbank.org |

### Borrower/Client/Recipient

| | | | |
|---|---|---|---|
| Borrower : | People's Republic of Bangladesh | | |
| Contact : | Fatima Yasmin | Title : | Secretary, Economic Relations Division |
| Telephone No : | 0088029113743 | Email : | secretary@erd.gov.bd |

### Implementing Agencies

| | | | |
|---|---|---|---|
| Implementing Agency : | Department of Agricultural Extension | | |
| Contact : | Md. Benojir Alam | Title : | Director General |
| Telephone No : | 880255028369 | Email : | dg@dae.gov.bd |
| Implementing Agency : | Ministry of Agriculture | | |
| Contact : | Md. Sayedul Islam | Title : | Secretary |
| Telephone No : | 0 | Email : | secretary@moa.gov.bd |

**FOR MORE INFORMATION CONTACT**

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects