



National Food and Nutrition Security Policy (NFNSP)
Plan of Action (PoA)
and
Bangladesh Third Country Investment Plan- CIP3 (2021-2025)
Monitoring Report 2023

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Ministry of Food

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Acronyms

ADB	Asian Development Bank	BMDA	Barind Multipurpose Development Authority
ADP	Annual Development Programme	BMS	Breast-Milk Substitutes
AIIB	Asian Infrastructure Investment Bank	BNNC	Bangladesh National Nutrition Council
AoI	Area of Intervention	BRACU	BRAC University
APA	Annual Performance Agreement	BRRI	Bangladesh Rice Research Institute
ANC	Antenatal Care	BSCIC	Bangladesh Small and Cottage Industries Corporation
ASF	Animal Source Foods	BSRI	Bangladesh Sugar-crop Research Institute
AVC	Agricultural Value Chain	BSTI	Bangladesh Standards and Testing Institution
BAB	Bangladesh Accreditation Board	BWDB	Bangladesh Water Development Board
BADC	Bangladesh Agricultural Development Corporation	CARS	Centre for Advanced Research in Sciences
BAEC	Bangladesh Atomic Energy Commission	CGAP	Consultative Group to Assist the Poor
BAPA	Bangladesh Agro-Processors' Association	CGE	Computable General Equilibrium
BARC	Bangladesh Agricultural Research Council	CIP	Country Investment Plan
BARI	Bangladesh Agricultural Research Institute	CIP1	First Country Investment Plan
BAU	Bangladesh Agricultural University	CIP2	Second Country Investment Plan
BB	Bangladesh Bank	CIP3	Third Country Investment Plan
BBF	Bangladesh Breastfeeding Foundation	CPI	Consumer Price Index
BBS	Bangladesh Bureau of Statistics	CRA	Climate Resilient Agriculture
BCC	Behaviour Change Communication	CSA	Climate Smart Agriculture
BCIC	Bangladesh Chemical Industries Corporation	CSAIP	Climate Smart Agriculture Investment Plan
BFVAPEA	Bangladesh Fruits, Vegetables and Allied Products Exporting Association	CSOs	Civil Society Organisations
BIHS	Bangladesh Integrated Household Survey	DAE	Department of Agricultural Extension
BIGD	BRAC Institute of Governance and Development	DAM	Department of Agricultural Marketing
BDHS	Bangladesh Demographic and Health Survey	DANIDA	Danish International Development Agency
BDT	Bangladeshi Taka	DAP	Diammonium phosphate
BFD	Bangladesh Forest Department	DDM	Department of Disaster Management
BFRI	Bangladesh Fisheries Research Institute	DEI	Dietary Energy Intake
BFSA	Bangladesh Food Safety Authority	DES	Dietary Energy Supply
BFoRI	Bangladesh Forest Research Institute	DFID	Department for International Development
BINA	Bangladesh Institute of Nuclear Agriculture	DG	Director-General
BIRDEM	Bangladesh Institute of Research and Rehabilitation for Diabetes, Endocrine and Metabolic Disorders	DGHS	Directorate General of Health Services
BIRTAN	Bangladesh Institute of Research and Training on Applied Nutrition	DLS	Department of Livestock Services
BJRI	Bangladesh Jute Research Institute	DoF	Department of Fisheries
BLRI	Bangladesh Livestock Research Institute	DPs	Development Partners
		DPHE	Department of Public Health Engineering
		EBF	Exclusive Breastfeeding
		EEZ	Exclusive Economic Zone
		EGPP	Employment Generation Programme for the Poorest
		ERD	Economic Relations Division
		EU	European Union

FAO	Food and Agriculture Organization of the United Nations	IDF	International Diabetes Federation
FCTs	Food Composition Tables	IFAD	International Fund for Agriculture Development
FIES	Food Insecurity Experience Scale	IFC	International Finance Corporation
FLI	Food Loss Index	IFPA	Indicator of Food Price Anomalies
FWI	Food Waste Index	IFPRI	International Food Policy Research Institute
FLW	Food Loss and Waste	ILO	International Labour Organization
FNS	Food and Nutrition Security	IMED	Implementation Monitoring and Evaluation Division
FPMC	Food Planning and Monitoring Committee	IMF	International Monetary Fund
FPMU	Food Planning and Monitoring Unit	INFS	Institute of Nutrition and Food Science
FPWG	Food Policy Working Group	INGO	International Non-Governmental Organisation
FSC	Food Security Cluster	IPC	Integrated Food Security Phase Classification
FSMS	Food Safety Management System	IPH	Institute of Public Health
FSNIS	Food Security and Nutrition Information System	IPHN	Institute of Public Health and Nutrition
FSNSP	Food Security Nutritional Surveillance Project	IRRI	International Rice Research Institute
FSS	Food Security Sector	IYCF	Infant and Young Child Feeding
FYP	Five Year Plan	JICA	Japan International Cooperation Agency
G-K	Ganges-Kobadak	LANSA	Leveraging Agriculture for Nutrition in South Asia
G2P	Government-to-Person	LCG	Local Consultative Group
GAfSP	Global Agriculture & Food Security Program	LDDP	Livestock and Dairy Development Project
GAIN	Global Alliance for Improved Nutrition	LCG ARDF	Local Consultative Group in Agriculture, Rural Development and Food Security
GAP	Good Agricultural Practices	LGD	Local Government Division, Ministry of Local Government, Rural Development and Co-operatives
GAqP	Good Aquaculture Practices	LGED	Local Government Engineering Department
GDP	Gross Domestic Product	LoA	Letter of Agreement
GED	General Economics Division	MAD	Minimum Acceptable Diet
GEF	Global Environmental Facility	MBM	Meat and Bone Meal
GHG	Green House Gas	MDD	Minimum Dietary Diversity
GHO	Global Health Observatory	MDD-W	Minimum Dietary Diversity for Women
GHP	Good Hygienic Practices	MDER	Minimum Dietary Energy Requirements
GIEWS	Global Information and Early Warning System on Food and Agriculture	MDG	Millennium Development Goal
GIS	Geographic Information System	MFSP	Modern Food Storage Facilities Project
GM	Genetically Modified	MICS	Multiple Indicator Cluster Survey
GMP	Good Manufacturing Practices	MIS	Management Information System
GoB	Government of Bangladesh	MISM	Management Information System and Monitoring
HACCP	Hazard Analysis and Critical Control Points	MoEFCC	Ministry of Environment, Forest and Climate Change
HKI	Helen Keller International.	MMF	Minimum Meal Frequency
HIES	Household Income and Expenditure Survey	MMT	Million Metric Tons
HPNSP	Health, Population and Nutrition Sector Programme	MoA	Ministry of Agriculture
IBRD	International Bank for Reconstruction and Development	MoDMR	Ministry of Disaster Management and Relief
ICN2	Second International Conference on Nutrition		
ICT	Information and Communication Technology		
ICVGD	Investment Component for Vulnerable Group Development		
IDA	International Development Association		
IDB	Inter-American Development Bank		

MoF	Ministry of Finance	PNC	Post-natal Care
MoFood	Ministry of Food	PoA	Plan of Action
MoFL	Ministry of Fisheries and Livestock	PoU	Prevalence of Undernourishment
MoHFW	Ministry of Health and Family Welfare	PPP	Public Private Partnership
MoI	Ministry of Industries	ppm	Parts per million
MoInfo	Ministry of Information	PPRC	Power and Participation Research Centre
MoLGRDC	Ministry of Local Government, Rural Development and Cooperatives	RAKUB	Rajshahi Krishi Unnayan Bank
MoP	Muriate of Potash	REVA	Refugee influx Emergency Vulnerability Assessment
MoU	Memorandum of Understanding	RMG	Ready-made garment
MoWCA	Ministry of Women and Children Affairs	SAARC	South Asian Association of Regional Cooperation
MoWR	Ministry of Water Resources	SBN	SUN Business Network
MPI	Multidimensional Poverty Index	SDC	Swiss Agency for Cooperation and Development
MR19	CIP2 Monitoring Report 2019	SDG	Sustainable Development Goal
MR20	CIP2 Monitoring Report 2020	SMART	Specific, Measurable, Achievable, Relevant and Time-bound
MSMEs	Micro, Small and Medium Enterprises	SME	Small and Medium Enterprise
MUCH	Meeting the Undernutrition Challenge	SOFI	State of Food Insecurity in the World
NAES	National Agriculture Extension System	SRDI	Soil Resource Development Institute
NAP	National Agricultural Policy	SSN	Social Safety Net
NATP II	National Agriculture Technology Project – phase II	SSNP	Social Safety Net Programmes
NARS	National Agricultural Research System	SVRS	Sample Vital Registration Survey
NBCC	Nutrition Behaviour Change Communication	SUN	Scaling Up Nutrition
NC	National Committee	TAT	Technical Assistance Team
NCDs	Non-Communicable diseases	TMRI	Transfer Modality Research Initiative
NFPCSP	National Food Policy Capacity Strengthening Programme	TSP	Triple Superphosphate
NFNSP	National Food and Nutrition Security Policy	TT	Thematic Team
NFP	National Food Policy	TWG	Technical Working Group
NGOs	Non-Governmental Organizations	UDP	Urea Deep Placement
NIPN	National Information Platform for Nutrition	UNDP	United Nations Development Programme
NIPU	Nutrition Information and Planning Unit	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
NMSS	National Micronutrient Status Survey	UNIDO	United Nations Industrial Development Organization
NPAN2	Second National Plan of Action for Nutrition	UNFPA	United Nations Population Fund
NNC	National Nutrition Council	UNICEF	United Nations Children's Fund
NNP	National Nutrition Policy	USAID	United States Agency for International Development
NNS	National Nutrition Services	USD	US Dollar
NNW	National Nutrition Week	VGD	Vulnerable Group Development
NO	Nutritional Olympiad	VGF	Vulnerable Group Feeding
NSA	Nutrition-Sensitive Agriculture	VRA	Vulnerability Risk Assessment
NSDS	National Strategy for the Development of Statistics	WASH	Water, Sanitation and Hygiene
NSPCMD	National Strategy on Prevention and Control of Micronutrient Deficiencies	WFP	World Food Programme
NSVC	Nutrition-Sensitive Value Chain	WHO	World Health Organization
NWRD	National Water Resources Database	WIBCI	Weather Index-Based Crop Insurance
OPHI	Oxford Poverty and Human Development Initiative		
PFDS	Public Food Distribution System		
PKSF	Palli Karma-Sahayak Foundation		

Executive Summary

The Government of Bangladesh has made commitments to reduce poverty and improve nutritional status by 2030 in line with the United Nations' Sustainable Development Goals (SDGs). In addition, the Government of Bangladesh has subscribed to the objectives of Second International Conference on Nutrition (ICN2) Framework for Action, Scaling up Nutrition (SUN) Movement and the UN Decade of Action on Nutrition. In the light of these commitments to global initiatives, the commitment made by the honourable Prime Minister to ensure “food security for all”, and various trends that are likely to threaten food and nutrition security in the future, there is clearly need to redesign, revise and update the existing policies into a new food and nutrition security policy for guiding investments and other interventions aimed at achieving food and nutrition security for all.

A new policy that is holistic and promotes the use of a “nutrition lens” to assess and prioritize various options will help design multi-sectoral inter-linked interventions that are centred on improving the nutritional outcomes. The Government of Bangladesh has accordingly decided to develop a new National Food and Nutrition Security Policy (NFNSP) to cover the period 2020-2030 in synchronization with the target year for SDG. As a result, the Government approved the National Food and Nutrition Security Policy 2020 (NFNSP).

Considering multi-dimensional objectives of the NFNSP-2020, the Plan of Action has been prepared. It provides a framework for all responsible BOB agencies and FNS stakeholders for effective implementation, coordination and monitoring of the policy. The ten-year PoA covers the 8FYP and align with the GoB priority of achieving FNS-related SDGs and fulfilling relevant national and international commitments by 2030. The PoA includes actions required in order to, ensure the availability of safe and nutritious food at an affordable price, and enhance the consumption and utilization of healthy and diversified diets for achieving nutrition improvement by implementing the priority actions. It recommends nutrition sensitive social protection and safety nets across the lifecycle with a focus on vulnerable groups and regions. Government has also formulated Third country investment plan (CIP3) align with the NFNSP-PoA to achieve sustainable, nutrition sensitive and resilient food systems. The CIP3 Programmes and correspondence NFNSP- PoA Strategies and Areas of Intervention has shown in Annex-1.

Progress towards the CIP3 Results

The Bangladesh Third Country Investment Plan– Sustainable, Nutrition-Sensitive and Resilient Food Systems (CIP3, 2021-2025) lays out a coherent set of sustainable, nutrition-sensitive and resilient programmes. The Monitoring Report 2023 (MR-23) analyses progress in the CIP3 up to June 30th 2022, two years into the implementation of the CIP3. Cross-sectoral resource mobilisation is assessed against national priorities as outlined in the Bangladesh Eighth Five Year Plan. This process is aligned with the related SDG 2- Zero Hunger. Because the CIP3 is a living document, this monitoring report, to the extent possible, has tried to consider the likely impacts of COVID-19 pandemic against the CIP3 and SDG targets.

Progress towards the NFNSP and CIP3 Goals

Moderate and Severe Food Insecurity in the population is decreasing, however Prevalence of Undernourishment (PoU) has increased

PoU is an estimate of the proportion of the population that lacks enough dietary energy for a healthy, active life. It is FAO's traditional indicator used to monitor hunger at the global and regional level, as well as SDG Indicator 2.1.1. The PoU in Bangladesh is estimated at 13.0% over 2019-20, 9.7% over 2020-2021, and 11.4% in 2021-22 following a declining- albeit a slow and decelerating trend since the CIP3 baseline. However, the 10% target set by the General Economics Division of the Planning Commission is still attainable, although the COVID-19 pandemic and present conflict between Ukraine and Russia may dampen the progress observed. Indeed, it is expected that the crisis will reverse the gains made in nutrition improvement and impact the most vulnerable first and hardest.

The Prevalence of Moderate or Severe Food Insecurity based on the Food Insecurity Experience Scale (FIES) provides an alternative household-level perspective by assessing people's perceptions and challenges in accessing nutritious and sufficient food. On this scale, severe food insecurity, for example, indicates no food for a day or more. The three-year average of moderate food insecurity for 2021-22 has declined at 31.7% compared to 31.5% for 2019-20. Severe food insecurity, based on the FIES, has improved, falling steadily to 10.7% in 2019-21 from 13.3% in 2014-16. These figures are noticeably below the South Asia averages, which stand at 18.8% for severe food insecurity and 39.4% for moderate food insecurity over 2017-19, respectively.

Significant Progress in the reduction of child undernutrition

Stunting (or low height for age, SDG indicator 2.2.1) is caused by inadequate nutrition (not eating enough or eating foods that lack growth-promoting nutrients) and recurrent infections or chronic diseases which cause poor nutrient intake, absorption or utilisation since and before birth. Bangladesh's prevalence of stunting among children under 5 years of age reduced to 24% % in 2022 from 31% % in 2018 and from 60% in mid-1990s. The prevalence of wasting (or low weight for height, SDG indicator 2.2.2) reflects short-term undernutrition i.e. acute weight loss, due to inadequate dietary intake, infections and diseases (mainly diarrhoea). Wasting among children under 5 years of age has dropped to 9.4 % in 2019 from 14% in 2014 and is aligned with the NPAN2 2025 target of 8%. However recent BDHS-2022 shows that the prevalence of wasting of under five children in Bangladesh has increased to 11% in 2022. In line with stunting rates, child wasting was the highest in Sylhet and the lowest in Dhaka division.

Important role of parental education and wealth accumulation on nutritional outcomes

The determinants of wealth accumulation include pro-poor economic growth and rapid agricultural growth, off-farm diversification, labour-intensive manufacturing, and overseas workers' remittances (15.5 billion USD in 2018, up 15% from 2017), which is much higher than foreign direct investment (about 3 billion USD in 2018). With regards to maternal education, the prevalence of stunting was 18% amongst children whose mother had secondary education compared to 47% whose mother had no formal education. Paternal education appears to be as important as maternal education, for lower child undernutrition, higher food security, improved toilet facilities and better nutritional status and awareness of child's undernutrition status.

Rapid and sustained nutritional improvements are achieved through a multidimensional and multi-sectoral approach, and not only through large nutrition-only programmes. Persistent disparities by region and socio-economic group prevent a faster and more inclusive reduction in undernutrition. As a consequence, the prevalence of undernutrition remains higher in rural compared to urban areas and in particular highest in Sylhet, Mymensingh and Barisal for prevalence of stunting (43%, 36% and 33%, respectively) and wasting (10%, 9% and 9%, respectively) as per BDHS-2022.

COVID-19 pandemic negatively impact progress towards the CIP3 goal

The impacts of the COVID-19 pandemic were largely unknown, it has been hard to appreciate its scale and scope, and the effects on food and agriculture through both supply and demand channels. On the supply side, while it is likely that longer-term impacts on agricultural production might be largely mitigated given the measures taken by the GoB, this will depend on the economic growth scenario and on the length of the lockdown to reduce the spread of the virus. It is essential that the import of food and intermediate inputs and the mobility of farm labourers are maintained to guarantee food production and access to healthy diets by consumers. A likely coping strategy will be to substitute more expensive and nutritious foods with staples, favouring caloric over micronutrient intake, which will undermine recent progress in diet diversification and nutrition outcomes. This, however, is likely to be transitory and could be mitigated by the availability of affordable protein-rich foods such as milk, chicken broilers and eggs. Thus, in responding to COVID-19, it will be essential to integrate nutrition considerations into emergency response and recovery and to prioritise the needs of the most vulnerable.

Progress in the NFNSP-PoA & CIP3 Outcomes

Objective-1 & Pillar-1: Accelerate agricultural growth and resilience through climate-smart investments

Over the past twenty years, agriculture has been one of the main contributors to poverty reduction in Bangladesh. It now needs to accelerate the shift towards high-value agriculture, including horticulture, livestock, and fisheries as well as greater value addition to improve farmers' income and household nutrition. More recently, the positive trend in agricultural GDP growth rate culminated in the attainment of rice self-sufficiency and allowed the start of a structural, but slow, transformation towards diversification in production -especially towards poultry, fisheries and aquaculture. This has partially translated into improved diets and nutritional outcomes. In spite of these past and current achievements, Bangladesh is increasingly facing the challenges of having to sustain agricultural productivity growth and to boost the production of nutrient-rich foods (both non-cereal crops, livestock and fish products) in a context of increased short-term climate variability (monsoon erratic patterns) and long-term climate change impacts (salinity intrusion, increasing temperatures), land scarcity and population pressure.

The FAO Climate-Smart Agriculture (CSA) approach is useful to reorient agriculture systems towards climate change resilience while maintaining the focus on productivity, sustainable food and nutrition security. CSA interventions ensure increased productivity, strengthened climate resilience and reduced greenhouse gas emissions from agriculture. To this end, in April 2018, the GoB and the World Bank launched the Bangladesh Climate-Smart Agriculture Investment Plan (CSAIP) which aims at identifying climate-smart investment opportunities and accordingly, mobilise resources.

According to the CSAIP, the transition to a climate-resilient growth path is the only option to ensure that long term key agriculture development targets are met. By 2040, the current degree of sea-level rise may reduce available cropland by 24% in coastal divisions across growing seasons. Greater economic activity is expected to trigger +2% of greenhouse gas (GHG) emissions over the period 2015-2040 and to increased water consumption by 0.8-1.7 million litres per year, exacerbating water scarcity. CSA offers growth potential of more than 50% over 2015 levels for non-rice crops, livestock and fisheries. This would allow to maintain rice self-sufficiency, double the production of non-rice crops and meet the national demand for livestock and fish thereby meeting nutritional requirements after post-harvest losses, decrease income dependency on rice, decrease water use in irrigation, reduce nitrogen dioxide and other (Nationally Determined Contribution) emissions and increase the use of organic fertilisers.

A key factor in adequate CSA adoption is its mainstreaming into core policy frameworks, as various sectors in Bangladesh are affected by climate change. The Bangladesh Delta Plan 2100 approved in September 2018 represents the combination of long-term cross-sectoral strategies and subsequent interventions to ensure food and water security, economic growth and environmental sustainability while reducing vulnerability to natural disasters and building resilience to climate change. This, notwithstanding the effects of the COVID-19 crisis, should contribute to helping Bangladesh reach the upper-middle income country status by 2030 and the high-income country status by 2041, as stated in Vision 2041. While Bangladesh is not new to CSA and related interventions, it is essential that these are embedded in a more holistic approach in mid-term planning (the Eighth Five Year Plan for instance) to ensure CSA technological adoption. To this end, the CSAIP identifies Five CSA Investment Packages with a total volume of USD 809 million (USD 2 billion, PPP). Synergies and cooperation at the regional level, especially with South and South-East Asian countries, and in close collaboration with CGIAR centres, must be reinforced. This also needs to involve the operationalisation of technological adoptions and learning from best practices in the region.

Objective-2 & Pillar-2: The Consumer Price Index increased but near to the target

The average annual Consumer Price Index (CPI) inflation rate measures the change in the price of a set of essential commodities over a base year. In the FY 2021/22 CPI inflation rate increased to 6.2% from 5.6% in 2020/21, not far from achieving the target of 4.6% by 2025. Recent world economic disturbance due to Russia-Ukraine war that fuelling the price hike globally resulting inflation as an aftermath is the main cause of rising CPI in Bangladesh. General inflation hit a record high in both 2007/08 and 2010/11 due to the upsurge in food prices triggered by the international food price hike. Food inflation remained higher than non-food inflation - except in 2013/14 and 2017/18. Over the last decade, both food and non-food inflation have been volatile but converged in 2018/19. However, a bit diverged condition has been observed again in 2019/20 when food and non-food inflation exist at 5.56% and 5.85% whereas in the FY 2021/22, the rate was 6.05% and 6.30% respectively.

Objective-3 & Pillar-3: Promote dietary diversity to enhance nutrient adequacy

Women during pregnancy, lactation and menstruation, and adolescent girls, who experience rapid physiological changes, require diets that are diversified, safe, adequate and rich in micronutrients. Government and non-government agencies have carried out numerous advocacy and awareness programmes on the promotion of dietary diversity. Targeted programmes must be scaled up to improve the diets of adolescent girls, pregnant and lactating women during their antenatal care (ANC) and post-natal care (PNC) sessions. The prolonged COVID-19 pandemic is likely to impact maternal and child nutrition, given the potential reduction in access to income and food, decrease in breastfeeding and possible increase in the use of breastmilk substitutes, exacerbated by COVID-19 related concerns. Higher incomes also do not automatically translate into a healthier diet. Contextual drivers that shape food systems also influence food choices, preferences and consumption behaviour. Implementation of dietary guidelines, nutrition education programmes and behaviour change communications (BCC) need to be integrated to every step of the food system including in nutrition-sensitive interventions to inform and influence food demand and promote healthy dietary behaviour and consumption.

Objective-4 & Pillar-4: Poverty reduction was on-track for the SDG 1 national target

Poverty in 2021/22 was estimated by the Bangladesh Bureau of Statistics (BBS) to have further declined to 18.7% nationally, from 20.5% in the FY 2018/19. The overall rate of extreme poverty in the country is 5.6 percent, which is 6.5 percent in the rural areas and 3.8 percent in the urban areas. Poverty estimates after the baseline are model-based, rather than survey-based, by extrapolating a linear trend between survey-based estimates in 2010 and 2015/16. Even with a somewhat slower rate of decline after 2010, Bangladesh was still on-track to achieve before 2030, the SDG 1 Target 1.2.1 of reducing at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions. The lockdown resulting from the COVID-19 pandemic in 2020 led to sharp increases, in poverty depth amongst the already poor, and in poverty prevalence when previously non-poor households fell into poverty. The transitory shock turned into a longer-term crisis in poor households when the lockdown perjured. Many of the poor would rebound with the resumption of economic activity, but some would remain poor because they sold productive assets, accumulated unmanageable debts, were unable to re-finance migrant work, and even for some. As a response of post COVID-19 impact government has taken lots of initiatives to reduce poverty. That why poverty has declined.

Objective-5 & Pillar-5: National Food Safety Strategy Document Developed

The National Food and Nutrition Security Policy 2020 dedicates a strategy (Strategy 5.1) to improving food safety, quality control, and awareness of food safety and hygiene. It emphasises the need to put in place operational standards and procedures to assure that food is free of contamination from sources such as chemicals, trace elements, heavy metals and bacteria. It plans to establish an adequate regulatory framework including surveillance for compliance and enforcement. The popularisation of Good Agricultural Practices, Good Aquaculture Practices and Good Husbandry Practices that ensure food safety is envisaged for primary producers as well as the scaling up of Good Manufacturing Practices, Good Hygienic Practices, including adherence to HACCP compliance for secondary and tertiary producers. Establishment of traceability in agricultural, animal and fish production are the components of the new policy as well as the enhancement of consumer awareness on food safety. National Food Safety Strategy Document

Developed with seven strategic objectives for the period of 2022-2026. The seven strategic objectives are (a) To establish BFSA as the single food safety authority of Bangladesh responsible for coordinating the overall food safety ecosystem, (b) To established science-based standards in compliance with the Food Safety Act, 2013 while respecting Bangladesh's international obligations, (c) To strengthen the regulatory compliance mechanism through an effective and transparent structure in Bangladesh, (d) To enhance the role of BFSA for food safety & nutrition and trade facilitation at the global level, (e) To enhance effectiveness in scientific/technical work in food safety areas on a long-term basis, (f) To build capacity of all stakeholders in relation to food safety and nutrition, and (g) To build consumer awareness to increase the demand for safe and nutritious food.

COVID-19 pandemic might negatively impact progress towards the CIP3 goal

While the impacts of the COVID-19 pandemic were largely unknown at the time of writing this report, it has been hard to appreciate its scale and scope, and the effects on food and agriculture through both supply and demand channels. On the supply side, while it is likely that longer-term impacts on agricultural production might be largely mitigated given the measures taken by the GoB, this will depend on the economic growth scenario and on the length of the lockdown to reduce the spread of the virus. It is essential that the import of food and intermediate inputs and the mobility of farm labourers are maintained to guarantee food production and access to healthy diets by consumers. It is on the demand side that Bangladesh seems to be more vulnerable. A PPRC and BIGD Rapid Response Survey on the Poverty Impact of COVID-19 (April 2020) registered a reduction of more than 70% in the income of the extreme poor, vulnerable non-poor and moderate poor within the first week of lockdown (26 March 2020). This translated in a 40% and 35% per capita food expenditure reduction for the poor and vulnerable non-poor, respectively. A likely coping strategy will be to substitute more expensive and nutritious foods with staples, favouring caloric over micronutrient intake, which will undermine recent progress in diet diversification and nutrition outcomes. This, however, is likely to be transitory and could be mitigated by the availability of affordable protein-rich foods such as milk, chicken broilers and eggs. Thus, in responding to COVID-19, it will be essential to integrate nutrition considerations into emergency response and recovery and to prioritise the needs of the most vulnerable. To this end, social protection measures have been taken to tackle this situation.

Examine and learn from green growth strategies for food and agriculture system

The 8FYP is committed to reduction in overuse of chemicals in agriculture, reduce GHG emission, follow GAP and put in place a Green Growth Strategy. As stated in the Plan, Bangladesh will study and learn from UNDP's Green Commodities Program, and the example of other countries (e.g., Rwanda's Green Growth and Climate Resilience National Strategy for Climate Change and Development to establish a low carbon and climate resilient economy by 2050, Chile's National Green Growth Strategy), to support its agenda for green growth. Currently, the country has set targets to reduce GHG emissions in the power, transport and industry sectors. Agriculture is reported to be a leading contributor accounting for 39% of total emissions¹. The BCCSAP includes actions to reduce emissions in the agriculture sector (through energy efficiency and water and fertiliser management), and scaling up afforestation and reforestation. The updated Nationally Determined Contribution (2020) under preparation will include a target for reduction in GHG from agriculture, which is currently absent.

¹ USAID. 2016. [Greenhouse Gas Emissions in Bangladesh](#). April.

1. Introduction

Sustainable, Nutrition-Sensitive and Resilient Food Systems

Bangladesh has witnessed tremendous advances in recent years with substantial economic growth, which has translated into food and nutrition security (FNS) improvements. Agriculture has managed to keep up the needs of ever-growing population. Bangladesh is now the fourth largest rice producer in the world. Food self-sufficiency in terms per capita calorie availability has thus been achieved at national level.

Over the last decade, the country has been among the fastest growing economies in the world thanks to demographic dividend, strong ready-made garments exports and stable macroeconomic conditions. Bangladesh Government approved the National Food and Nutrition Security Policy 2020, aims to ensure its food and nutrition security related Sustainable Development Goals (SDG) and fulfils the relevant national and international commitments by 2030. Thus, the Government made NFNSP Plan of Action (PoA). The PoA covers the 10-year period of the Eighth Five Year Plan (8FYP, July 2020-June 2025).

The five objectives of the NFNSP are:

1. To ensure availability of safe and nutritious food for healthy diets
2. To improve access to safe nutritious food at an affordable price
3. To enhance the consumption and utilization of healthy and diversified diets for achieving nutrition improvements for healthy diets
4. To increase access to nutrition –sensitive social protection and safety nets across lifecycle with a focus on vulnerable groups and regions
5. To strengthen cross-sectoral FNS governance, coordination, capacity building and partnership for effective policy implementation

The CIP3 will guide the level of commitment and financial resources generated by the GOB and DPs to support the POA implementation. The CIP3 will work as a reference tool to guide and track progress of regional, local and sectoral investments plans and programmes. The CIP3 is a flexible tool which can leverage financial resource allocation to fulfil the objectives of the Eighth Five Year Plan (8FYP, 2021-2025) and SDGs while coping with unexpected exigencies such as the likely impact of COVID-19 on FNS. The Monitoring Report 2023 is the first yearly monitoring exercise of the CIP3.

This monitoring exercise is a joint effort of 19 ministries/divisions' agencies and departments led by the Ministry of Food's Food Planning and Monitoring Unit (FPMU). It tracks Food and Nutrition Security (FNS) progress and assesses it against CIP2 and SDGs targets, and it monitors FNS-related investments and commitments as of June 30th, 2022. The MR 23 also analyses the current policy developments. These dimensions are addressed within their relevant investment Pillar, programme and sub-programme, with each achievement contributing to the final NFNSP-PoA and CIP3 goal.

Accordingly, the likely impacts of COVID-19 pandemic on FNS are considered in the MR-23. The COVID-19 may have also have set back some of the progress achieved so far, with long term effects. The issue of food safety has also come to the fore due to increasing geographic separation of consumption and production centres as a result of urbanization. This crisis adversely affected development, potentially slowing down, or even temporarily reversing, some of the gains made in

FNS. As of April 2020, the IMF forecasted the global economy would contract by -3% in 2020, although in developing Asia, growth of 1% was still forecasted.² The South Asia region was expected to grow by 3% in 2020, its worst performance in 40 years.³

Food and agriculture supply channels - primary production, processing, trade and logistics - and demand channels - exchange rates, energy and credit markets – were affected at both global and national level.⁴ While it is difficult to assess the depth and duration of the impact, in Bangladesh, poor people are likely to be the most affected. In light of this global health crisis unfolding as it is being prepared, the report has had to adjust some of its recommendations for further actions.

Structure of the report

The methodological approach to the monitoring report and its results framework as presented in Chapter 2. Goal level indicators are discussed in Chapter 3, while Chapter 4 discussed on outcome level indicator and output level indicators are discussed in chapter 5. Each of the five objectives of NFNSP and the five pillars of CIP3 in turn, analysing their respective strategies and related programmes.

² IMF (2020). [World Economic Outlook, April 2020: The Great Lockdown](#). Washington, DC. International Monetary Fund.

³ World Bank (2020) [Public Banks](#). *South Asia Economic Focus*. April. Washington, DC. World Bank.

⁴ Schmidhuber, J., Pound, J. & Qiao, B. (2020) [COVID-19: Channels of transmission to food and agriculture](#). Rome. FAO.

2. Approach to monitoring

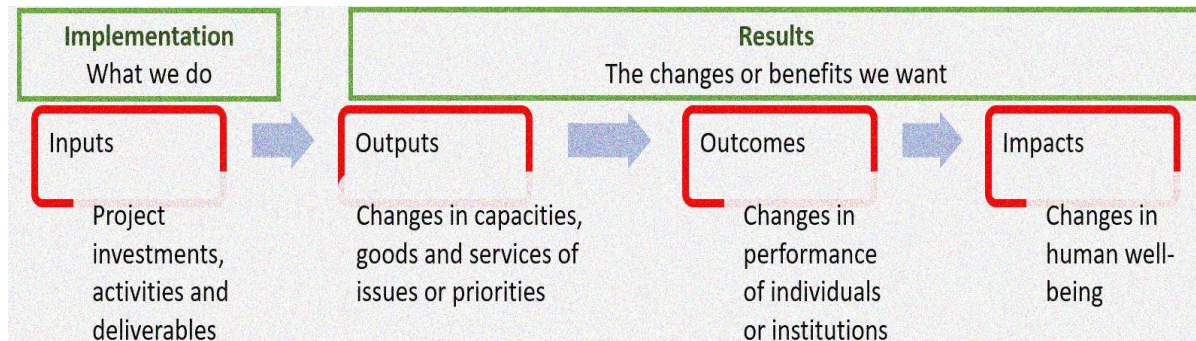
The PoA contains the FNS situation analysis as of 2021, proposed actions and the desired results by 2030. Actions in the PoA are believed to be linked to the NFNSP Goal through a “results chain”. The “results chain” outlines what sorts of changes are expected to happen as a result of implementing the PoA. The monitoring framework identifies three points along the “results chain” for the annual measurement of progress. This structured approach will help identify the specific aspects of the food system that are improved as a result of implementing the PoA, as well as lagging aspects that need further attention. This can guide more effective programming, resource use and accountability when implementing the PoA. It can encourage multiple actors to work together to create meaningful change.

This section summarises the results-based monitoring approach, then describes what points in the PoA “results chain” will be monitored, and finally describes the monitoring framework.

Results-based monitoring approach

Results-based monitoring aims to inform policymakers and decisionmakers about real-world progress so that they can adjust their programme designs and demonstrate policy impact. It involves a shift in emphasis from “what is being done” (projects) to “progress being made” (results). This aims to track results realized on the ground for food producers, food consumers and the food system.

Figure 1: From project monitoring to results-based monitoring



Source: Adapted from UNICEF (2017) Results-Based Management, UNICEF and J.Z. Ksek, J.Z. and R.C. Rist (2004) Results-Based Monitoring and Evaluation, World Bank

This is why results-based monitoring goes beyond the activities of individual projects, and instead the focus is on indicators of “outputs”, “outcomes” and “impacts”. This is shown in Figure 1. These are conceptualised as three specific points along a “results chain”, as explained below, that links the projects to the NFNSP Goal. The outputs, outcomes and impacts refer to increasingly complex and multidimensional results requiring the implementation of multiple projects. Financial spending and project execution, which will be monitored in the CIP3, are taken as “inputs” in the results-based monitoring approach.

Monitoring levels in the PoA's expected “results chain”

The PoA, as approved, consists of at least 276 actions/ interventions to be undertaken by 2030 in order to realise Bangladesh's NFNSP Goal. These actions are aligned to the policy directions and initiatives in the NFNSP, and are based on substantial analysis and consultations. As the PoA covers a whole decade, the exact content, definition, prioritisation, number of actions, etc. are open to adjustment and revision according to changing needs, priorities, financing, etc., and such changes to the PoA should be evidence-informed, including through the PoA monitoring process.

Figure 2 illustrates the PoA structure and its expected “results chain”. It shows the example of the PoA's four proposed actions under AoI 1.1.1, which partly contributes to Strategy 1.1, which partly contributes to Objective 1, which partly contributes to the NFNSP Goal. The figure shows only abridged titles, and their rationale and justifications are in the Plan of Action.⁵ Implementation of these four actions should result in new seeds, new breeds, strengthened biofortification and improved agricultural practices, and together these should lead to measurable improvements in diversified, sustainable nutrient-enhanced food production, thus contributing to measurable improvements in the availability of safe and nutritious food.

Figure 2: PoA structure, expected PoA results chain and PoA monitoring levels (example)

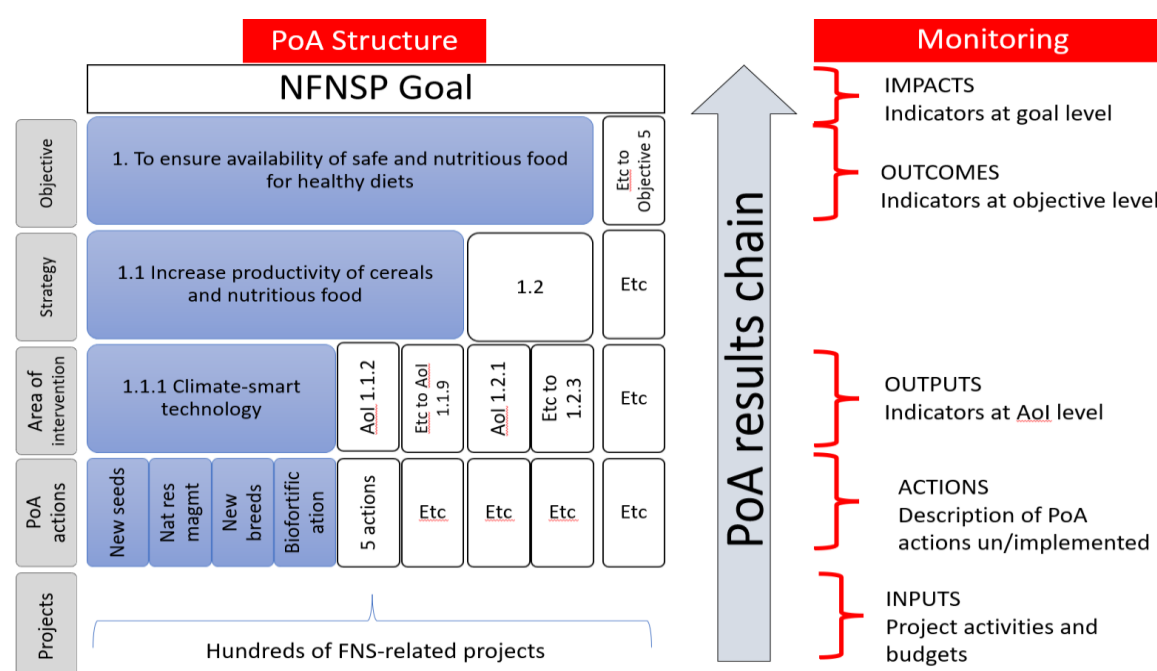


Figure 2 illustrates the way in which the PoA actions are logically and hierarchically structured into *complementary and related components*, as follows.

⁵ The full titles are: Strategy 1.1. Increase productivity while ensuring sustainable production of cereals and nutritious food including horticulture, fisheries and livestock. AoI 1.1.1. Develop improved climate-smart technologies for productivity gains, agricultural diversification, sustainable intensification, and enhancement of nutrient-content. Action 1. Develop stress-tolerant high-yielding varieties of major cereals and nutrient-dense crops such as pulses, oilseeds, soybeans, fruits and vegetables. Action 2. Improve crop, soil and natural resources management practices including mechanization and “high tech” options to ensure high productivity and sustainability. Action 3. Develop improved breeds of livestock and fish and improved husbandry practices. Action 4. Develop biofortification to increase the nutrient-density of major food items.

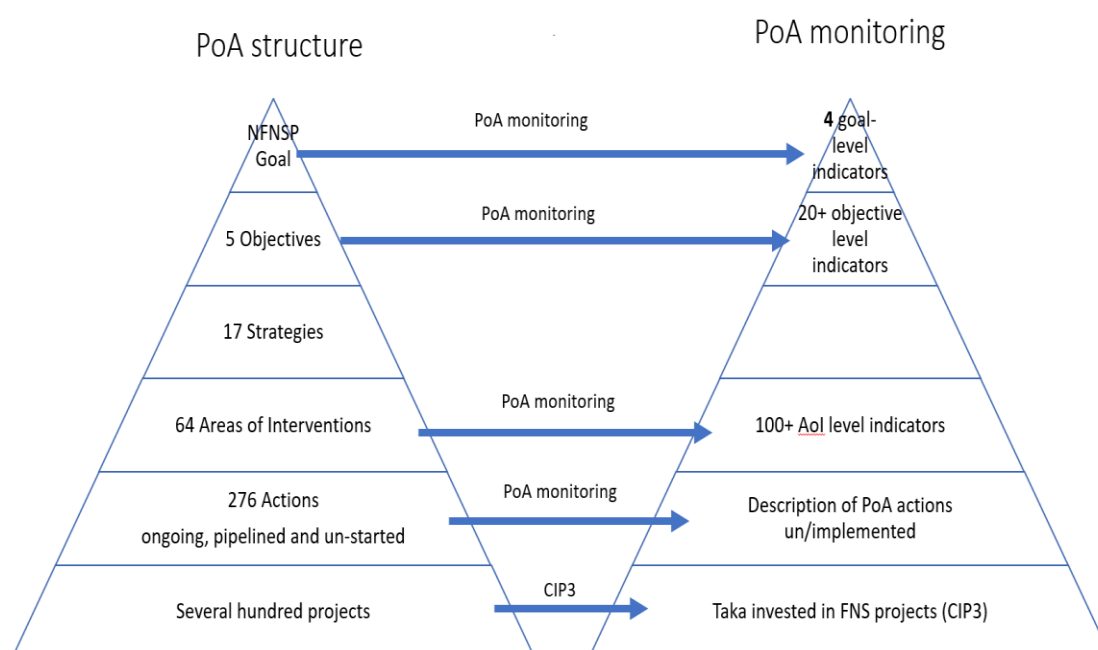
- Complementary and related actions, numbering between three to eight actions, are grouped into 64 Areas of Intervention (AoI), with an AoI being a key FNS issue that requires development and support – and **results at this level are defined as “outputs” for monitoring purposes.**
- Complementary and related AoIs, numbering up to nine AoIs, are grouped into 17 Strategies, with each Strategy representing a large section of the food system.
- Complementary and related Strategies are grouped together to lead to progress towards each of the five Objectives – and **results at this level are defined as “outcomes” for monitoring purposes.**
- Achievement of all five Objectives is necessary to fully realise the NFNSP Goal – and **this is defined as the “goal level” and monitored with human well-being indicators.**

The PoA actions will be implemented through projects that will be listed and annually updated in the NFNSP Country Investment Plan 3 (CIP3) – and these **investments are defined as “inputs” into the PoA.** The CIP3 will be monitored by taking an annual inventory of ongoing and pipelined FNS-related projects, estimation of each project’s execution, and for consistency, a subset of PoA monitoring indicators will be taken.

PoA monitoring indicators

The PoA’s monitoring indicators mirror the same hierarchical structure of the PoA itself. This is shown in Figure 3. Monitoring will involve: 1/ annual calculation of CIP3 investments, 2/ analytical description of the implementation of PoA actions and situations, and 3/ the measurement of results from CIP3 investments and implemented actions at AoI-level, Objective-level and Goal-level.

Figure 3: Link between PoA structure and PoA monitoring indicators



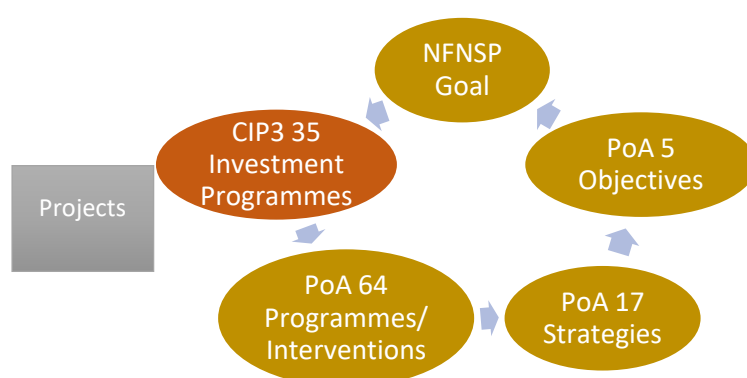
Definition of monitoring indicators

PoA monitoring indicators were defined by consulting FNS-related ministries/ agencies that would participate annually in the monitoring process. The selected indicators needed to be specific, measurable, attributable, relevant and timely (SMART). There were challenges in doing this in practice. For example, “specific” indicators ideally are narrowly defined and measure exactly what is intended to be measured, but sometimes it was hard to define indicators that fully meet this criterion given the available data. Or for example, the “measurable” criterion was sometimes difficult to fully satisfy, such as for some FNS-systemic issues under Objective 5. Elsewhere the “relevance” criterion was challenging to reflect the full contents of some AoIs, even when using multiple “specific” indicators for which data was available. A practical balance was struck between “ideal indicators” based on technical criteria versus “feasible indicators” based on data that are (ideally) annually and officially available.

From interventions to investments: PoA-CIP3 building blocks

Figure 1 depicts the nexus NFNSP (2020) PoA (2021-2030) and CIP3 (2021-2025) which defines a coherent, time bound and results-oriented architecture. The PoA includes a 3-level result framework made of NFNSP overarching Goal of ensuring “*Adequate supply of safe & nutritious food; Increased purchasing power & access to food by all; & adequate nutrition for all individuals, especially women & children*”, and a coherent set of 5 Objectives, 17 Strategies and 64 Areas of intervention (AoIs).

Figure 4: NFNSP-PoA-CIP3 Nexus



The PoA was the result of several consultations at both national and district levels with the government, civil society organizations, the private sector and local stakeholders. GoB and DPs allocate or commit financial resources to make the proposed interventions under the PoA AoIs actionable and these are clustered under the 5 pillars and 35 Investment programmes of the CIP3. The CIP3 introduces the concept of markers as detailed in Section 4. Figure 2 presents a detailed description of the building blocks of the PoA and the CIP3. To ensure that the PoA can be operationalized, investments are needed. This means transitioning from the PoA (2021-2030) -a 10-year plan- to the CIP3 (2021-2025) -a five-year investment plan. On one side, we have the desired interventions, on the other, the budgeted financing and commitments to ensure food systems in Bangladesh become sustainable and resilient. In both cases, there is a coherent results framework which is aligned to the Bangladesh National Nutrition and Food Security Policy (NFNSP, 2020) and its goal.

Figure 5: PoA-CIP3 Building Blocks

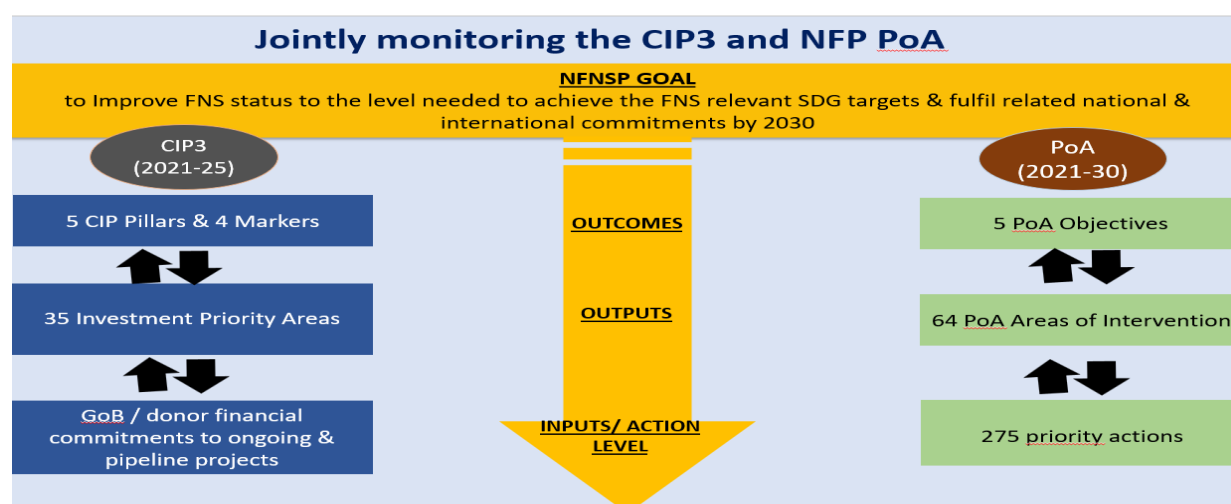


Figure 6. CIP3 Pillars



CIP3 structure

The PoA and CIP3 have five Objectives/Pillars:

- I. Availability of safe and nutritious food for healthy diets
- II. Access to safe and nutritious food at an affordable price
- III. Consumption and utilization of healthy and diversified diets for achieving nutrition improvements
- IV. Access to nutrition-sensitive social protection and safety nets across life cycle with a focus on vulnerable groups and regions
- V. Cross- sectoral/cross cutting issues which are relevant across the different elements of the food system.

The Objectives, Strategies and Areas of Interventions of the PoA on the left and the CIP3 Pillars and Investment programmes and markers on the right, along with the correspondence between the two. The CIP3 Programmes are based on the Areas of Intervention (AoI) described in the PoA and have been designed to take into account the reality of investments. As such, CIP3 Programmes reduce overlaps that exist in the PoA to make a consistent investment framework.

3. Progress towards NFNSP goal

3.1 NFNSP goal : The Sustainable Development Goal to ‘*End hunger, achieve food security and improved nutrition and promote sustainable agriculture by 2030*’ (SDG 2 – Zero hunger) - provides an opportunity to rethink the way food is grown, accessed, shared and consumed. Hunger in the world is increasing to reach nearly 768 million in 2021^{6,7} and this is expected to be dramatically worsened, at least temporarily, by the COVID-19 pandemic and the conflicts between Russia and Ukraine. In some regions, natural resources to produce food are becoming scarce under competing uses and are threatened by natural calamities. It is measured through five proxy indicators (Table 1): Prevalence of Undernourishment (SDG 2.1.1); Food Insecurity Experience Scale (SDG 2.1.2); Prevalence of Stunting (SDG 2.2.1); and Prevalence of Wasting (SDG 2.2.2)

3.1.1 Assessment of progress towards achieving NFNSP goal

Table-1: NFNSP goal and 8FYP indicators relating to food and nutrition security

Goal: Improve the food and nutrition security status to the level needed to achieve the Food and Nutrition Security (FNS)-relevant SDG targets and fulfil related national and international commitments by 2030					
Proxy indicator	2019/20	2020/21	2021/22	Target	Verification source
Prevalence of Undernourishment (SDG indicator 2.1.1.)	13% (SOFI 2020)	9.7% (SOFI 2021)	11.4% (SOFI 2022)	12% by 2025 10% by 2030 (as per SDG Tracker)	SOFI, FAO SDG Tracker
Prevalence of moderate and severe food insecurity in the population, based on the Food Insecurity Experience Scale- FIES (SDG indicator 2.1.2)	31.5% (SOFI 2020)	31.9% (SOFI 2021)	31.7 (SOFI 2022)	24.2% by 2025 (8FYP)	SOFI, FAO SDG Tracker
Prevalence of stunting (height for age <-2 SD from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age (SDG indicator 2.2.1)	31.0 % (BDHS 2018)	28.0% (MICS 2019)	24% (BDHS 2022)	20% by 2025 15.5% by 2030 (as per SDG Tracker)	BDHS, MICS- BBS, SDG Tracker
Prevalence of wasting among children under 5 years of age (<-2 SD of weight for height) (SDG indicator 2.2.2)	8% (BDHS 2018)	9.8% (MICS 2019)	11% (BDHS 2022)	7% by 2025 5% by 2030	BDHS, MICS- BBS, SDG Tracker

Moderate and Severe Food Insecurity in the population is decreasing, however Prevalence of Undernourishment (PoU) has increased

PoU is an estimate of the proportion of the population that lacks enough dietary energy for a healthy, active life. It is FAO’s traditional indicator used to monitor hunger at the global and regional level, as well as SDG Indicator 2.1.1. It considers the mean food consumption and its

⁶ FAO, IFAD, UNICEF, WFP and WHO (2022) [The State of Food Security and Nutrition in the World 2022. Transforming food systems for affordable healthy diets](#). Rome. FAO.

⁷ A number of updates have been made in the data for several countries in this year’s State of Food Security and Nutrition (SOFI) report in order to estimate world hunger with greater accuracy. This has resulted in a substantial downward shift of the number of undernourished series in the world, which explains the lower figures exposed here compared to MR19 for earlier years. The slow increasing trend in the number of people affected by hunger globally since 2014 is confirmed, however.

variability and asymmetry against a normative requirement: the Minimum Dietary Energy Requirements (MDER) of the average individual in a given sex and age group^{8,9}. The PoU in Bangladesh is estimated at 13.0% over 2019-20, 9.7% over 2020-2021, and 11.4% in 2021-22 following a declining - albeit a slow and decelerating trend since the CIP2 baseline. However, the 10% target set by the General Economics Division of the Planning Commission is still attainable (Table 1), although the COVID-19 pandemic and present conflict between Ukraine and Russia may dampen the progress observed. Indeed, it is expected that the crisis will reverse the gains made in nutrition improvement and impact the most vulnerable first and hardest. The COVID-19 crisis has made it clear that inequity is a maker and a marker of malnutrition¹⁰.

The Prevalence of Moderate or Severe Food Insecurity based on the Food Insecurity Experience Scale (FIES) provides an alternative household-level perspective by assessing people's perceptions and challenges in accessing nutritious and sufficient food.¹¹ On this scale, severe food insecurity, for example, indicates no food for a day or more (Figure 3). The three-year average of moderate food insecurity for 2021-22 has declined at 31.7% compared to 31.5% for 2019-20. Severe food insecurity, based on the FIES, has improved, falling steadily to 10.7% in 2019-21 from 13.3% in 2014-16. Although, the severe food security was 10.5% in 2018-20. These figures are noticeably below the South Asia averages, which stand at 18.8% for severe food insecurity and 39.4% for moderate food insecurity over 2017-19, respectively.¹² Given the potential impact of the COVID-19 crisis on food security, it is advisable to conduct the FIES survey, which has now been adapted to capture such effects¹³.

Figure 7 - Food Insecurity based on the FIES: what does it mean?



Source: [FAO, 2020](#)

⁸ FAO (2014) [Refinements to the FAO methodology for estimating the Prevalence of Undernourishment indicator](#). FAO Statistics Division Working Paper Series. ESS/14-05. September.

⁹ Following the FAO methodological approach, normative requirements are based on the Basic Metabolism Rate (BMR) per kilogram of body mass, multiplied by the ideal weight of a healthy person given their height, and multiplied by a coefficient of Physical Activity Level which factors-in physical activity.

¹⁰ Development Initiatives. [2020 Global Nutrition Report: Action on equity to end malnutrition](#). Bristol. UK.

¹¹ During the last 12 months, was there a time when, because of lack of money or other resources: 1. You were worried you would not have enough food to eat? 2. You were unable to eat healthy and nutritious food? 3. You ate only a few kinds of foods? 4. You had to skip a meal? 5. You ate less than you thought you should? 6. Your household ran out of food? 7. You were hungry but did not eat? 8. You went without eating for a whole day?

¹² FAO, IFAD, UNICEF, WFP and WHO (2022) [The State of Food Security and Nutrition in the World 2022. Transforming food systems for affordable healthy diets](#). Rome, FAO.

¹³ FAO (2020) [Using the Food Insecurity Experience Scale \(FIES\) to monitor the impact of COVID-19](#). Rome.

Significant Progress in the reduction of child undernutrition

Considering nutrition situation, Bangladesh has achieved a remarkable progress in child undernutrition among the most rapid worldwide.¹⁴ Stunting (or low height for age, SDG indicator 2.2.1) is caused by inadequate nutrition (not eating enough or eating foods that lack growth-promoting nutrients) and recurrent infections or chronic diseases which cause poor nutrient intake, absorption or utilisation since and before birth. The indicator is a reflection of poor environmental conditions (e.g. lack of safe water, inadequate access to excreta disposal facilities, and general poor living conditions) and long-term restrictions of the growth potential¹⁵, which in turn translate into reduced learning potential and productive capacity. Bangladesh's prevalence of stunting among children under 5 years of age reduced to 24% % in 2022 from 31% % in 2019 and from 60% in mid-1990s. This trend also shows improvement by the Multiple Indicator Cluster Survey (MICS) 2019 data with stunting further declining to 28%.^{16,17} This trend makes reaching the 8FYP target of 20% by 2025 seem feasible.

The prevalence of wasting (or low weight for height, SDG indicator 2.2.2) reflects short-term undernutrition i.e. acute weight loss, due to inadequate dietary intake, infections and diseases (mainly diarrhoea). Wasting among children under 5 years of age has dropped to 9.4 % in 2019 from 14% in 2014 and is aligned with the NPAN2 2025 target of 8%. However recent BDHS-2022 shows that the prevalence of wasting of under five children in Bangladesh is 11%. Due to price hike and other issues like WASH it has happened. In line with stunting rates, child wasting was the highest in Sylhet and the lowest in Dhaka division.¹⁸

Important role of parental education and wealth accumulation on nutritional outcomes

Studies on the determinants of child growth using the Bangladesh Demographic and Health Surveys (BDHS) from 1997 to 2014 found that household wealth accumulation and parental education were the key drivers of the rapid reduction of undernutrition - especially in severe child stunting. Health, sanitation and demographic factors played significant but secondary roles.¹⁹ The determinants of wealth accumulation include pro-poor economic growth and rapid agricultural growth, off-farm diversification, labour-intensive manufacturing, and overseas workers' remittances (15.5 billion USD in 2018, up 15% from 2017), which is much higher than foreign direct investment (about 3 billion USD in 2018²⁰). With regards to maternal education, the prevalence of stunting was 18% amongst children whose mother had secondary

¹⁴ Headey, D., Hoddinott, J., Ali, D., Tesfaye, R. & M. Dereje (2015) [The Other Asian Enigma: Explaining the Rapid Reduction of Undernutrition in Bangladesh](#). *World Development*. Volume 66.

¹⁵ WHO. [The Global Health Observatory](#).

¹⁶ While MICS data are not fully comparable with BDHS, they can be used as a proxy.

¹⁷ BBS and UNICEF (2019) [Progotir Pathay, Bangladesh Multiple Indicator Cluster Survey 2019, Key Findings](#). Dhaka.

¹⁸ Mohsena, M., Goto, R. & Mascie-Taylor, C.G.N. (2015) [Regional variation in maternal and childhood undernutrition in Bangladesh: evidence from demographic and health surveys](#). *WHO South-East Asia Journal of Public Health*. July–December; MICS (2019) [Nutritional Status of Children](#). Bangladesh 2019.

¹⁹ Headey, D., Hoddinott, J., Ali, D., Tesfaye, R. & Dereje M. (2015) [The Other Asian Enigma: Explaining the Rapid Reduction of Undernutrition in Bangladesh](#). *World Development*. Volume 66. Saha, R. G. & Kayum Shikdar, Md. (2019) [Socio-economic Determinants Affecting Nutritional Outcomes of the Children in Bangladesh](#). *IOSR Journal of Humanity and Social Sciences*. Volume 24. Issue 1; Sultana, P., Rahman, Md. M. & Akter, J. (2019) [Correlates of stunting among under-five children in Bangladesh: a multilevel approach](#). *BMC Nutrition*. 5:41.

²⁰ [World Bank Data](#).

education compared to 47% whose mother had no formal education.²¹ Paternal education appears to be as important as maternal education, for lower child undernutrition, higher food security, improved toilet facilities and better nutritional status and awareness of child's undernutrition status.²²

Thus, rapid and sustained nutritional improvements are achieved through a multidimensional and multisectoral approach, and not only through large nutrition-only programmes.²³ Persistent disparities by region and socio-economic group prevent a faster and more inclusive reduction in undernutrition. As a consequence, the prevalence of undernutrition remains higher in rural compared to urban areas and in particular highest in Sylhet, Mymensingh and Barisal for prevalence of stunting (43%, 36% and 33%, respectively) and wasting (10%, 9% and 9%, respectively).²⁴ Women in Sylhet have an average lower body weight than women in Chittagong, Rajshahi and Khulna.²⁵

COVID-19 pandemic might negatively impact progress towards the CIP3 goal

While the impacts of the COVID-19 pandemic were largely unknown at the time of writing this report, it has been hard to appreciate its scale and scope, and the effects on food and agriculture through both supply and demand channels.²⁶ On the supply side, while it is likely that longer-term impacts on agricultural production might be largely mitigated given the measures taken by the GoB, this will depend on the economic growth scenario and on the length of the lockdown to reduce the spread of the virus. It is essential that the import of food and intermediate inputs and the mobility of farm laborer's are maintained to guarantee food production and access to healthy diets by consumers. It is on the demand side that Bangladesh seems to be more vulnerable. A PPRC and BIGD Rapid Response Survey on the Poverty Impact of COVID-19 (April 2020) registered a reduction of more than 70% in the income of the extreme poor, vulnerable non-poor and moderate poor within the first week of lockdown (26 March 2020). This translated in a 40% and 35% per capita food expenditure reduction for the poor and vulnerable non-poor, respectively. A likely coping strategy will be to substitute more expensive and nutritious foods with staples, favoring caloric over micronutrient intake, which will undermine recent progress in diet diversification and nutrition outcomes. This, however, is likely to be transitory and could be mitigated by the availability of affordable protein-rich foods such as milk, chicken broilers and eggs. Thus, in responding to COVID-19, it will be essential to integrate nutrition considerations into emergency response and recovery and to prioritize the needs of the most vulnerable. To this end, social protection measures.

²¹ National Institute of Population Research and Training (NIPORT), Mitra and Associates & ICF International (2016) [Bangladesh Demographic and Health Survey 2014](#). Dhaka, Bangladesh and Rockville, Maryland, USA: NIPORT, Mitra and Associates, and ICF International.

²² Hossain, M.B. & Khan, Md. H.R. (2018) [Role of parental education in reduction of prevalence of childhood undernutrition in Bangladesh](#). *Public Health Nutrition*. Volume 21. Issue 10. pp 1845-1854.

²³ Headey, D., Hoddinott, J., Ali, D., Tesfaye, R. & M. Dereje (2015) [The Other Asian Enigma: Explaining the Rapid Reduction of Undernutrition in Bangladesh](#). *World Development*. Volume 66.

²⁴ National Institute of Population Research and Training (NIPORT) & ICF (2019) [Bangladesh Demographic and Health Survey 2017-18: Key Indicators](#). Dhaka, Bangladesh, and Rockville, Maryland, USA.

²⁵ Mohsena, M., Goto, R. & Mascie-Taylor, C.G.N. (2015) [Regional variation in maternal and childhood undernutrition in Bangladesh: evidence from demographic and health surveys](#). *WHO South-East Asia Journal of Public Health*. July–December.

²⁶ Schmidhuber, J., Pound, J. & Qiao, B. (2020) [COVID-19: Channels of transmission to food and agriculture](#). Rome. FAO.

4. Progress towards NFNSP objectives level outcomes

4.1 To ensure availability of safe and nutritious food for healthy diets - Objective 1 comprises two strategies emphasizes on Increase productivity while ensuring sustainable production of nutritious foods and Scale up nutrition-sensitive diversification of food production. This objective also aligned with 7 programmes of CIP3 mainly emphasizes on R&D and improved technology for more productive nutrient-rich and sustainable agriculture in rural and urban areas, Gender, climate and nutrition sensitive extension services, Improved efficiency of agricultural inputs and Promotion of agricultural diversification into commodities with high nutrient and micronutrient content and market value including regional and ethnic foods.

4.1.1 Assessment of progress towards achieving objective-1

Table 2: NFNSP objective-1: Selected outcome level performance indicators

CIP3 Outcome proxy indicators	2019/20	2020/21	2021/22	Target	Source
Rice import dependency three years moving (import/availability in (three years moving average)	3.42%	1.35%	2.01%	0% 	FPMU/ MISM, BBS
Agricultural sector GDP ²⁷ growth rate (%)	3.1%	3.2%	3.05%	3.9% 	BBS
Crop and horticulture sector GDP growth	0.9%	2.3%	2.61%		
Fisheries sector GDP growth	6.1%	5.74%	2.64%		
Livestock sector GDP growth	3.0%	2.9%	3.10%		
Forestry sector GDP growth	6.4%	5.0%	5.08%		
Wage differential between males and females in agriculture	24.76%	25.63%	26.17%	Decrease over time 	BBS

The colour indicator shows the progress achieved: target reached  ; on track  ; off track .

Rice import dependency declined from the base year

Rice import dependency is measured as the quantity-ratio between imports and national availability, on a three-year moving average basis. This has remarkable improved, falling to 2.01% in 2021/22 from 3.42% base year due to a record domestic rice production of 38.90 MMT last year and a consequent waning of import demand. In 2021/22 Rice import dependency slightly increased compare to previous FY.

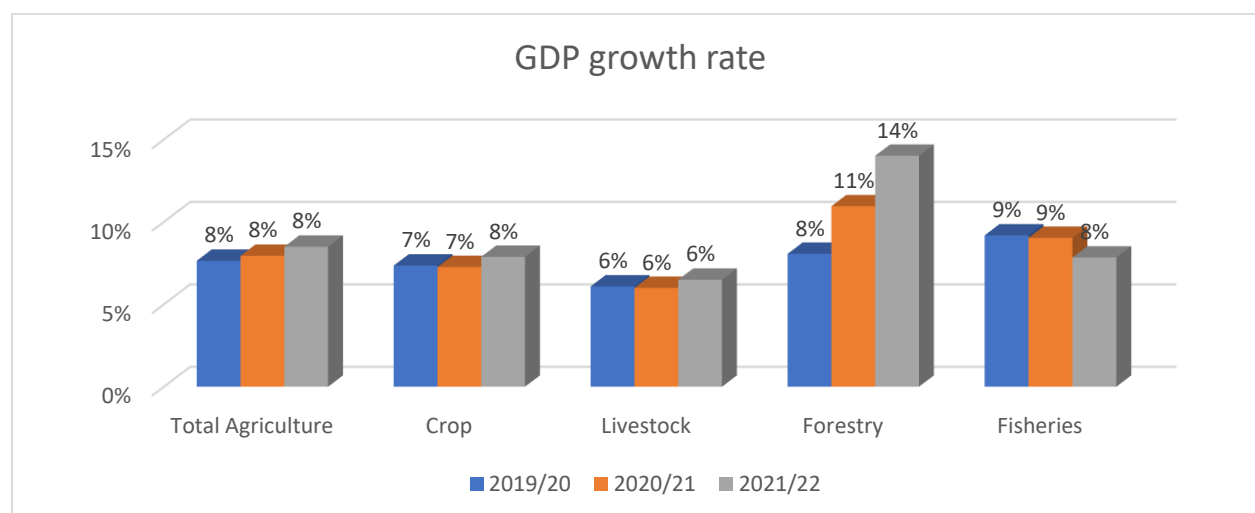
Diversification in production remained sluggish

As observed in Table 2, the overall agriculture sector GDP growth rate in 2021/22 was lower than those of 2020/21 and 2019/20 respectively. The GDP growth rate for crop and horticulture was the highest in 2021/22 over the 2020/21 and also higher than 2019/20. Fisheries GDP growth rates were the lowest over the last two years' periods since the base year 2019/20. The GDP growth rate for Livestock was the highest in 2021/22 over the 2020/21 and also higher than 2019/20. Forestry sector GDP growth rates were the highest in 2021/22 over the 2020/21, but lower than 2019/20. These three sectors' GDP growths picked at 6.1%, 3.0%, and 6.4%, respectively in baseline 2019/20-reflecting a record production and the excellent performance- but gradually dropped to

²⁷ The agricultural sector includes crop and horticulture, livestock and related products, forestry and related services, and fisheries. The forestry sector has been included in MR20 for the first time in recognition of its role in food security, sustainable development and preserving agrobiodiversity.

2.64%, 3.10% and 5.08%, respectively, mainly due to global COVID-19 pandemic and its influence in different activities of agriculture (Figure 5). However, the overall agricultural GDP growth has been sustained: from a 3.1% in the baseline year, it peaked at 3.2% in 2020/21 and slightly decreased at 3.05% in 2021/22 but far from the Eight Five-year plan's (8FYP) target 3.9%.

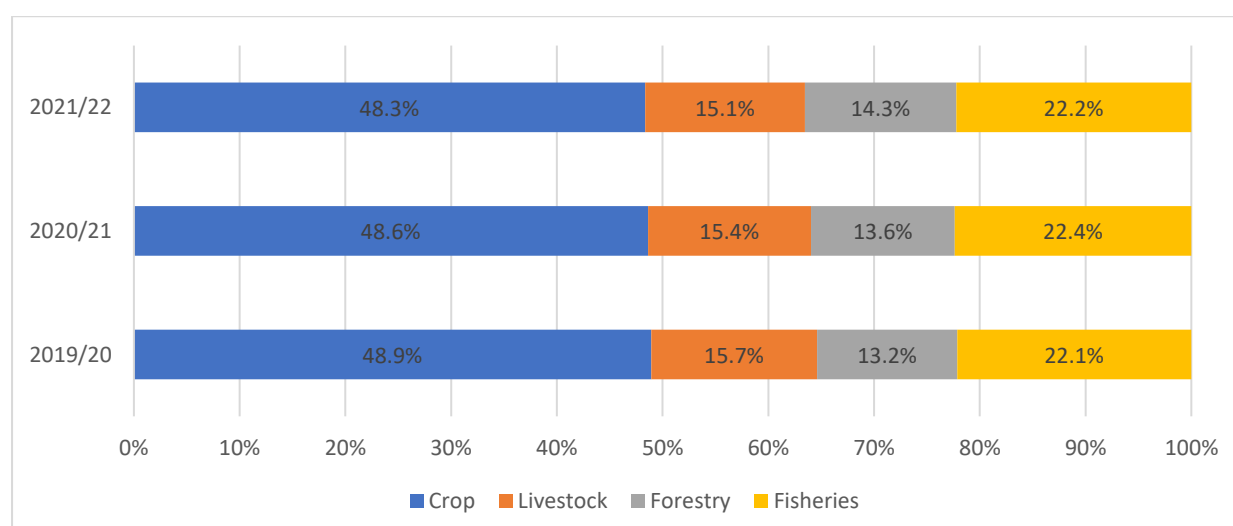
Figure 8 - Sectoral growth (at current price) in agriculture over the reference period (2016/17 - 2020/21; Base 2015/16)



Source: BBS

Diversification in agriculture remained sluggish over the reference period, driven mostly by forestry. Through their more dynamic performance, livestock and forestry sectors increased their shares in total agriculture GDP respectively by 3.1 and 5.1 percentage points. Meanwhile, the relative share of the crop and horticulture, and fisheries sectors dropped by 1.1 and 2.1 percentage points with the non-cereal component lagging and world pandemic COVID-19 (Figure 8).

Figure 9 - Evolution of the agricultural GDP (at current price) composition by subsector



Source: BBS

The differential in wages between males and females in agriculture rebounded

According to ILO (2018)²⁸, Bangladesh has one of the lowest gender wage gaps in the world and first among South Asian countries.²⁹ This surprising result may in part be attributed to the garment sector where workers' organisations have contributed to reducing the gap. Concurrently, Bangladesh registered a 3.4% increase in wages over the period 2008-2017, against the South Asia average rise of 3.7%. In this context of record low gender wage gap and slow wage increases compared to other countries in South Asia, the agricultural wage differential³⁰ rebounded to 26.17% in 2021/22 from 25.63% in 2020/21 and from 24.76% in the baseline year (Table 2). This is due to a higher increase in agricultural male wages over female wages in the last financial year.

4.1.2 Policy challenges and recommendations for further actions

Accelerate agricultural growth and resilience through climate-smart investments

Over the past twenty years, agriculture has been one of the main contributors to poverty reduction in Bangladesh. It now needs to accelerate the shift towards high-value agriculture, including horticulture, livestock, and fisheries as well as greater value addition to improve farmers' income and household nutrition. More recently, the positive trend in agricultural GDP growth rate culminated in the attainment of rice self-sufficiency and allowed the start of a structural, but slow, transformation towards diversification in production, especially towards poultry, fisheries and aquaculture. This has partially translated into improved diets and nutritional outcomes. In spite of these past and current achievements, Bangladesh is increasingly facing the challenges of having to sustain agricultural productivity growth and to boost the production of nutrient-rich foods (both non-cereal crops, livestock and fish products) in a context of increased short-term climate variability (monsoon erratic patterns) and long-term climate change impacts (salinity intrusion, increasing temperatures), land scarcity and population pressure.

The FAO Climate-Smart Agriculture (CSA) approach is useful to reorient agriculture systems towards climate change resilience while maintaining the focus on productivity, sustainable food and nutrition security.³¹ CSA interventions³² ensure increased productivity, strengthened climate resilience and reduced greenhouse gas emissions from agriculture. To this end, in April 2018, the GoB and the World Bank launched the Bangladesh Climate-Smart Agriculture Investment Plan (CSAIP) which aims at identifying climate-smart investment opportunities and accordingly, mobilise resources.

According to the CSAIP, the transition to a climate-resilient growth path is the only option to ensure that long term key agriculture development targets are met. By 2040, the current degree of sea-level rise may reduce available cropland by 24% in coastal divisions across growing seasons. Greater economic activity is expected to trigger +2% of greenhouse gas (GHG) emissions over the period 2015-2040 and to increased water consumption by 0.8-1.7 million litres per year, exacerbating water scarcity. CSA offers growth potential of more than 50% over 2015 levels for non-rice crops, livestock and fisheries. This would allow to maintain rice self-sufficiency, double the production of non-rice crops and meet the national demand for livestock and fish thereby meeting nutritional requirements after post-harvest losses, decrease income dependency on rice,

²⁸ ILO (2018) [Global Wage Report 2018/19 – What lies behind gender pay gaps](#). Geneva. International Labour Office.

²⁹ World Economic Forum (2019) [Global Gender Gap Report 2020](#). Geneva.

³⁰ The wage differential is calculated in terms of 'male premium': (male wage – female wage)/ female wage.

³¹ More on Climate-Smart Agriculture can be found at <http://www.fao.org/climate-smart-agriculture/en/>.

³² See for instance Programme I.2 on Urea Deep Placement.

decrease water use in irrigation, reduce nitrogen dioxide and other (Nationally Determined Contribution) emissions and increase the use of organic fertilisers.³³

A key factor in adequate CSA adoption is its mainstreaming into core policy frameworks, as various sectors in Bangladesh are affected by climate change. The Bangladesh Delta Plan 2100 approved in September 2018 represents the combination of long-term cross-sectoral strategies and subsequent interventions to ensure food and water security, economic growth and environmental sustainability while reducing vulnerability to natural disasters and building resilience to climate change. This, notwithstanding the effects of the COVID-19 crisis, should contribute to helping Bangladesh reach the upper-middle income country status by 2030 and the high-income country status by 2041, as stated in Vision 2041. While Bangladesh is not new to CSA and related interventions, it is essential that these are embedded in a more holistic approach in mid-term planning (the Eighth Five Year Plan for instance) to ensure CSA technological adoption. To this end, the CSAIP identifies Five CSA Investment Packages with a total volume of USD 809 million (USD 2 billion, PPP).^{34,35} Synergies and cooperation at the regional level, especially with South and South-East Asian countries, and in close collaboration with CGIAR centres, must be reinforced. This also needs to involve the operationalisation of technological adoptions and learning from best practices in the region.

Develop stress-tolerant high-yielding varieties of major cereals and nutrient-dense crops such as pulses, oilseeds, soybeans, fruits and vegetables

As the apex of the National Agricultural Research System (NARS) which is composed of 10 research institutes, the Bangladesh Agricultural Research Council (BARC) is responsible for strengthening the national agricultural research capability. These organizations have developed research collaborations with several international agricultural research centres, agricultural universities in Bangladesh, and with various local research entities. The PoA will support and leverage the work of these research institutes. The particular emphasis will be on the development of stress-tolerant rice varieties suited to coastal saline areas, drought-prone north-west region, and submergence-prone low-lying southern delta region. Several improved rice varieties with these characteristics have been developed and disseminated but this past effort needs to be further reinforced to increase the number of varieties suited to diverse farming conditions of Bangladesh³⁶. Similarly, improved maize and wheat varieties are being developed by Bangladesh Wheat and Maize Research Institute (BWMRI) in collaboration with the International Maize and Wheat Improvement Center (CIMMYT). In addition, the Bangladesh Agricultural Research Institute (BARI) is also developing improved varieties of various legume and pulses that are nutrient-rich in collaboration with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) as well as orange fleshed sweet potato (*komola sundari*) which is a rich source of Vitamin A. Research by private firms will be encouraged.

³³ IBRD and World Bank (2019) [Climate Smart Agriculture Investment Plan Bangladesh – Investment opportunities in the agriculture sector's transition to a climate resilient growth path](#). Washington, DC.

³⁴ PPP here means purchasing power parity.

³⁵ IBRD and World Bank (2019) [Climate Smart Agriculture Investment Plan Bangladesh – Investment opportunities in the agriculture sector's transition to a climate resilient growth path](#). Washington, DC.

³⁶ Food Planning and Monitoring Unit (FPMU).2020. *Op. cit*

Improve crop, soil and natural resources management practices including mechanization and “high tech” options to ensure high productivity and sustainability

Like with the development of improved varieties, the national research institutes are also developing crop, water, soil and natural resource management options adapted to different agro-ecology of Bangladesh. Examples of these improved technologies include the alternate wetting and drying method for irrigation, fertiliser application based on soil tests, balanced use of organic and inorganic fertilisers, integrated pest management approach to reduce pesticide application, improved methods of weed control, conservation tillage, *sorjan* farming³⁷ and mechanization options to overcome labour shortages during periods of peak-labour demand such as transplanting and harvesting of rice. Opportunities to increase the efficiency of input use through “high-tech” approaches will be exploited. Investments towards the development of agricultural machinery that is resource and energy efficient along with the training of farmers will be made. Efforts will be made to customise the equipment to the specific needs of Bangladeshi farmers (in line with NAP PoA 2020 Programme 2.2.1).

Develop improved breeds of livestock and fish and improved husbandry practices

The livestock sector is the main source of high-quality protein in the form of meat, milk and eggs. However, the productivity of livestock in Bangladesh in terms of meat and milk production is extremely low due to their origin from a poor genetic base. In addition, the lack of proper veterinary services and poor-quality feeds keep their productivity low. So, opportunities exist to increase the productivity of livestock sector through the application of science-led modern methods of breed improvement complemented by the delivery of effective veterinary services, and improved feeding and management systems. Local adapted breeds of livestock could be developed into high-yielding breeds through suitable breeding approaches. Issues of illegal livestock germplasm need to be addressed. The PoA will support and leverage the Bangladesh Livestock Research Institute’s (BLRI) research with particular emphasis on using science-based methods for breed improvement, development of effective veterinary services, feed quality assurance and improvements in feeding practices. A gene bank will be developed for indigenous fish to be conserved and multiplied.

Improve support to smallholder farmers by adapting it to their farming profile

Smallholder farmers in Bangladesh have been profiled by the Consultative Group to Assist the Poor (CGAP) through a nationally representative survey, according to their level of education, socio-economic status, access to emergency funds, mobile phone ownership, their attitude towards the future, and encountering unexpected life and farming events. The population of smallholder farmers is accordingly classified into four distinctive categories.³⁸

- Farming for sustenance (27% of all farmers). Vulnerable smallholders, largely living below the extreme poverty line, relying on their farm for survival, low level of education and limited financial inclusion (29% of this group);
- Battling the elements (31% of all farmers). Limited level of education, nearly universal mobile phone ownership; more financially included (the case for 38% of this group), access to mobile money and savings’ modalities;

³⁷ Sorjan farming method combines vegetable crops with fish farms and makes land that is waterlogged during the rainy season but faces drought and salinity in the dry season become productive.

³⁸ Anderson J., Moler A. & Kretchun N. (2016) [National Survey and Segmentation of Smallholder Household in Bangladesh – Understanding Their Demand for Financial, Agricultural and Digital Solution](#). CGAP Working Paper. December.

- Options for growth (31% of all farmers). Stable and resilient to shocks; largely living above the poverty line; relying on agricultural income, with the possibility to turn to off-farm income opportunities; universal mobile phone ownership; more financially included (59% of this group);
- Strategic agricultural entrepreneurship (11% of all farmers). Diversified and thriving farms, with multiple sources of income and access to several financial tools; 69% of financial inclusion.

Promote sustainable use of forests to ensure the livelihood of local communities and agrobiodiversity preservation

The importance of forests for the sustainability of food and agricultural systems is widely recognised.³⁹ Forests and trees in Bangladesh are a rich source of building materials, food, medicine, fuel and other products (such as honey, wax and herbs), thereby providing livelihoods to local communities. They perform important ecosystem functions such as carbon sequestration and soil and water protection. They also support resilience as forest products are often consumed during periods of food scarcity and provide livelihood safety nets. Foods from forests, notably, leaves, seeds, nuts, fruits, mushrooms, honey, insects and animals, are rich in micronutrients and can make important contributions to diet diversity and nutrition. While the country's forests are heavily utilised, the ability to restore forests is limited. Forests and tree resources are under constant pressure from urbanisation and practices which leave forested landscapes degraded. For instance, the increased population due to the massive influx of displaced Rohingya people since 2015 has put pressure on natural resources in Cox's Bazar. Although overall tree canopy coverage increased modestly from 2000 to 2014, the natural forest area declined⁴⁰, and there is a persistent widening gap between the demand and supply of forest products.⁴¹ A major challenge faced by Bangladesh in the near future will be the balance between sustainable use and conservation of these resources, and economic growth. Forest cover in the country was only 12.8% in 2015 (14.1% excluding water bodies) but sustainable development targets are currently being set to increase it. Fortunately, newly available tools such as the Bangladesh Forest Inventory and Land Cover Map 2015, and data sharing policies, can help reach these targets. Further work is being carried out under a large World Bank funded project (*Sustainable Forests and Livelihoods- SUFAL*), which aims to improve collaborative forest management approaches and to support the next national forest inventory, tree planting, and other initiatives. Finally, evidence shows that research on ecosystem services valuation is still insufficient in Bangladesh⁴²: a better assessment of the socio-economic and environmental contribution of forestry to agriculture and the rest of the economy would provide more evidence to guide sound policymaking such as setting up carbon emission permits or payment for environmental services.

³⁹ Powell, B., Ickowitz, A., McMullin, S., Jamnadass, R., Padoch, C., Pinedo-Vasquez, M. & Sunderland, T. (2013) [The Role of Forests, Trees and Wild Biodiversity for Nutrition-Sensitive Food Systems and Landscapes](#). ICN2 Second International Conference on Nutrition – better nutrition better lives. FAO – WHO.

⁴⁰ Potapov, P., Siddiqui, B., Iqbal, Z., Aziz, T., Zaman, B., Islam, A., Pickens, A., Talero, Y., Tyukavina, A. & Turubanova, S. (2017) [Comprehensive monitoring of Bangladesh tree cover inside and outside of forests, 2000–2014](#). *Environmental Research Letters*. 12(10).

⁴¹ Rahman, L.M. (2016) [Bangladesh National Conservation Strategy- Forest Resources](#). Dhaka. IUCN and Bangladesh Forest Department.

⁴² Barua, S.K., Boscolo, M. & Animon, I. (2020) [Valuing forest-based ecosystem services in Bangladesh: Implication for research and policies](#). *Ecosystem Services*. Volume 42. April.

4.2 To ensure access to safe and nutritious food at an affordable price

Objective 2 comprises four strategies emphasizes on improvement and management of post-harvest marketing, setting up financial intermediation services, ensuring trade liberalisation, strengthen ICT-based market information system, promote the fortification and nutrition enhancement, building the capacity of the private sector to test food, promote inclusive cooperative/group-based processing etc. This objective also aligned with 9 programmes of CIP3 mainly emphasizes on efficient FVCs through transport infrastructure, innovation and improvements in post-harvest processing and marketing, improved infrastructure, reduced FLW and enhanced cooperation among agents, promotion of agriculture-driven employment.

4.2.1 Assessment of progress towards achieving objective-2

Table 3 - NFNSP objective-2: Selected outcome level performance indicators

CIP2 outcome proxy indicators	2019/20 Baseline	2020/21	2021/22	Target	Source
Average annual CPI inflation rate	5.65%	5.6%	6.2%	4.6% by 2025 8FYP	Bangladesh Bank; National Account Statistics, BBS
Change in agricultural wage rate of male agricultural labourers (without food)	3.6	3.32%	7.43	6.56% by 2021 8FYP (per capita real GDP growth rate + 0.5) ⁴³	Bangladesh Bank/DAM/ BBS

The colour indicator shows the progress achieved: target reached  ; on track  ; off track  .

The Consumer Price Index increased but near to the target

The average annual Consumer Price Index (CPI) inflation rate measures the change in the price of a set of essential commodities over a base year. In the FY 2021/22 CPI inflation rate increased to 6.2% from 5.6% in 2020/21, not far from achieving the target of 4.6% by 2025. Recent world economic disturbance due to Russia-Ukraine war that fuelling the price hike globally resulting inflation as an aftermath is the main cause of rising CPI in Bangladesh.

General inflation hit a record high in both 2007/08 and 2010/11 due to the upsurge in food prices triggered by the international food price hike. Food inflation remained higher than non-food inflation - except in 2013/14 and 2017/18. Over the last decade, both food and non-food inflation have been volatile but converged in 2018/19. However, a bit diverged condition has been observed again in 2019/20 when food and non-food inflation exist at 5.56% and 5.85% whereas in the FY 2021/22, the rate was 6.05% and 6.30% respectively.

The agricultural wage rate advanced but is still off target

⁴³ According to the 8FYP (page 43), the GDP growth rate is projected at 7.4% in 2020. Factoring in the population growth rate (1.34%), the target is computed as $7.4 - 1.34 + 0.5 = 6.56\%$.

Agricultural average wage rate of male agricultural labourers (without food) in 2019-20 was 423.58 Tk /capita/day. The change was 3.6%. Similarly, wage rate was change in the year 2020-21 was 3.22% and in 2021-22 change was 7.43%. The main cause of the wage rate increase is the shortage of labour in Agricultural sector.

4.2.2 Policy challenges and recommendations for further actions

Invest in conservation of nutrients during post-harvest storage, transformation and distribution

Nutrition-sensitive approaches to value chain development have emerged as a modality to reorient food systems (from farm to fork) for improved nutritional outcomes. NSVC comprise safe storage, processing and preservation technologies, labour-saving technologies and fortification, as well as cold chain and distribution mechanisms, which help better retention of nutrients thereby preventing nutrient losses.⁴⁴ For better management of agriculture marketing, in the year under review, the GoB passed the 'Agricultural Marketing Bill 2018' to expedite improved management system, trading, production and marketing of agro-based products ensuring food safety and fair prices for growers and consumers.⁴⁵ The AMB 2018 has been included into the 'Mobile Court Act 2019.' In line with the Bill, up to December 2019/20 the Directorate General of Food (DG Food), under the *Modern Food Storage Facilities Project (MFSP)*, distributed 70-litre waterproof food-grade plastic silos among 500,000 households in 63 upazilas of 19 disaster-prone districts. More over 3 lakh food grain plastic silos have been planned for distribution during 'Mujib Borsho'. The project has been approved on 16/07/2020 for implementation from July 2020 to December 2021. During this time, silos will be distributed to 3 lakh families in 23 upazilas of 8 divisions of the country and already the final list of beneficiaries in 21 districts has been finalized. This aimed at facilitating the storage of quality seeds and foodstuff during natural disasters.⁴⁶ DG-Food has been implementing a total of 162 food storages (48 storages each of 1,000 MT capacity and 114 storages with 500 MT capacity), in 131 Upazillas, of which 105 storages have already been completed and other 4 storages are nearly completed.⁴⁷ From July 2013 to 30 June 2021, the overall physical progress of this project is 96% and financial progress is 93.18%. Additionally, with World Bank support, the government continues to establish large-scale silos in Ashuganj, Madhupur, and Mymensingh that include six on-site food-testing laboratories.⁴⁸ The progress of these 3 silos is on average 74.9%. The project named 'Construction of Modern Food Storage' is being implemented from January/2014 to October/2021. A new private sector initiative- Cold Chain Bangladesh Limited (CCBL) - jointly owned by Golden Harvest Ice Cream Limited and Golden Harvest Foods Limited, co-financed by International Finance Corporation (IFC) is to invest in a network of temperature-controlled warehouses and logistics assets in 12 storage locations across the country.⁴⁹

Promote nutrition-sensitive value chain through quality and safety certifications

⁴⁴ De la Peña, I., Garrett, J. & Gelli, A. (2018) [Nutrition-sensitive value chain from a smallholder perspective – A framework for project design](#). IFAD Research Series 30. September. Rome.

⁴⁵ GOB (2018) [Agriculture Marketing Bill 2018](#). In Bangla.

⁴⁶ GoB (2019) [5,00,000 HH Silos Distributed As On November, 2019](#). Modern Food Storage Facilities Project. Dhaka. Directorate General of Food. Ministry of Food.

⁴⁷ GoB (2021) [Annual Report 2020/21](#). Dhaka. Directorate General of Food. Ministry of Food.

⁴⁸ *Ibid*.

⁴⁹ CCBL (2019) [Golden Harvest Joins Hands with IFC for Integrated Cold Chain Network](#). Cold Chain Bangladesh Limited.

The number of agricultural MSMEs⁵⁰ in Bangladesh is estimated at more than 1.7 million, around 22% of all MSMEs, providing employment to about 40% of the population and contributing to the agro-processing sectoral turnover of 3.2 billion USD.⁵¹ Agricultural MSMEs are essential service and product providers to farmers engaged with primary production. Strengthening improved practices and technology to preserve micronutrient content during harvesting and post-harvest operations -including sorting, grading, cleaning, packaging and storage; secondary processing (value addition); and marketing and distribution, is essential in ensuring that value chains are nutrition-sensitive. Both primary producers and MSMEs could benefit from obtaining quality and safety certifications. The GLOBALG.A.P. is a trademark and sets voluntary standards for Good Agricultural Practices (GAP) worldwide. In this context, the Bangladesh-USAID *Agriculture Value Chain (AVC)* Project (2013-18) - in collaboration with the Dhaka Chamber of Commerce and Industry and the GLOBAL G.A.P. - supported large agribusiness industries such as Banglaphresh (NAAFCO), Gardenfresh (Ispahani), and Shuddho (Shwapno) in delivering fresh and quality product to consumers.⁵² However, nutrient composition and food safety information are often not visible on the product which means that certifications need to be complemented with nutrition labelling and nutrition awareness campaigns (see Programme V.1 and Programme III.1), which would, in turn, allow MSMEs and producers to obtain a premium price for quality and safety of supplied food.

Promote financial inclusion to support the resilience of agro-food MSMEs in rural areas

Improving MSMEs' financial inclusion is a fundamental challenge at the heart of a country's financial and economic development. Access to formal finance by MSMEs in Bangladesh is limited compared to the average for the South Asia region, with an estimated financing gap of BDT 237 billion (USD 2.8 billion). As of 2018, 47% of adults were financially included mainly through microfinance institutions, mobile money accounts, banks or non-banking financial institutions. Rural users show a preference for non-banks financial institutions over banks.⁵³ Informal lenders are predominant in the agro-food sector. They are mostly actors involved in these value-chains whose core business is not finance-related but who have promptly responded to a growing demand for financial products in rural areas, exploiting, information advantages, lower transaction costs, and closer proximity with rural clientele compared to the formal and institutional counterparts.⁵⁴ A key driver of financial inclusion is achieving 'Digital Bangladesh' through mobile money and digital payment platforms in rural areas. The agro-processing sector has been declared as an important sector by the government and to facilitate that the Bangladesh Krishi Bank provides finance for seven priority sectors.⁵⁵ Similarly, the Rajshahi Krishi Unnayan Bank (RAKUB) has also introduced a special credit programme titled *RAKUB-Small Enterprise Credit Programme (SECP)* to promote the entrepreneurship in small agro-enterprises.⁵⁶ Several innovative and alternative financing options can be further explored, including risk-sharing facilities, factoring, warehouse receipt finance, and/or start-up capital policies.⁵⁷ Mainstreaming

⁵⁰ Defined as enterprises with 100 employees or less.

⁵¹ Feed the Future (2019) *Pathways to prosperity -Rural and Agricultural Finance – State of the Sector Report*. November.

⁵² USAID (2019) *Bangladesh USAID Agriculture Value Chain Project*.

⁵³ *Financial Inclusion Insights (FII) Program website*.

⁵⁴ FAO (2017) *Innovative risk management strategies in rural and agriculture finance- The Asian experience* by Emilio Hernández (ed.). Rome.

⁵⁵ Crop, Fisheries, Livestock, Farm and Irrigation Equipment, Agro based Industrial Project, SME, Continuous Loan (Working Capital and Cash Credit), Micro Credit (Small Loan).

⁵⁶ Innovision and Katalyst (2016) *Study on the Roles and Opportunities for Private Sector in Agro-food Processing Industry of Bangladesh*.

⁵⁷ World Bank Group (2019) *Financing Solutions for Micro Small and Medium Enterprises in Bangladesh. Washington, DC*

rural financial inclusion is essential for resilient rural economies which are undermined by a structural lack of cash and liquidity which has been exacerbated by the COVID-19 pandemic (Box 3). To that end, SME received an initial stimulus package from GoB of BDT 20,000 crore as a credit line facility at a subsidized interest rate of 2%, which was a timely response to the COVID-19 situation.⁵⁸

Improve access to service, information and markets across food chains

The government is committed to using technology to eliminate poverty by ensuring digital inclusion for all, in line with Vision 2021 of a ‘Digital Bangladesh’ and with the a2i programme. This initiative can create an enabling environment that will improve smallholder farmers’ integration into value chains and markets. In addition, the *National Agriculture Technology Programme – Phase II Project* (NATP-2) aims to improve market access by strengthening value chains. Marketing arrangements allowed marketing 8,025 MT through collaboration between the Project Implementing Unit - DAE and Hortex Foundation. The project reached more than one million beneficiaries organised in 40,514 common interest groups, which contributed to the development of micro plans subsequently aggregated into Union extension plans, as an approach to strengthen the responsiveness of extension services towards beneficiary needs. Key elements to speed up the implementation status are accelerating extension services’ support for common interest groups and filling the gap between technology generation and adoption to ensure technology reaches farmers more rapidly.⁵⁹ Also, to avoid distress crop sales by farmers, the Department of Agricultural Marketing (DAM) provided crop warehouse loans to 4,596 farmers in 2020/21.⁶⁰ Under the USAID-funded *Agricultural Value Chain (AVC) Project*, to increase sales up to 60%, several partners such as Ispahani, Partex, and NAAFCO Pharma provided training on input management to some 39,000 lead farmers.⁶¹ Joikko Agro Ltd is a social enterprise with the goal of supporting farmers to improve their livelihoods by connecting them with a variety of local and international service providers -such as agronomic training, crop advisory, access to quality inputs, farm machinery rental, agri-loans - and by improving market access through crop aggregation and contract farming.⁶² Joikko works with over 10,000 farmers and its cornerstone component is six for-profit farmer centres which provide services and facilitate contracts with national and international buyers. By growing and selling together, farmers have improved their yields and are able to negotiate better prices for their collective crops. The project’s objective is to form a social franchise that holds a growing network of farmer centres to account through a standard catalogue of fee and no fee-based service provision.⁶³ The government needs to support such demand-driven initiatives by making rural Bangladesh thoroughly digital, by creating an enabling business environment that appeals to the younger sections of the population, in rural areas with improved physical infrastructure and communication networks to guarantee connectivity, an essential enabler to these farmers’ networks.

⁵⁸ <https://thefinancialexpress.com.bd/views/covid-19-stimulus-package-a-critique-1586274943>

⁵⁹ World Bank (2019) *Implementation Status and Results Report - Bangladesh NATP-2: National Agriculture Technology Programme – Phase II Project (P149553)*. December.

⁶⁰ GoB (2021) *Annual Report 2020-2021*. Dhaka. Department of Agricultural Marketing, Ministry of Agriculture.

⁶¹ *Ibid*.

⁶² <https://www.joikko.com/>

⁶³ Iles, R. (2019). *The Future of Technology for Smallholder Farming in Poor Rural Conditions Bangladesh JOIKKO Social Franchise Case Study Report*. Report commissioned by VSO International. August.

4.3 To enhance the consumption and utilization of healthy and diversified diets for achieving nutrition improvements

The objective of Outcome 3 is to improve diet quality and diversity as well as utilization through integrated short and long-term interventions for better nutrition and health. These interventions include promoting healthy diets, dietary diversity and food safety through evidence-based Nutrition Behaviour Change Communication (NBCC) and ensuring safe water, improved hygiene and sanitation (WASH) to prevent the risk of infections including food borne illness that can affect food utilisation and nutrient absorption. Outcome III comprises of two programmes namely (III.1) Enhanced nutrition knowledge, promotion of good practices and consumption of safe and nutritious diets and (III.2) Optimised food utilisation through the provision of safe water, improved food hygiene and sanitation along with six associated sub-programmes. Table-4 presents the progress towards achieving objective-3.

4.3.1 Assessment of progress towards achieving objective-3

Table 4 – NFNSP objective-3: Selected outcome level performance indicators

Outcome III: Consumption and utilization of healthy and diversified diets for achieving nutrition improvements					
Proxy indicator	Baseline 2019/20	2020/21	2021/22	Target	Verification source
% of Dietary Energy Intake (DEI) from cereals	64% (2016)	64% (2016)	52% (Approximate-HIES-2022)	60% by 2025 (NPAN2)	HIES, BBS
% of households consuming iodized salt (>15 ppm) (NPAN2)	58.5% (MICS 2019)	58.5% (MICS 2019)	N/A	90% by 2025 (NPAN2)	MICS, MoHFW, BBS
% of women with minimum dietary diversity (MDD-W) (NPAN2)	46% (FSNSP 2015)	46% (FSNSP 2015)	39% (2 nd National Micronutrient Survey)	75% by 2025 (NPAN2)	BBS
% of children aged 6-23 months receiving Minimum Acceptable Diet	35% BDHS 2018	27% (MICS 2019)	28.8% (2 nd National Micronutrient Survey)	>40% by 2025 (NPAN2)	BDHS, BBS
% of population with safely managed drinking water services (Percentage of household members with an improved drinking water source located on premises, free of <i>E. coli</i> and available when needed) (SDG 6.1.1 and 8FYP)	47.9% (MICS 2019)	59% (DPHE)	64% (DPHE)	75% by 2025 (8FYP)	MICS, BBS, DPHE

The target of dietary energy intake (DEI) from cereals was on track until 2016,

In Bangladesh, cereals and rice in particular, continue to be the main source of dietary energy, even though the proportion of cereal energy in the diet is gradually declining. As per the preliminary report of BBS-HIES-2022, the daily per capita intake of rice decreased from 367gm in 2016 to 328.9 gm in 2022 that is the right direction to reach the desirable norm of 350gm. The proportion of dietary energy from cereals is 52% (Approximate result from BBS-HIES-2022). Consumption of protein and micronutrient rich foods, including animal source foods and pulses,

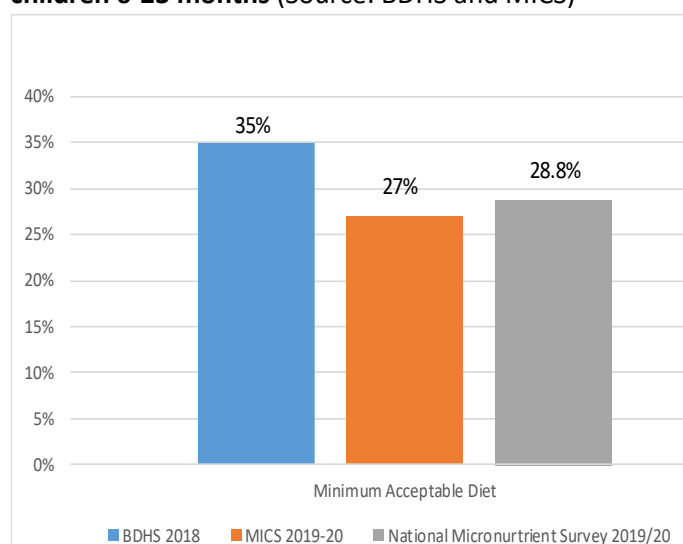
remained low. Animal source foods are rich in good quality protein and bioavailable micronutrients, especially iron, zinc and calcium. Even though the intake of these foods slightly increased between 2016 and 2022, it was below the desirable intake for meat, egg and milk.

Fish consumption has increased from 62.6 gm in 2016 to 67.8gm in 2022 while that of pulses consumption has increased to 17.1gm per capita daily, still less than a third of the desirable intake. Similarly, over the same time period (2022), vegetable consumption increased to 201.9 gm and fruit consumption has also increased to 95.4 gm, both remaining slightly lower than the recommended intakes. In 2016, vegetable intake was only 167 gm, just above half of the recommended intake of 300gm. Similarly, in 2016, fruit intake was only 36 gm, about a third of the desirable intake of 100gm. A small gaps between actual consumption and the Desirable Dietary Pattern⁶⁴ call for urgent attention to be given to promoting dietary guidelines for enhancing the demand for healthy food choices and diets. Issues related to the nutrient density of foods and total diet studies need to be given the highest policy attention. The supply and affordability of nutrient-dense⁶⁵ foods need to be enhanced in order to bridge the nutrient gap that prevails in consumption. While regular data is needed to assess the changes in dietary intake from the Household Income Expenditure Survey (HIES), it is likely that any progress made will have been reversed, at least temporarily by the COVID-19 crisis. In Bangladesh, where most families' ability to eat depends on daily wages and where 87% of employment is generated by the informal sector, access to diversified foods and healthy diets will be markedly reduced. Street vendors and food sellers, especially in urban areas, face huge losses as panic-stricken city dwellers stayed at home and foods remained unsold during the lockdown phase.

Improve situation of Minimum Acceptable Diets for children aged 6-23 months compared with the preliminary findings of Second National Micronutrient Survey 2019-2020

The Minimum Acceptable Diet (MAD) is one of the eight core indicators for assessing infant and young child feeding (IYCF) practices for children aged 6-23 months recommended by WHO⁶⁶ and UNICEF.⁶⁷ Recent preliminary findings from the National Micronutrient Survey 2020-21 shows that a improve situation in Minimum Acceptable Diet to 28.8% in 2019-20 from 27% in 2019 MICS Survey. Whereas, BDHS surveys show

Figure 10 - Trend in minimum acceptable diet for children 6-23 months (Source: BDHS and MICS)



⁶⁴ Quamrun, N., Choudhury, S., Faruque, Md. O., Saliheen Sultana, S.S. & Siddiquee, M.A. (2013) *Desirable Dietary Pattern for Bangladesh*. Final Research Results. NFPCSP Research Grant Initiative. Dhaka. FAO.

⁶⁵ Nutrient density is defined as the amount of different nutrients per 100 kcal of preparation.

⁶⁶ WHO/UNICEF (2017) *Global Nutrition Monitoring Framework. Operational Guidance for tracking progress in meeting targets for 2025*. Geneva: World Health Organization.

⁶⁷ UNICEF (2020) *Improving Young Children's Diets During the Complementary Feeding Period*. UNICEF Programming Guidance. New York. UNICEF.

35% in 2018 of children receiving MAD which indicates slight decrease in recent time.

However, MICS-2019 Survey shows that 27% of children 6-23 are receiving Minimum Acceptable Diet (MAD), whereas the target of MAD is 40% by 2025 as per the NPAN2.

The MAD is a composite indicator of the Minimum Dietary Diversity (MDD) and the Minimum Meal Frequency (MMF). The MDD is a proxy indicator for nutrient density and micronutrient adequacy, while the MMF is a proxy indicator for the energy density in a child's diet. From the above graph we see the fluctuation of MDD among children 6-23 from BDHS-2018 to National Micronutrient Survey 2019-2020. It is likely that improvements in 2018 may have been negatively impacted in the COVID-19 situation. The initial lockdown and subsequent restricted movement affected employment and incomes which in turn have reduced the access to a diversified range of foods needed for healthy diets, especially among women and young children. Poor IYCF leads to growth retardation and micronutrient deficiencies among children, especially when linked to low diet diversification and nutrient inadequacy in complementary feeding. Appropriate complementary feeding guidelines and improved nutrient-dense recipes through National Nutrition Services (NNS) should be promoted to enhance the quality, quantity, diversity and safety of complementary foods to improve child nutrition in the first 1,000 days of life.

Improvement of Adequately iodized salt consumption, however remains a challenge

Salt is adequately iodized when it is fortified with potassium iodate for at least 15 parts per million (ppm). More recent estimates of consumption of adequately iodised salt data from MICS 2019⁶⁸ show 58.5% of households consuming adequate iodised salt (i.e. minimum 15 ppm), far-below the NPAN2 recommended target for 90% of the population. Bangladesh is thus still far behind the NPAN2 recommendation. Quality assurance at the production level, along with routine chemical analysis in laboratories and on markets are essential to assess iodine adequacy in salt. Nutrition messaging for appropriate cooking and storage practices of iodised salt is also important. Actions to further promote the consumption of adequately iodised salt need to be scaled-up.

Minimum Dietary Diversity for Women (MDD-W) was inadequate as of the preliminary findings of Second National Micronutrient Survey 2019-20

The minimum dietary diversity for women (MDD-W) is a proxy indicator of micronutrient adequacy in their diet indicating the consumption of at least five or more out of ten food groups. The NPAN2 has a target of 75% for MDD-W by 2025. Yet, less than half (39%) of the women had a minimum dietary diversity in 2019-20. Although regular data on MDD-W are not available, nationally representative food consumption and dietary assessment in 2017-2018 showed that 53.3 % of women in the reproductive age had a MDD-W mean score of 5 out of 10 food groups.⁶⁹ These findings corroborate earlier findings of FSNSP-2015 (46%) and highlight the need to accelerate the diversification of diets for women. Scaling up the use of dietary guidelines for improved food diversity is essential to achieve this objective. Diet diversity tools validated with biomarkers of intake and micronutrient adequacy⁷⁰ need to be produced through the evidence to inform policy. The use of the updated 2015 Food Composition Tables (FCT) as an essential tool for food and

⁶⁸ Carried by UNICEF and BBS.

⁶⁹ INFS /MUCH FAO (2018) [Food Consumption and Dietary Assessment Survey](#). Dhaka.

⁷⁰ Nair, M.K., Augustine, L.F. & Konapur, A. (2015) [Food-Based Interventions to Modify Diet Quality and Diversity to Address Multiple Micronutrient Deficiency](#). *Front Public Health*. 3: 277.

agricultural planning can serve to orient and set nutrient targets in food production and guide diet planning for meeting consumption requirements and nutrient needs.

Percentage of Population with safely managed drinking water services has improved

Percentage of Population with safely managed drinking water services includes percentage of household members with an improved drinking water source located on premises, free E. Coli and available when needed is an important SDG indicator i.e. SDG 6.1.1 and 8FYP. Recent MICS-2019 show that 47.9% population can managed safely drinking water services in 2019. However, there is an improvement in this indicator. From the APA report of DPHE shows that 59% population and 64% population can managed safely drinking water services in 2020-21 and 2021-22 respectively.

4.3.2 Policy challenges and recommendations for further actions

Improve Infant and Young Child feeding Practice

Improvement of Infant and Young Child feeding Practice is very essential for the reduction of undernutrition. Implementation of the existing Strategy on Infant and Young Child Feeding Practice is important. Research should be taken to find out the challenges or bottlenecks of the existing implementation process.

Develop and implement long-term national food planning to ensure nutritious and healthy diets

Long term planning for ensuring nutritious and healthy diets from a sustainable food system is an immediate need considering Bangladesh's population growth, demographic composition, and changes in dietary patterns induced by urbanization and income growth. This is important to estimate the gaps in availability, consumption and desirable intake and to take remedial actions through increased production, processing or trade. Food systems, especially in urban areas, are evolving to adapt to evolving food demands and transforming from traditional to modern with the increasing consumption of convenience/fast food. Desirable dietary pattern and nutrient targets should be used for diversified food planning, sensitize demand for healthy food and enhanced food supply.

Promote dietary diversity to enhance nutrient adequacy

Women during pregnancy, lactation and menstruation, and adolescent girls, who experience rapid physiological changes, require diets that are diversified, safe, adequate and rich in micronutrients. Government and non-government agencies have carried out numerous advocacy and awareness programmes on the promotion of dietary diversity. Targeted programmes must be scaled up to improve the diets of adolescent girls, pregnant and lactating women during their antenatal care (ANC) and post-natal care (PNC) sessions. The prolonged COVID-19 pandemic is likely to impact maternal and child nutrition, given the potential reduction in access to income and food, decrease in breastfeeding and possible increase in the use of breastmilk substitutes, exacerbated by COVID-19 related concerns (Box 4).⁷¹ Higher incomes also do not automatically translate into a healthier diet. Contextual drivers that shape food systems also influence food choices, preferences and consumption behaviour. Implementation of dietary guidelines, nutrition education programmes and behaviour change communications (BCC) need to be integrated to every step of the food

⁷¹<https://www.who.int/news-room/commentaries/detail/breastfeeding-and-covid-19>

system including in nutrition-sensitive interventions to inform and influence food demand and promote healthy dietary behaviour and consumption.

Improve the consumption of fortified foods and its monitoring

Fortification of staple foods with essential micronutrients is a cost-effective intervention. This has been prioritised in the National Strategy on Prevention and Control of Micronutrient Deficiencies (NSPCMD 2015-2024). However, outreach, coverage and access to fortified foods by the targeted populations remain inadequate. The effectiveness of fortified rice in addressing anaemia and zinc deficiency was demonstrated among Vulnerable Group Development (VGD) beneficiaries in five districts of Bangladesh before and after 12 months of fortified rice distribution.⁷² Particular attention needs to be given to identifying potential barriers to equitable access for all population groups needing adequately iodine-fortified salt. Strengthening the existing monitoring system, in line with the NSPCMD, is fundamental to track the consumption of adequately fortified foods to inform policy and programmes. It is also important to regularly assess the distribution of key micronutrient deficiencies such as iodine, vitamin A and zinc across regions and population groups to inform policy update. To this purpose, a National Micronutrient Survey and a specific National Iodine Deficiency Disorders Survey are indispensable.

Strengthen National Nutrition Services delivery through community clinics

The NNS is an operational plan under the Health Population and Nutrition Sector Development Program, implemented by the Institute of Public Health and Nutrition (IPHN) and includes several programmes to control micronutrient deficiencies. NNS promotes food-based approaches through BCC to control anaemia and enhance the production of bioavailable micronutrient-rich foods to enhance diets and improve nutritional status in general. Other interventions including breastfeeding, appropriate complementary feeding, increased intake of animal food, green leafy vegetables are being encouraged. Anti-helminths are procured routinely and distributed nationwide by NNS to control worm infestation.

Lack of coordination in implementing multiple interventions using public health curative care facilities, limited preventive outreach platforms, inadequate logistics and supplies for nutrition-related services, inadequate training coverage of service providers at community clinics (i.e. Community Health Care Promoter) and poor outreach of services (i.e. Health Assistant) have been identified as the major challenges for NNS.⁷³ Despite the availability of ANC services at the community and outreach level, the rate of compliance to iron folic acid supplements is very low with only one-fourth of the pregnant and lactating women attending these services.

It is recommended to strengthen the implementation of ANC, PNC, growth monitoring and promotion, NNS delivery involving community clinics targeted to children and women suffering from anaemia and micronutrient deficiencies. Within the multi-sectoral nature of NNS, linkages with nutrition-sensitive interventions under the Ministry of Agriculture (MoA) and the Ministry of Fisheries and Livestock (MoFL) also need to be strengthened.

⁷² Ara G., Khanam M., Rahman A., Ahmed T. *et al* (2019) [Effectiveness of micronutrient-fortified rice consumption on anaemia and zinc status among vulnerable women in Bangladesh](#). Plos ONE 14 (1): e0210501.

⁷³ Shaha K.K., Billah M., Menon P., Arefin, S.E. & Mbuya, N.V.N. (2015) [Bangladesh National Nutrition Services: assessment of improvement status](#). World Bank Technical Report.

4.4 To increase access to nutrition-sensitive social protection and safety nets across life cycle with a focus on vulnerable groups and regions

Objective IV aims on improve management of the public food stock and distribution system and improve disaster preparedness, responses, rehabilitation and mitigation as well as strengthen social protection for poor and vulnerable groups, including disabled and displaced. This objective 4 is aligned with the 7 programme of pillar-4 under CIP-3 which are mainly focused on efficiently maintain public food stock and distribution system, increased resilience of agriculture systems, facilitation and coordination in pre and post disaster period, strengthened social protection in disadvantaged areas and groups with particular attention to nutrition sensitivity considering seasonal crises, income generation, agricultural and micro-entrepreneurship development.

4.4.1 Assessment of progress towards achieving objective-4

Table 5: NFNSP objective-4: Selected outcome level performance indicators

CIP2 outcome proxy indicators	2019/20 Baseline	2020/21	2021/22	Target	Source
Proportion of population living below national poverty line (SDG 1.2.1)	20.5* % (2018/19)	N/A	18.7%	8FYP: National: 15.6% by 2025 SDG:7.2 by 2030 ●	HIES reports, BBS, GED
Proportion of population under national extreme poverty line	10.5*% (2018/19)	N/A	5.6 %	8FYP National: 7.4% by 2025 SDG:2.55 by 2030 ●	HIES reports, BBS, GED
Safety net programmes budget (excluding gov. Pensions) as % of GDP (SDG 1.3.1.)	2.10%	2.35%	2.22%	8FYP: 2% of GDP by 2025 ●	MoF/ GED

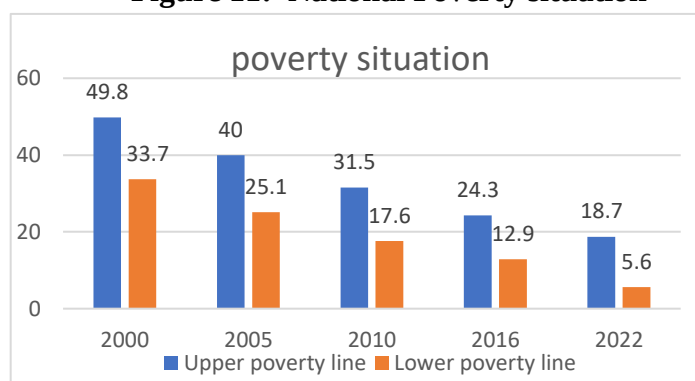
*: estimated: The colour indicator shows the progress achieved: target reached ● ; on track ● ; off track ●

Poverty reduction was on-track for the SDG 1 national target

Bangladesh Bureau of Statistics (BBS) estimated that upper poverty lines declined nationally from 24.3 % in 2016 to 18.7% in 2022 based on Household income and Expenditure survey (HIES) by using the Head Count Rate (HCR) method. HIES 2022 estimated Upper poverty lines is 20.5 percent in rural area and 14.7 percent in urban area which represent

decreasing trend from earlier HIES 2016. On the other hand HIES 2022 has estimated that the overall rate of extreme poverty in the country is 5.6 per cent, which is 6.5 per cent in the rural areas and 3.8 per cent in the urban areas. Even with a somewhat slower rate of decline after 2010, Bangladesh was still on-track to achieve before 2030, the SDG 1 Target 1.2.1 of reducing at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions. During COVID-19 pandemic in 2020 the lockdown resulting led to sharp increases, in poverty depth amongst the already poor, and in poverty prevalence when previously non-poor households fell into poverty. The transitory shock turned into a longer-term crisis in poor households when the lockdown perdured. Many of the poor would rebound with the resumption of economic activity, but some would remain poor because they sold productive assets,

Figure 11: National Poverty situation

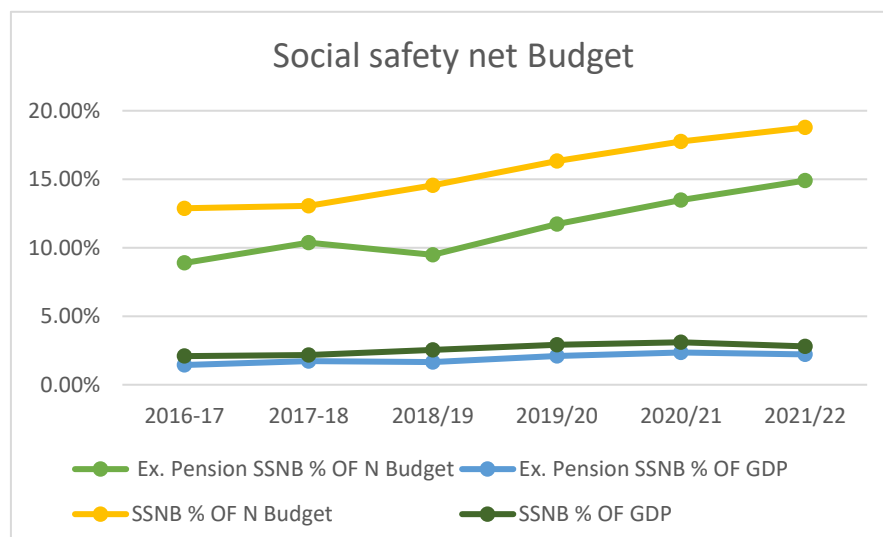


accumulated unmanageable debts, were unable to re-finance migrant work, and even for some. As a response of post COVID-19 impact government has taken lots of initiatives to reduce poverty. That why poverty has declined.

The weight of safety net programmes in total GDP continued to rise

Figure 12: National Budget, Social Safety Net Budget and GDP

Actual government Social safety nets budget (SSNB) allocation has been increased 16.5% compare to previous FY revised budget. But excluding government pension the Government spending on safety nets slightly decreased to 2.22% of GDP in 2021/22, compared to 2.35% in the previous year. There are many social safety net programmes that prevails



in the country to support people who have lagged behind. A good portion of the government budget is crucial to run those safety net programmes. The net amount of safety net budget grows over time. In 2019/20, the total safety net budget incurred 16.32% of the total, whereas during the 2021/22 period The total social protection budget allocation represented 18.78% of the government national budget, slightly up from 17.75% in the previous year.⁷⁴ Government categorizes its safety nets spending into social empowerment (mainly human development and livelihoods) and social protection (mainly transfers and protection). The social protection component includes civil servant pensions and Freedom Fighters' health and honorarium, which are untargeted to poverty.

4.4.2: Policy challenges and recommendations for further actions

Budget allocation and Coverage expansion of seasonal employment programmes for vulnerable communities

Seasonal employment programmes are essential for the whole period of this Plan of Action because the agricultural production cycle, particularly of rice, will continue to influence Bangladesh's economy. Greater management attention is required to ensure that programme implementation coincides fully with the timing of lean seasons, and that programmes adjust better to year-to-year variations in seasons. The four programmes are implemented by MoDMR, and overlap with one another. In the near-term, MoDMR and partner agencies will explore whether these four programmes can be consolidated as part of reforms outlined in the NSSS. The purpose will be to harmonise the different targeting, administration and MIS systems, and fully implement digital payments. The four programmes support different kinds of public works, and MoDMR will re-focus a consolidated programme on disaster risk reduction, because if Bangladesh's rapid economic growth continues to reduce poverty in the next decade, then its remaining poverty will

⁷⁴ GoB (2021/22) *Social Safety Net Programmes Budget* (various years). Ministry of Finance.

be increasingly due to disaster shocks and seasonality. The four programmes represent will be increased to ensure sufficient coverage, especially if linked to disaster risk reduction.

Subsidized food supply for vulnerable people as a response to food access

Direct food support needs to be continued to vulnerable groups who cannot work. The Government will continue the Food Friendly Programme (*Khaddya Bandhob Karmosuchi*), which provides subsidised rice to ultra-poor families twice a year during the pre-harvest months of March, April, September, October and November. The Government's Open Market Sales (OMS) in urban areas of subsidised foodgrains and other foods will be continued, and expanded year-on-year to meet the increased demand due to continued urbanisation, and the likely increased numbers of vulnerable informal sector workers. Moreover, to be more responsive to seasonality and other temporal dynamics, OMS operations will better incorporate the Government's urban food price monitoring data.

Develop a policy-relevant vulnerability index

This action will develop a vulnerability index which will indicate the level of disaster risks across the country and this will be used to priorities resources and monitor allocations. This index, for example, will augment data on poverty levels with data on past disasters, weather and climate change indicators – whilst remaining simple and transparent enough for it to be understood and to guide planning. A starting point, as mentioned in the 8FYP, will be the Delta Plan which shows that districts ranked as poorest are more exposed to natural disaster . Bangladesh has considerable data on past disasters, meteorology, environment and food security risks which could be used for this purpose.

Invest in emergency shelters, disaster proofing infrastructure and early warning systems

The Government will investment more in emergency shelters and disaster proofing infrastructure. A key approach will be multipurpose buildings, based on the experience of the Multipurpose Disaster Shelters Project Facilities in existing shelters will be upgraded, especially for water, sanitation and healthcare; space for childcare; facilities for pregnant women; separate women's toilets; physical accessibility for the elderly and people with disabilities; protection of personal security for women and girls; and safe storage. To enhance the coping ability of families and communities by making infrastructure for basic services more resilient to disasters. Resilient and upgraded schools, clinics and other public buildings will serve as shelters.

Enhance and integrate Nutritional Behaviour Change Communication (NBCC) into social protection

Based on the ICVGD and other experiences in Bangladesh and abroad, appropriate contextualized NBCC focusing on standardized and correct information on dietary knowledge, healthy cooking methods, nutrient dense-recipes, dietary diversity, appropriate Infant and Young Child Feeding (IYCF) practices, food handling, preservation, storage, food safety issues and WASH should be developed and disseminated. NBCC should focus on enhancing dietary and nutrition knowledge for all, regardless of economic and social status, age or gender.

4.5 To strengthen cross-sectoral food and nutrition security governance, coordination, capacity building and partnership for effective policy implementation

This objective aims to improve food safety through the introduction of good and hygiene practices at all stages of the food supply chain complemented by create awareness and measures to ensure that foods are safe to be consumed. Reduced food loss and waste, improved information and data for evidence-based monitoring and adjustment of policies, strengthened FNS governance, capacity development and leadership across FNS, strengthened regulatory management, climate resilient and gender roles. This objective 5 also covered 5 programme of pillar-5 under CIP-3 which are mainly focused on generation, dissemination and access to reliable and timely FNS data and information including big data, operationalization of the implementation of NFNSP, its Plan of Action and CIP and integration with other FNS development efforts, effective regulatory instruments and guidelines, strengthened policy uptake, nutrition leadership and institutional capacity at national and sub-national level of government, and strengthened FNS governance through enhanced participation of private sector and other non-state actors.

4.5.1 Assessment of progress towards achieving objective-5

Table 6 - NFNSP objective-5: Selected outcome level performance indicators

NFNSP & CIP3 output proxy indicators	2019/20 Baseline		2020/21		2021/22		Target	Source
Number of annual high level FNS policy reports produced (e.g. NFNSP Monitoring Report, NPAN 2 Monitoring Report, SUN Annual Report)	2		3		3		At least 2 per year	FPMU
Number of certified foods/food products as per mandatory standards by BSTI	72		80		80		Increase	BSTI
Food Waste and Loss Index	-		Data not yet created. No national FLW survey planned yet. FLW strategy needed.		-		Decline	MoFood, BBS
Allocation for climate resilience and gender mainstreaming across ministries- a) MoA b) MoFL c) MoFood d) MoWCA e) Health Services Division	Gender a) 3.99 % b) 30.66 % c) 2.35 % d) 57.52 % e) 6.8 %	Climate a) 37.8% b) 32.3% c) 2.6% d) 11.25% e) 2.6%	Gender a) 3.9 % b) 31.4 % c) 3.4 % d) 58.1 % e) 2.7 %	Climate a) 37.1% b) 30.5% c) 2.9% d) 12.9% e) 2.7%	Gender a) 4.29 % b) 35.83 % c) 4.97 % d) 59.9 % e) 1.6 %	Climate a) 35.8% b) 30.8% c) 2.6 % d) 13.1% e) 2.74 %	Increase	Climate and Gender Budget, MoF
Number of meetings of the LCGs on FNS a) ARDFS b) DER and c) Health)	a) ARDFS-2 b) DER-2 c) Health-2		a) ARDFS-2 b) DER-2 c) Health-2		a) ARDFS-2 b) DER-2 c) Health-2		At least 3 per year for each relevant LCG	FPMU

The colour indicator shows the progress achieved: target reached ● ; on track ● ; off track ●

Number of annual high level FNS policy produced

The five Thematic Teams (TTs) - one for each CIP3 Pillar- continued to be a platform for FNS policy discussion and essential data gathering, thereby supporting the NFPCSP-PoA and CIP3 monitoring process and the drafting Monitoring Report 2023. These teams have continued to meet regularly in 2021/22, providing technical and operational supports towards the production of the MR 2023. The Technical Working Groups (TWGs), originally established to assist FPMU in developing the CIP3 in 2023. As in 2021/22, in the year under review, the target number of interactions through TT and TWG meetings and workshops, 30, was achieved.

The CIP3 results framework, with a total of 109 indicators at goal, outcome and output levels, brings together a prosperity of information on the country's FNS status and progress towards SDGs that relies on spirited efforts by FPMU and the TTs to obtain yearly Government official data and information to monitor the evolution compared to baseline and previous years. The CIP3 and NFPCSP-PoA monitoring process and methodology are now being effectively replicated and followed in the Bangladesh National Nutrition Council (BNNC) for monitoring the NPAN2 report, demonstrating a good example of cross-fertilisation of policy monitoring practices in the country. Policy challenges and recommendations for further actions.

The number certified foods/food Products standardized by BSTI under compulsory certification remained unchanged

Following a clear drive by BSTI to increase the number of standardised processed foods under mandatory certification since the outset of the CIP2, the progress stalled in 2019/20 with the figure remaining at 72. In fiscal year 2021-22, the mandatory food/foods under compulsory certification is 80, which is same the fiscal year 2020-21. This is worrying given that, notwithstanding the previous steady increase in the numbers of foods certified, the actual number of products covered is awfully low compared to the number of food items on the market. Product standard setting, inspection and testing facilities are the basic requirements for certification of food products, and this is BSTI's mandatory responsibility. BSTI is also involved in market surveillance activities to ensure the quality and safety of BSTI's certified products.

Recent information on food loss and waste is not yet available in Bangladesh

Recent information on FLW is not yet available in Bangladesh. Although levels of postharvest losses of specific food commodities have been estimated over the years, there are no recent nationally representative data generated through an approved or widely recognized methodology on the magnitude of FLW in Bangladesh. FAO (2019)⁷⁵ recorded all FLW estimates for Bangladesh from grey literature to national and sectoral reports between 2000 and 2017. It identified 89 studies: the average FLW rate was 7.4% with a wide variation from a minimum of 0.5% to 35%. Such range provides little guidance as to what a realistic figure might be.

More recently, an IFPRI study under the MFSP assessing current grain losses showed a storage loss of less than 1% during the 12-month period, which meets the standard set by the government. However, this study only considered storage losses and did not cover other sources of losses in the rice supply chain. Champions 12.3 (2017)⁷⁶ have shown that in South Asia, food losses are mostly prevalent near production, handling and storage, and less at the consumption level. The estimated share of total food that is lost or wasted is 17% in the region compared to 42% in North America

⁷⁵ FAO (2019) [*The State of Food and Agriculture 2019. Moving forward on food loss and waste reduction*](#). Rome.

⁷⁶ Champions 12.3 (2017) [*SDG Target 12.3 on food loss and waste: 2017 Progress Report*](#). An annual update on behalf of Champions 12.3.

and Oceania. While the focus should, therefore, be on the lower end of the value chain, as value chains transform, waste associated with consumption and distribution will likely increase.

Budget allocation for climate resilience and gender mainstreaming across ministries is increasing

The budget allocation for climate resilience and gender across the Ministry of Agriculture, the ministry of Fisheries and livestock, the Ministry of Food, the ministry of Women and Children affairs, and Health Services Division is increasing trend. In base line year 2019/20 the budget of those Ministries follows in case of gender by 3.99%, 30.66%, 2.35%, 57.52% and 6.8% and in climate budget are 37.8%, 32.3%, 2.6%, 11.25% and 2.6% accordingly. In 2021-22 fiscal year, the allocation of gender budget are 4.29%, 35.83%, 4.97%, 59.9% and 1.6% and climate resilience budget are 35.8%, 30.8%, 2.6%, 13.1% and 2.74% accordingly. The current government emphasis on climate and gender mainstreaming for the development of the country.

Number of meeting of the LCGs on FNS (ARDFS, DER and Health) is increasing in Trend

The LCGs exist to foster coordination between Development Partners (DPs) and the Government. To ensure a stronger and wider participation in the LCG on ARDFS, the LCG on DER, and the Health and Nutrition Consortium which is a health related LCG. Wider and more active participation in the LCGs by the civil society and private sector will be sought. In fiscal year 2020-21, there are eight (8) meetings held on LCGs on FNS. This means that there is a strong coordination and collaboration between the government and the development partners. Both the parties agree on the development of FNS sector. In 2021-22 fiscal year, LCG on ARDFS held two meetings, LCG on DER held two meeting and LCG on Health held two meetings.

4.5.2 Needs for further actions under this objectives and programme

Harmonise laws, rules, regulations and standards, agree on a common strategy and define roles

Harmonisation of the many laws, rules, regulations and standards across ministries will improve the food safety framework in the country. Indeed, overlapping of regulatory bodies and lack of coordination among ministries creates a haphazard and confusing situation, diminishing the goal of food safety⁷⁷. Fifteen ministries are involved in food safety and quality control, while ten ministries are directly involved in food inspection and enforcement⁷⁸. The role of the BFSa which collaborates with government agencies such as the BSTI in the MoInd, MoF, Plant Quarantine Wing, DAE, MoA and Bangladesh Small and Cottage Industries Corporation (BSCIC) to harmonise food safety standards in compliance with WTO requirements must also be better defined. Harmonising standards will improve the government's role in food safety oversight. The BFSa Technical Committee will need to determine the food safety and nutrition standards and elaborate steps in improving coordination between ministries to implement a food safety strategy with clearly defined roles and responsibilities of different agencies/ministries. The food safety strategy developed by BFSa is expected to serve the purpose. Further, an assessment of resources

⁷⁷ USDA. 2019. [Bangladesh Food and Agricultural Import Regulations and Standards Report FAIRS Annual Country Report](#).

GAIN Report Number: BG 1812

⁷⁸ *Ibid*.

and needs, ahead of the development of action plans will be conducted. Guidelines for the implementation of quarantine and import policy orders to ensure the safety of imported foods are also required. Legal provision of up to life-term imprisonment against the offense of adulterating food and medicinal products will be introduced.

Develop guidelines for food safety inspections

BFSA needs to develop strict guidelines for food safety inspections and ensure strict compliance of the food inspection guidelines and manuals. Port teams should be trained to sample and then send the samples for testing in accredited laboratories which should ideally be located at the ports. The guidelines should include all the elements of inspection and certification systems for the food production, processing, preparation, marketing and imported foods. Legislation should clearly establish the authorities required to implement control over non-compliant food (both local and imported). These include the power to suspend or revoke authorizations, to seize and detain non-compliant products, to destroy non-compliant food, to levy administrative fines or penalties, to prosecute and seek court-imposed penalties. Existing initiatives -such as the Global Food Safety Initiative (GFSI)-approved third party assurance program introduced by USDA which is an overarching body that provides globally-recognised product certification for food safety, which is required by some companies for their suppliers- will be built upon to facilitate trade and export.

Strengthen existing capacities and build new ones

Comprehensive analyst training programmes are required along with the introduction of standardized methods of analysis and the application of standardized laboratory quality assurance program. With the increased demand of safe food, Bangladesh Agricultural University (BAU) has launched a diploma on Food Safety. The concerned authority needs to utilise the undergraduates as future food analysts and inspectors. The current manpower should be provided with a refresher training and efforts should be made to recruit more skilled manpower. An expanded network of duly accredited laboratories for food safety will be developed and services expanded. BSTI's capacities also need to be enhanced.

Strengthen the capacity of the Bangladesh Accreditation Board

The capacity of BAB to accredit inspection and certification bodies based on international standards (ISO 17020 and ISO 1702) must be strengthened, including by supporting its application for membership to the International Accreditation Forum. Its ability to accredit independent, third party inspection and certification systems will be promoted to help expand the certification and inspection ecosystem in Bangladesh beyond government-owned institutions.

5. Progress towards outputs for NFNSP objectives and CIP3 pillars

5.1 Progress towards outputs for NFNSP objective-1 and CIP3 pillar-1

Under this objective there are two strategies. These strategies mainly focus on nutrition sensitive, diversified, climate resilient agricultural production. This objective also covered the 7 programme of CIP3. These programme addressed the investment area on agricultural research and development, diversified and sustainable agricultural production and efficient use of puts.

5.1.1 Strategy 1.1 Increase productivity while ensuring sustainable production of nutritious foods

This strategy consists of 9 AoIs of NFNSP-PoA namely 1.1.1 Develop improved climate-smart technology for productivity gains, agricultural diversification, sustainable intensification, and enhancement of nutrient content, 1.1.2 Disseminate improved technologies and practices at farmer and farm level through effective and participatory extension services, 1.1.3 Expand and promote the use of water-efficient and environmentally friendly alternative irrigation technologies, including surface irrigation, 1.1.4 Improve timely access to credit including micro-scale producers through suitable institutional reforms, 1.1.5 Improve input use efficiency for productivity gains, sustainability, and health and environmental protection, 1.1.6. Promote the production of quality feed and fodder through appropriate support to feed and fodder industries for fisheries and livestock, 1.1.7. Stimulate the blue economy by promoting the sustainable development of marine fisheries and aquaculture in coordination with other non-agricultural uses and the private sector, 1.1.8. Develop and promote eco-friendly and responsible practices for animal health along the principles of “One Health”, 1.1.9. Strengthen the role of POs and cooperatives to reduce the cost of production, improve market access, and increasing the prices received by producers.

It also covers 5 programmes of CIP3 namely Programme I.1. R&D and improved technology for more productive nutrient-rich and sustainable agriculture in rural and urban areas I.2. Gender, climate and nutrition sensitive extension services I.3 Efficient and environmentally friendly irrigation technology I.4. Improved efficiency of agricultural inputs I.5. Enhanced role of POs and cooperatives.

5.1.1.(a) Progress towards achievements

Table 7 - Progress towards achievement Strategy 1.1 and CIP-3 programs (I.1-I.5)

CIP3 output proxy	Commodity / Item	2019/20 Baseline	2020/21	2021/22	Source
Number of improved varieties	Rice	13	10	4	BARI, BINA, MoA
	Wheat	3	5	0	
	Maize	2	1	1	
	Potato	10	1	8	
	Pulses	1	2	1	
	Vegetables	10	6	1	
	Edible Oilseeds	2	2	2	
	Fruits	2	3	3	
	Spices	2	4	1	
	Jute	2	1	1	
	Sugarcane	1	1	0	
Annual change in major crops' production	Rice	0.2%	2.7%	1.2%	BBS (Statistical Yearbook)
	Wheat	1.2%	5.4%	-0.2%	
	Maize	12.5%	2.5%	3.5%	
	Potato	-0.5%	2.9%	2.6%	
	Pulses	1.3%	6.8%	1.8%	
	Brinjal	5.1%	5.2%	5.4%	
	Pumpkin	6.2%	4.7%	5.1%	
	Beans	18.1%	00	0.0	
	Lal Shak	-9.0%	6.6%	11.9%	
	Edible Oilseeds	7.3%	5.7%	4.7%	
	Banana	-1.8%	1.0%	0.0	
	Guava	-4.6%	8.0%	0.4%	
	Mango	0.2%	-0.6%	-0.6%	
	Pineapple	0.0%	-4.6%	-0.9%	
	Jackfruit	-3.5%	9.5%	-4.3%	
	Coconut	-4.6%	-2.2%	2.3%	
	Papaya	-3.8%	-3.8%	17.2%	
	Tomatoes	7.2%	7.7%	-1.3%	
	Carrots	10.5%	33.3%	11.3%	
	Lemon	3.5%	39.0%	16.4%	

CIP3 output proxy	Commodity / Item	2019/20 Baseline	2020/21	2021/22	Source
indicat0000ors	Sweet potato	4.2%	13.8%	8.5%	
Number of new improved breeds released for livestock and fish	Livestock		41	24	MoFL , BLRI,DLS,D oFish
	Fish	3	5	10	
Number of artificial insemination of cattle (Lakh)		44.41	43.81	42.34	DLS, MoFL
Area under bio fortified crops (hac)		2054	3255	4196	DAE
Area of land under organic farming under DAE initiative (hectare)		30425	40320	48930	DAE
Number of farmers trained on sustainable agriculture practices	DAE	Male	1378750	1106252	DAE, MoA
		Female	326250	207269	
	DLS		169,000	220,000	DLS, MoFL
	DoF		221,000	132,554	DoF, MoFL
Number female extension workers as % of extension workers	Male		87	84	DAE
	Female		13	16	DAE
Annual change in improved rice, wheat and maize seeds production		-2.5%	29.2%	-9.2%	MoA
Production of seeds tolerant (MT)	Drought		5,210	23,451	MoA APA Indicator 2.5
	Submergence		18,309	9,457	
	Salinity		7,250	6,213	
Annual Increased in arable land under surface irrigation coverage (thousand ha) ⁷⁹		30.05	35.42	37.54	MoA
Diesel pumps as % of all pumps		70%	71%	72%	DAE,MoA
Agricultural credit disbursement in billion BDT		227.5	255.11	259.66	Bangladesh Bank
Number of formal banks providing direct agricultural credit services		54	55	56	BB/Krishi Bank
Proportion of loans for marginalized farmers		71.43%	69.15%	69.99%	BB/Krishi Bank
Number of “Krishok Credit Card” provided	Male		17975490	17980520	DAE, MoA
	Female		2164641	2182502	
Supply of fertilizers as % of estimated demand ⁸⁰	Urea		98.4%	91.8%	MoA
	MoP		95.3%	91.6%	
	TSP		98.1%	95.6%	
	DAP		106.6%	101.9%	
Of the 30 Agro Ecological Zones (AEZs), n. of AEZs	a) organic content		25	27	BARC
	b) Nitrogen (N)		19	16	

⁷⁹ The figures are recalculated as: surface water irrigation land in a year minus that of previous year, based on data obtained from BADC.

⁸⁰ For MR20, MoA made available the estimated demand for fertilisers which has replaced consumption previously used in MR19 as a proxy for requirements. Also, the change in stocks has been added to the calculation of supply for greater precision: production + import + change in stock (last-year minus current-year closing stock).

CIP3 output proxy	Commodity / Item	2019/20 Baseline	2020/21	2021/22	Source
with "very low or low" (BARC) status for: 2018 Data Ex	c) Phosphorous (P)	28	28	26	
	d) Potassium (K)	29	29	28	
Number of feed producers registered by the MoFL	Livestock	250	278	290	DLS,Dofish
	Fisheries	---	1,164	243	
Number of commercial registered farm	Poultry	84,735	84829	86485	MoFL, BBS
	Livestock	74,493	74801	78684	MoFL, BBS
	Fish and shrimp	248,651	206399	2,08,000	MoFL, BBS
Number of samples of fish feed tested for quality assurance		1,125	1,164	1,240	MoFL
Number of doses of vaccines produced (million)		277.48	311.60	320.47	DLS
Number of disease surveillance		10,105	9,282	9147	DLS
Number of free veterinary medical camps		3,664	4,397	4246	DLS
Number of vaccinated animals (crores)		26.80	31.16	31.92	DLS
Number of institutions delivering nutrition training across core ministries		5	5	5	BIRTAN, IPHN, BIRDEM, BARC, DAE
Number of agriculture-related cooperatives societies:	a) government sponsored	867	881	890	DAE,MoA
	b) self-initiated	1359	1373	1398	

The release of new vegetables and oilseeds varieties accelerated

A total of four new rice varieties were released in 2021/22, two of which by the Bangladesh Rice Research Institute (BRRI) and two by the Bangladesh Institute of Nuclear Agriculture (BINA). This number compares to ten rice varieties were released in 2020/21, eight of which by the Bangladesh Rice Research Institute (BRRI), two by the Bangladesh Institute of Nuclear Agriculture (BINA). Eight rice varieties were released in 2018/19, five of which by the Bangladesh Rice Research Institute (BRRI), two by the Bangladesh Institute of Nuclear Agriculture (BINA) and one by Rajshahi University.

BRRI's new varieties are: *BRRI dhan 96,97,98,99,Bangabandhu Dhan-100, 101*, (submergence-tolerant) and *BRRI HYBRID-7,8*. The varieties released from BINA are: *BINA dhan 24* and *25* (saline-and submergence-tolerant). Additionally, Rajshahi University released one variety named *Rabi dhan 1*. Since the beginning of the CIP2, a total of 35 new rice varieties have been released. In 30 June 2019, and since its inception, BRRI released 97 new varieties (91 inbred and six hybrid). By the first quarter of the following financial year, the seed certification agency had already approved five new varieties, namely *BIRRI dhan 93, 94* and *95*; *BINA dhan 23*; and *BAU 3*, which looks promising for this year.

Up to June 2022, BARI invented total 108 high yielding varieties of Rice including seven hybrid and 101 inbred. Among these, 48 varieties for *Boro* (12 *Boro* varieties and *Aus* related), 9 varieties for *Bona Aus* and 17 varieties for *Ropa Aus*, 45 varieties for *Ropa Aman* and 1 varieties for *Bona Aman*. Among all these varieties, 12 varieties are salt tolerant, 4 varieties are water resistance, 5 varieties are cold resistance, 4 varieties are draught resistance, 7 varieties are zinc fortified, 11 varieties contain high protein and 1 variety contains iron. There are 11 varieties which are highly enriched and export quality.

The production of different crops showed mixed trends

Rice production grew year-on-year dramatically change in 2021/22 (+1.2%) in contrast to the record witnessed in the previous year (+2.7%), but higher than in base year (2019/20). The production of Wheat increased 5.4% in 2020/21 but decreased by 0.2% in 2021/22. The production of maize decreased drastically from the baseline 12.5% to 2.5% in the 2020/21 and increased to 3.5% in 2021/22. The production of potato significantly increased from baseline -0.5% to 2.9% in 2020/21 and still continued increasing. The average growth of maize since the start of the CIP3 (2015/16 – 2021/22) was distinctively higher than in the period corresponding to the CIP1 (2007/08 - 2014/15) (Table 9). These trends suggest that maize is gradually replacing wheat which is explained by its higher yield, profitability and adaptability to Bangladesh's ecosystems.^{81,82}

Consistently with these production trends, the area under maize cultivation continued increasing, while for wheat, it reduced over the reference period (Table 9).

Table 9 - Average crop area growth rates

Crops	2019/20- 2020/21 (%)	2019/20- 2021/22 (%)
Rice	1	0.5
Wheat	-0.2	-0.1
Maize	4	2.5
Oilseeds	7	5
Spices	3	3
Pulses	2.5	2
Potato	0	-0.3
Sugarcane	-2	-4
Fruits	-5	-7
Vegetables	2	1
Jute	-4	-1

Pulse production decreased by 6.8% to 1.8% over the previous year. Sweet Potato, Carrots, Brinjal and Lal Shak promoted respectively by 8.5%, 11.3%, 5.4% and 11.9%, in 2021/22 year-on-year - reinforcing the positive trend of the previous year. In 2019/20 was negative trend for Lal Shak and potato. The areas under cultivation of oilseeds, and sugarcane have been reducing since the start of the CIP3, which may be explained by the rapid expansion in the cereal production.⁸³ The low production of pulses and oilseeds represents a worrying signal given their importance as a source of protein and micronutrients and will have an adverse impact on micronutrient intake, especially for the poor.

The production of vegetables reported in Table 8 rose in the year under review, in particular that of *papaya* (+17.2%). Fruit production, except for mango, pineapple, jackfruit and tomatoes, also accelerated.

The production growth rate of all selected vegetables continued to grow on average over the period since the beginning of the CIP3 compared to the CIP2 period. For fruits, however, the production

Table 8 - Average crop production growth rates

Crops	2019/20- 2020/21 (%)	2019/20- 21/22 (%)
Rice	1	1
Wheat	3	2
Maize	8	6
Potato	1	2
Pulses	6	5
Brinjal	5	5
Pumpkin	7	7
Beans	9	6
Lal shak	-1	3
Oilseeds	7	6
Banana	0.02	-0.27
Guava	2	1
Mango	-0.2	-0.34
Pineapple	-2	-2
Jackfruit	3	1

⁸¹ Islam, Md. S., Abid-Ul-Kabir, Md., Chakraborty, B. & Hossain, M. (2017) [Review of Agri-Food Chain Interventions Aimed at Enhancing Consumption of Nutritious Food by the Poor: Bangladesh](#). LANSa Working Paper Series, Volume 2017 No 12.

⁸² Lightcastle Analytics Wing (2019) [Bangladesh Wheat Sector: Struggling with Demand-Supply Mismatch](#).

⁸³ *Ibid*.

of coconut witnessed significant growth. Others exhibited non-significant growth rates, meaning that their production either remained essentially unchanged or widely fluctuated. In terms of areas under cultivation, the amount of land dedicated to fruit decreasing yearly, on average, at a considerable rate since the beginning of the CIP3 (-7%), in contrast to the slight decline witnessed during the CIP2 period (-5.0%).

Production of most crops in the following seasons will most likely be affected by the COVID-19 crisis through disruption of normal planting, cultivating and harvesting activities during the extended lockdown, and the difficulties encountered in procuring inputs as required, although these effects will be mitigated by the measures promptly taken by the GoB to sustain food production.⁸⁴ Agriculture is working as one of the driving forces of the economy of Bangladesh as a result of the adoption of favourable agricultural policies and strategies by the government. Although food security is likely to be disrupted due to global corona disaster, food grains production and supply system may be disrupted, but Bangladesh did not have to face such problems due to timely decision of the government. The government is working tirelessly to build sustainable, safe and profitable agricultural systems to ensure food security. The government has been making all out efforts for the overall development of the agriculture sector in the light of Vision 2041, 8th Five Year Plan, National Agricultural Policy 2018, Sustainable Development Goals, Deltaplan-2100 and other planning documents. At present, the government has adopted short, medium and long term action plans to meet the future needs of the growing population, based on the agriculture sector's achievements in various emergencies, including the impact of COVID-19.

The new improve breeds for livestock and fish increased

The number of new improve breeds for fisheries is increased over time. In the baseline year 2019/20, the number of new improve breeds was 3 but in the current year 2021/22 it is 10. The development of new improved breeds of fish has been a significant breakthrough in the aquaculture industry. These new breeds are designed to grow faster, resist diseases, and have a higher yield, making them more profitable for fish farmers. The development of new breeds involves a combination of selective breeding and genetic engineering techniques that aim to improve the desirable traits of the fish. The number of new improve breeds for livestock is decreased over time. In the year 2020/21, the number of new improve breeds was 41 but in the current year 2021/22 it is 24. These new breeds are designed to grow faster, resist diseases, and have a higher yield, making them more profitable for livestock farmers. The development of new breeds involves a combination of selective breeding and genetic engineering techniques that aim to improve the desirable traits of the livestock.

The rate of artificial inseminations accelerated over the last year

The artificial insemination shows a negative growth (-3.36%) in 2021/22. Production of liquid and frozen semen also decreased to 4.4 million doses in the reference year from 4.7 million doses in 2018/19. In 2021/22, the number of inseminated cows increased by 26.8% from the CIP3 baseline but decreased by 1.4 from the previous year (2020/21), up to 4.4 million, and crossbred calves increased by 38.7% and 11.2% from the CIP3 baseline and previous year (2019/20), up to 1.6 million, respectively.⁸⁵ A number of private companies such as American Dairy Limited, BRAC

⁸⁴ BBSnews.net (2020) [PM announces Tk 5,000cr package for agriculture over COVID-19](#). 28 April and BER and ERD report 2021-22.

⁸⁵ GoB (2019) [Annual Report 2020-21](#). Dhaka. Ministry of Fisheries and Livestock. In Bangla.

and Lal Teer are producing raw and frozen semen in addition to the public sector.⁸⁶ A slight decrease in semen production in 2021/22 than previous year calls for further action for artificial insemination promotion.

Area under bio fortified crops expanded

The area under bio-fortified crops has expanded significantly in recent years, which is a positive development for food security and nutrition. Bio-fortified crops are those that have been bred to have higher levels of essential vitamins and minerals, such as iron, zinc, and vitamin A. These crops have the potential to address micronutrient deficiencies that can lead to malnutrition and other health problems. The expansion of bio-fortified crops has been driven by a combination of factors, including increased awareness of the importance of nutrition, technological advances in crop breeding, and partnerships between governments, research institutions, and the private sector. The area under bio fortified crops production under DAE initiative increase 32.52% in 2020/21 from base line 2019/20 and 21.35% in 2021/22 from 2020/21.

Area of land under organic farming under DAE initiative is increased

Area of land under organic farming was 30425 hectares in the base year 2019/20, it increased 32.5% in 2020/21 from the base year and 21.4% in 2021/22 from the previous year under DAE initiative. Organic farming promotes environmental sustainability by reducing the use of synthetic chemicals, promoting soil health, and preserving biodiversity. This helps maintain ecosystem balance and contributes to long-term agricultural sustainability and the expansion of organic farming enhances food safety and quality.

The number of farmers trained on sustainable agricultural practices continued to grow except COVID19 situation year

The operations of DAE - the largest provider of extension services - spreads over all the 64 districts of Bangladesh. In 2021/22, farmers trained by this agency on sustainable practices rose for the third year in a row, by 6.77% to 1.40 million individuals from 1.31 million in the previous financial year. It also trained 0.78 million farmers on modern technologies, of which 30% were female.

Number of farmers trained by DoF decreased while those trained by DLS remained static

In 2021/22, while the number of farmers trained by the Department of Fisheries (DoF) decreased to 133 thousand from 221 in the previous year, those trained by the Department of Fisheries (DoF) remains almost static at 287 thousand (Table 7). The training provided by the DLS was the lowest in 2021/22 since the baseline year (2019/20), and the training given by the DLS remained static to 220 thousand in 2020/21 from the base year 169 thousand (2019/20). Nevertheless, it is obvious that the training of farmers is positively correlated with their production. To ensure new technological uptake and adoption by farmers, training programmes need to be strengthened.

The number male extension worker decreased and female extension worker increase

According to the data, In the current year 2021/22, the number of female extension workers increased 53.8% and male extension worker decreased 8.1% respected to the baseline. There has been a significant shift in the gender balance of extension workers in recent years, with the number

⁸⁶GoB (2015) [Bangladesh Delta Plan 2100 Formulation Project, Livestock Baseline Study](#). Dhaka. General Economic Division. Planning Commission.

of male workers decreasing and the number of female workers increasing. Extension workers play a critical role in supporting farmers by providing information, advice, and training on various aspects of agriculture and rural development. The decrease in the number of male extension workers and the increase in female extension workers can be attributed to several factors. One of the key drivers is the growing recognition of the important role that women play in agriculture and rural development. Women make up a significant proportion of the agricultural workforce, but they often face significant barriers to accessing extension services and other forms of support.

The production of improved seeds for wheat, pulses and vegetables slightly dropped

In 2021/22, the production of improved cereal seeds dramatically decreased 9.2%. But the previous year in 2020/21, the production of improved cereal seeds increased by 29.2% year-on-year, in last year (2019/20) also dropped 2.5% from previous year. This number, however, conceals important variations as seen in Table 10. The supply of formal rice seeds, Bangladesh's staple, did increase by 10.3% in 2021/22 but it grew by a sizeable 29.8% for maize and 120.5% for oilseeds. Other notable changes have been the in the supply of wheat and vegetables seeds by 1.6% and 28.7%, respectively but decreased in Pulses by 6.4%.

Table 10 - Supply of formal seeds for selected crops ('000 MT)

Year	2020/21	2021/22	Change 20/21-21/22
Rice	210.78	232.59	10.3%
Potato	124.17	128.89	3.8%
Wheat	19.79	20.10	1.6%
Maize	6.58	8.54	29.8%
Pulses	3.60	3.37	-6.4%
Oilseeds	1.66	3.66	120.5%
Vegetables	2.65	3.41	28.7%

In 2021/22, the supply of seeds through the formal system (provided by DAE, BADC and the private sector) increased for Rice, Potato, wheat, maize, oilseed, and vegetables, while it declined for pulses (Table 11). The public sector concentrated on responding to the requirements of Rice, wheat, pulses and oilseeds: 36.6%, 42.9%, 12.2% and 14.6% of needs were fulfilled by this sector. On the other hand, the private sector met 73.4% of the needs in maize seeds, 106.9% of the needs in vegetable seeds and 28.8% of the needs in rice seeds (Table 11). The lion's share of total seed requirements - in particular for rice (34.5%), wheat (55.1%), pulses (87.2%), oilseeds (82.6%), potato (83.6%) and Maize (26.3%) - continued to be met by farmers themselves.

Table 11 - Contribution of different actors to seed production in 2021/22

Crops	Contribution to total requirement (%)		
	Public	Private	Self
Rice	36.6	28.8	34.5
Wheat	42.9	2.0	55.1
Maize	0.3	73.4	26.3
Pulses	12.2	0.6	87.2
Oilseeds	14.6	2.8	82.6
Vegetables	17.0	106.9	23.9
Potato	4.3	12.1	83.6

The Production of seeds tolerant increased

The Production of seeds (drought, submergence, salinity) increased to (26547 MT, 11230 MT, 5721 MT) in 2021/22 from (5210 MT, 18309 MT, 7250 MT) in the baseline year 2019/20. The increased production of seeds tolerant to certain conditions or factors can have significant implications for agriculture and crop productivity. These tolerant seeds are developed through breeding or genetic engineering techniques to withstand specific challenges such as drought, pests,

diseases, or extreme temperatures. The increased frequency and erratic nature of crop submergence, saltwater intrusion and drought events are major causes of crop failure, consequent income volatility and persistent poverty among the small and marginal farmers in Bangladesh. Recent research findings from a field study⁸⁷ revealed that on average, a 1% increase in drought-affected area reduces *aman* and *aus* annual rice production per household by 1,382 and 693 kgs, respectively. To avoid this, submergence, drought-tolerant and short duration rice varieties must be developed and disseminated.⁸⁸ In 2021/22, DAE successfully popularized the cultivation of saline-tolerant rice varieties (*BRRI dhan 47, 53, 54, 61 BINA dhan 8, and 10*) in the coastal area; of submergence-tolerant varieties (*BRRI dhan 51, 52*) in flood-prone areas; and of drought-tolerant varieties (*BRRI dhan 7, 33, 39, 56, and 57* in drought-prone areas. Moreover, wheat yields increased thanks to the expansion of heat-tolerant varieties (*BARI gom 26, 27, 28, and 30*) and saline-tolerant varieties (*BARI gom 25*) by DAE.⁸⁹

The expansion of land under surface water irrigation slightly increased

If irrigation is to meet future crop water requirements, surface irrigation needs to be expanded to counter the problems associated with groundwater use such as declining water tables, deteriorating water quality, and increasing energy costs and carbon emissions. Yet, the annual increase in arable land under surface irrigation coverage increased slightly to 37.54 thousand hectares in 2021/22, from 35.42 in 2020/21 and 30.05 in 2019/20. In 2018/19, BADC re-excavated 560 km of canals, set up one rubber and one hydraulic elevator dam, and fielded 231 low lift pumps in order to make more surface water available for irrigation. Over the same period, the Barind Multipurpose Development Authority (BMDA) re-excavated 21.2 km of canals, constructed two cross dams and set up 202 low lift pumps.⁹⁰

The number of diesel pump slightly increased

The number of diesel pump comparing to the total number of pumps increased over the time. In the base line it was 70% but it now 72%. The number of diesel pumps has slightly increased, indicating a continued reliance on diesel fuel as an energy source. Diesel fuel is widely used in various sectors, including transportation, agriculture, and industry, due to its high energy density and versatility.

The rising trend in agricultural credit disbursement continued

Agricultural credit disbursement increased by 1.78% in the year under review, and by 14.13% compared to the baseline, up to 259.66 billion BDT. It exceeded the target set by Bangladesh Bank (BB) by 7.98% in 2021/22 up from 8.35% of a year earlier. Agriculture credit was distributed to the crop sub-sector followed by live-stock & poultry (18.4%), fisheries (12.5%), poverty alleviation (7.3%) and others (16.5%). On the other hand, the share of crop sub-sector was 52.2 percent, followed by live-stock & poultry (13.6%), fisheries (11.5%), poverty alleviation (7.6%) and others (15.1%), during the same period of previous year, signalling increased support to agriculture mechanisation.⁹¹ Due to outbreak of the Novel Corona virus, BB are instructed through the ACD circulated April 2020 to provide agriculture lone at 4 percent concessional rate

⁸⁷ Mottaleb, K.A., Gumma, M.K., Mishra, A.K. & Mohanty, S. (2015) [Quantifying production losses due to drought and submergence of rainfed rice at the household level using remotely sensed MODIS data](#). *Agricultural Systems*. Vol. 137.

⁸⁸ *Ibid.*

⁸⁹ DAE (2021) [Annual report 2020/21](#). In Bangla.

⁹⁰ GoB (2019) [Ministry of Agriculture Annual Report 2018/19](#). Dhaka. Ministry of Agriculture.

⁹¹ Bangladesh Bank (2019) [Annual Report 2019-2020](#). Dhaka.

(maximum) for cultivating grain crops, cash crops, vegetables and tuber crops as mentioned in agricultural and rural credit policy program. Against the disbursement of these loans, banks will be reimbursed at 5.0 percent as interest loss from BB. Major policy changes in BB credit disbursement contributed to the provision of more credit to farmers and include a 10%-share of credit reserved to the fishery sector; extension of the credit scheme to innovative and market-oriented systems such as floating agriculture, integrated farming, turkey rearing, and pen fish farming; and increased credit limit per acre of cultivated crops.⁹² In the year under review, out of the 3.07 million farmers received agricultural and rural credit, 1.51 million were women who received an BDT 83.60 billion, BDT 6.76 billion was disbursed among about 0.102 million farmers through 15,522 open credit disbursement. Around 2.35 million small and marginal farmers received 163.00 billion BDT credit. Moreover, 0.21 billion BDT were disbursed to 7,179 farmers living in less developed areas, such as *haor* and *char* areas.⁹³

Number of formal banks providing direct agricultural credit services

In 2021/22 the number of formal banks providing direct agricultural credit services is 56 which was 55 in 2020/21 and 54 in 2019/20 baseline year. So, the increase in the number of formal banks providing direct agricultural credit services has a significant positive impact on the agricultural sector. This expansion enhances access to financial resources for farmers, allowing them to secure loans and invest in their farming activities. With improved access to credit, farmers can modernize their operations, purchase high-quality inputs, and adopt advanced technologies, ultimately leading to enhanced agricultural productivity, increased yields, and improved livelihoods.

Proportion of loans for marginalized farmers increased

Loan for marginal farmers shows negative trends due to the covid-19 pandemic. In the baseline 2019/20, total 71.43% of the total marginal farmers got loan but in the 2021/22 total 69.99% of the total marginal farmers got loan. The scenario is decreasing comparing to the baseline but increasing respected to the 2020/21. The proportion of loans granted to marginalized farmers has increased, which is a positive development for these communities. Historically, marginalized farmers have had limited access to credit, which has hindered their ability to invest in their farms and increase productivity. However, there has been a growing recognition of the importance of financial inclusion and providing equal opportunities for all farmers, regardless of their socioeconomic background.

The number of 'Krishok Credit Card' increased over time

Comparing to the base line the total number of Krishok Credit Card increased due to the initiatives taken by the government. Bangladesh Bank circulated the money the specialized bank and commercial bank of Bangladesh. The 'Krishok Credit Card' is a credit facility that is provided to farmers in Bangladesh to enable them to access credit and invest in their farms. The number of 'Krishok Credit Cards' has increased over time, indicating that more farmers are availing themselves of this facility to improve their productivity and livelihoods. The 'Krishok Credit Card' was introduced by the government of Bangladesh to provide farmers with access to formal credit at a low interest rate. The credit card can be used to purchase inputs such as seeds, fertilizers, and machinery, as well as to cover other expenses related to farming. The increase in the number of 'Krishok Credit Cards' is a positive development for the agriculture sector in Bangladesh, as it indicates that more farmers are being included in the formal financial system. This can help to

⁹² Bangladesh Bank (2019) [Agricultural and Rural Credit Policy Program for the FY 2018-2019 - Press Release](#). Dhaka.

⁹³ *Ibid.*

improve their financial stability and provide them with the resources they need to invest in their farms and increase their productivity.

Urea and TSP supply was satisfactory, supported by increased fertiliser subsidies

In 2021/22, while the supply of urea, MoP, DAP and TSP (Triple Super Phosphate) was lower than their respective estimated demand. In 2020/21, while the supply of urea and MoP was lower, that of TSP and DAP was higher than their respective estimated demand. But in 2019/20, while the supply of urea and DAP was higher, that of MoP and TSP was lower than their respective estimated demand. In particular, urea supply⁹⁴ increased 96% in 2021/22 from 91.8% in 2020/21 and reached 96% of its estimated demand after growing steadily from 98.4% in 2019/20, at the beginning of the CIP3 (Table 11). Over the same period, for MoP, this figure decreased to 90% from 91.6% in the previous year and 95.3% in the first years of the CIP3, while TSP supply down to 97% of its demand from 95.6% in the previous year. The supply as a percentage of estimated demand for DAP largely decreased by 2.9 percentage points over the previous year to 101.9%, It is higher than the baseline value of 106.36%.

In 2021/22 Fertiliser subsidies grown by 101.3% up to BDT 149.42 billion, but in the same time urea reducing by 1.8%. Fertiliser subsidies increased by 10.5% in 2020/21, up to BDT 74.21 billion, with those for urea reducing the most: by 15.8%. While the share of fertiliser subsidies in the national budget rose to 2.20% in 2021/22 from 1.31% in the earlier year, it remained lower than 1.3% in the CIP3 baseline (Table 12). The GoB is encouraging DAP use which is a mixed fertiliser that includes MoP and urea. The government went on to lower the DAP price to BDT 16 per kg from BDT 25 per kg to reduce production costs. Accordingly, it budgeted BDT 8,000 million to subsidise DAP utilisation. In the same month, it also launched a Fertiliser

Table 12 - Urea and non-urea fertilisers' subsidies over the reference period

Year	Subsidies (billion BDT)			Change from previous year			% of fertilizer subsidies in national budget	% of urea subsidies in fertilizer budget
	Urea	Non-urea	Total	Urea	Non-urea	Total		
2015-16	23.37	39.29	62.66	-13.7%	-7.0%	-9.6%	2.1%	37%
2016-17	11.82	22.59	34.41	-49.4%	-42.5%	-45.1%	1.0%	34%
2017-18	16.95	31.91	48.86	43.4%	41.3%	42.0%	1.2%	35%
2018-19	32.99	41.74	74.73	94.7%	30.8%	53.0%	1.7%	44%
2019-20	29.54	37.62	67.16	-10.4%	-9.9%	-10.1%	1.3%	44%
2020-21	24.86	49.35	74.21	-15.8%	31.2%	10.5%	1.31%	34%
2021-22	24.42	125.00	149.42	-1.8%	153.3%	101.3%	2.20%	16%

Recommendation Guide (2018) aiming to ensure proper and balanced use of fertiliser in cropland to enhance crop productivity and protect soil quality.

Number of agro Ecological zones increased over times

There has been a notable increase in the number of agro ecological zones, which has brought numerous advantages to agriculture and land management practices. Agro ecological zones refer to distinct geographic areas characterized by specific combinations of climate, soil types, and other environmental factors that influence agricultural production. The expansion of agro ecological zones allows for more targeted and customized approaches to farming. Farmers can tailor their

⁹⁴ Supply includes production, import and change in stock.

agricultural practices, crop selection, and livestock management to suit the unique characteristics of each zone.

The number of feed producers registered by the MoFL increased

Feed producers of livestock services registered by the MoFL is increased. In 2019/20, the total number was 250, in 2020/21 it was 278 and in 2021/22 it was 290. The percentage of increased is 16% respected to the baseline year. The number of feed producers registered by the Ministry of Fisheries and Livestock (MoFL) has increased significantly in recent years. This is a positive development for the livestock sector, as it indicates that more producers are complying with government regulations and standards for feed production. Feed producers play a critical role in the livestock industry by providing high-quality feed that is essential for the health and productivity of animals. However, the quality of feed can vary widely, and low-quality feed can lead to poor animal health and reduced productivity.

The number of registered poultry and livestock farms rallied

In the year (2021/22) under review, the number of registered farms for poultry and livestock rebounded to 84,829 and 74,801 from 86,482 and 78,684 in 2020/21 respectively. But, the registered shrimp and fish farmers increased from 2.06 lac to 2.08 lac in 2021/22 from the previous year (Table 15). However, it is worth noting that only the relatively larger size farms are counted. For example, the farms having below nine cows, 19 goats or sheep and 1000 broilers or layers or ducks need no registration. Thus, there seems to be a gradual increase in the size of poultry and livestock farms.

Quality assurance for fish feed continues far behind the level witnessed at the beginning of the CIP3

The only way to ensure fish feed has the required balance of nutrients and no unwanted ingredients is to test the contents of a representative sample. Yet, the number of samples of fish feed tested rose gradually from 2016/17 to 2021/22 but still remain below the base year 2015/16. This amount increased by 3.47% from 1,125 in 2019/20 to 1,164 in 2020/21. More efforts are needed to boost these tests, especially in light of the existing issues with the quality of animal feed such as heavy metal contamination (see Programme V.1.). In January 2019, BFSA and the MoFL banned imports and sale of meat and bone meal (MBM) for fish and animal feed. Indeed, the latter may contain toxic chemicals such as chromium which can lead to cancer in humans. But a few months later, there was evidence of MBM in some imported fish and animal feed⁹⁵ which can only be detected through testing.

The number of doses of vaccine produced increased

Total number of doses of vaccine produced by DLS is increased. It was 277.48 in the baseline 2019/20, 311.60 in 2020/21 and 320.47 in 2021/22. The trend shows that it will increase day by day. This increase in vaccine production is a positive development, as it helps to ensure that more people have access to life-saving vaccines. Vaccines are critical for preventing the spread of infectious diseases and reducing morbidity and mortality. However, vaccine production is a complex process that requires significant investments in research and development,

⁹⁵Ovi, I.H. & Hussain, A. (2019) [Pork product detected in protein imported for use in fish and poultry feed](#). Dhaka Tribune. 10 September.

manufacturing, and distribution. In recent years, advances in technology and manufacturing processes have enabled vaccine manufacturers to produce larger quantities of vaccines in a shorter period of time.

Number of disease surveillance decreased over time

The decrease in the number of disease surveillance activities over time can have significant consequences for public health and the effective management of diseases. Disease surveillance plays a vital role in monitoring and detecting the spread of diseases, identifying outbreaks, and implementing appropriate control measures. It was 10,105 in the baseline 2019/20, 9,282 in 2020/21 and 9,147 in 2021/22. A decrease in surveillance efforts may lead to delayed or missed detection of emerging diseases, hinder early response measures, and impede the ability to track disease patterns and trends.

Number of free veterinary medical camps slightly decreased but increased over baseline

Free veterinary medical camps play a vital role in promoting animal welfare, preventing and treating diseases, and supporting livestock-dependent communities. It was 3,664 in the baseline 2019/20, 4,397 in 2020/21 and 4,246 in 2021/22. Efforts should be made to sustain and potentially increase the number of such camps to ensure the availability of veterinary care and promote the well-being of animals in need.

Number of vaccinated animals increased

The number of vaccinated animals has shown a significant increase, reflecting a positive trend in animal health and disease prevention. It was 26.80 crore in the baseline 2019/20, 31.16 crore in 2020/21 and 31.92 crore in 2021/22. Vaccination plays a crucial role in protecting animals from a wide range of infectious diseases, reducing illness and mortality rates, and contributing to overall herd health.

The number of institutions delivering nutrition training across core ministries remained unchanged

The number of institutions delivering nutrition training across core ministries remained unchanged comparing to the baseline year 2019/20. In the baseline it was 5 and it remains the same. Despite the growing recognition of the importance of nutrition training in various sectors, the number of institutions delivering nutrition training across core ministries has remained unchanged. This suggests that there is still a need to increase the integration of nutrition into various sectors and to strengthen the capacity of institutions to deliver effective nutrition training. Nutrition is a critical aspect of health and well-being, and its importance is increasingly being recognized in various sectors, including agriculture, education, health, and social protection.

Number of agriculture related cooperatives societies slightly increased

The number of agriculture-related cooperative societies has experienced a slight increase, indicating a positive trend towards collaboration and collective action within the agricultural sector. In the baseline year number of agriculture related government sponsored was 1359, which increased as 881 and 890 in the 2020/21 and 2021/22 respectively. On the other way, self-initiated cooperative societies were 1359 in 2019/20 and increased to 1373 and 1398 in 2020/21 and 2021/22 respectively. Cooperative societies play a vital role in fostering mutual support, knowledge sharing, and resource pooling among farmers and agricultural stakeholders. The slight

increase suggests a growing recognition of the benefits of cooperative models in addressing common challenges, accessing markets, and improving livelihoods.

5.1.1.(b).Needs for further actions under this strategy

Provision of incentives for expanding *aus* rice cultivation

To counter the shift by farmers from *aus* rice cultivation to high yielding irrigated *boro* cultivation, the GoB has launched an incentive programme to revive *aus* rice cultivation. In doing so, it wants to minimize farmers' dependency on underground water thus arresting the fall in the water level in the aquifer since *aus* rice requires less irrigation. There are encouraging results with evidence of improved cropping intensity as well as profitability and productivity of *aus* rice through this programme.⁹⁶ In 2018/19, BDT 375.5 million was distributed to 429 thousand farmers as an incentive to cultivate *aus* paddy in kharif-1 season.⁹⁷ The GoB has recently announced that it will provide seed and input support to farmers producing rice in the *aus* season in 2019/20. This BDT 41.8 million (USD 0.5 million) support package is expected to benefit close to half a million farmers across the country. Each farmer will receive a sum enabling him/her to buy five kilograms of seeds, 15 kg of DAP (diammonium phosphate) fertiliser, 10 kg of MoP (muriate of potash) fertiliser, BDT 90 for transportation, and BDT 20 for incidental expenses, for a maximum of 0.33 acre (one bigha) of land. It is estimated that this incentive will lead to the production of 156,452 MT of rice.⁹⁸

Project launched to strengthen capacity to fight fall armyworm

Fall armyworm is a fast-reproducing species that devastates crops. While the level of infestation in Bangladesh is still relatively minor, more than 80 varieties of crops have already been attacked in 22 districts within just a few months.⁹⁹ This pest's preferred host is maize whose acreage, as seen above, is fast expanding. It is in this context that the *Fighting Back Against Fall Armyworm Project* which is supported by USAID and the University of Michigan has been launched¹⁰⁰, to train and support agricultural professionals on fall armyworm management strategies. As part of the project, the spread of the pest was mapped. The project engages members of the private sector including pesticide and seed companies, as well as agricultural dealers to ensure they are able to best advise farmers and suggest sustainable and long-term solutions. The project has advised over 755 agricultural dealers operating in impacted areas of Bangladesh, with another 1,000 being trained in January 2022.

New ways to disseminate nutrition-sensitive agricultural technology innovations

New ways to convey information on new agricultural technologies and nutrition to farmers are being explored. For example, in April 2019, *Farming Future Bangladesh (FFB)*, with technical assistance from the Islamic Foundation, organized a training of trainers session on agricultural innovations and their applications of agri-biotechnology for sustainable food security for imams.¹⁰¹

⁹⁶ Uddin, T.M. & A.R. Dhar (2018) [Government input on Aus rice production in Bangladesh: impact on farmers' food security and poverty situation](#). *Agriculture and Food Security* 7:14.

⁹⁷ GoB (2019) *Ministry of Agriculture Annual Report 2018/19*. Dhaka. Ministry of Agriculture.

⁹⁸ USDA (2019) [Gain report- Bangladesh Grain and Feed Annual 2019](#). BG 1903. USDA Foreign Agricultural Service.

⁹⁹ CIMMYT (2019) [Bangladesh increases efforts to fight fall armyworm](#). 30 May.

¹⁰⁰ CIMMYT (2020) [New project strengthens capacity to fight fall armyworm in Bangladesh](#). 22 January.

¹⁰¹ Dhaka Tribune (2019) [Imams can play role in disseminating agricultural innovations](#). 27 April.

Because religious leaders are powerful influencers, their role in social mobilisation can be very effective.

Expansion and popularisation of floating agriculture

As part of its climate change adaptation, the GoB is promoting the expansion of floating agriculture, and various NGOs have set up projects to this end. The floating garden hydroponics system was recognized in December 2014 by FAO as a Globally Important Agricultural Heritage System (GIAHS) for innovation, sustainability, and adaptability. BARI assists farmers in cultivating vegetables in abandoned ponds and water bodies to make floating beds. Fertilisers and pesticides are not needed with this method which lowers production costs and increases profit since organic produce is sold to consumers at a higher price. The jointly implemented by DAE and BARI *Research, Extension and Popularization of Vegetables and Spices Cultivation on Floating Beds Project* has been developing and disseminating floating bed agricultural technologies.¹⁰² In 2018/19, the GoB distributed BDT 10.72 million to 4,105 farmers in 46 districts as incentive under seed distribution, preparation of floating seedbeds and harvesting and distribution of seedlings programmes during the *aman* season.¹⁰³ Despite some limitations and challenges, floating gardening and subsequent winter vegetable cultivation have been useful for improving nutritional security and household income.¹⁰⁴

Develop bio fortification to increase the nutrient-density of major food items

Modern breeding and selection methods permit biofortification through which the bioavailability and the concentration of nutrients in crops can be increased. In contrast to industrial fortification, biofortification genetically adds selected nutrients in crops. Examples are iron-rich rice, zinc-enriched rice and golden rice (with vitamin A) and orange fleshed sweet potato with high vitamin A content. The Bangladesh Rice Research Institute (BRRI) and its partners are working to develop such rice and other crop varieties which are evaluated, some piloted and being fielded. Some of these varieties are already in the seed pipeline. The PoA will support and leverage BRRI's work to make such varieties readily available to farmers.

Increase surface water usage, enhance water conservation and increase water use efficiency

Surface water irrigation will be encouraged and rainwater harvested. Rainwater is free from arsenic contamination and salinity. While rainwater harvesting is mostly adapted to drinking, it can serve for irrigation for homestead gardens and in cases of drought. It can also be integrated with hydroponic cultivation instead of irrigation as suggested by the World Bank's CSAIP for Bangladesh. Construction of new reservoirs and repair of old ones for conservation of rainwater thus needs to be expanded throughout the country and suitable storage developed. Forests should be protected, and tree planting encouraged for their role in balancing the discharge and recharge of water tables. Irrigation methods that consume less water will continue to be disseminated. Alternate wetting and drying for example not only reduces water use but also limits methane emissions. Using buried pipes rather than using open channels minimises evaporation and spills. More focus should be put on rainfed *aus* and *aman* rather than irrigation intensive *boro* rice which

¹⁰² GoB (2019) *Ministry of Agriculture Annual Report 2018/19*. Dhaka. Ministry of Agriculture.

¹⁰³ *Ibid.*

¹⁰⁴ Irfanullah, Md. H., Azad, Md. A.K., Kamruzzaman K. A.K.M., & Ahsanul, Md. W. (2011) [*Floating Gardening in Bangladesh: A means to rebuild lives after devastating flood*](#) *Indian journal of traditional knowledge* 10(1):31-38.

accounts for almost 90% of the Consumptive Water Use. In water scarce areas, sprinklers, drips and micro-irrigation should be promoted.

Develop and promote new technologies and infrastructure

R&D will continue in collaboration with the private sector to develop new sustainable and energy efficient irrigation technologies learning from other countries' experience. For example, precision irrigation is being developed using sensors that guide the growers as to the exact irrigation needs of different crops. Innovative technologies will be disseminated. ICT-based and digital solutions for irrigation water management will contribute to achieving sustainable water availability for irrigation in the coming decades (PP2041). Concurrently, large infrastructure projects required to ensure country wide irrigation will continue, including those that upgrade and modernise existing systems. Rubber dams will be built and restored to prevent saltwater intrusion as well as sluice gates to control flood waters. Excavation and re-excavation of canals and rivers have proved to provide good job opportunities for women and reclaimed *khas* land from irrigation projects has been distributed to destitute women, an initiative which should continue¹⁰⁵. Involvement of the private sector will be sought: the Bangladesh Delta Plan 2100 (BDP 2100) projects that on an average Bangladesh should be able to mobilize at least 0.5% of Gross Domestic Product (GDP) per year from private sector to finance projects of water resource management and related infrastructure. This is important for costly endeavours such as dredging which are not only needed to maintain river navigability and control floors but also for properly functioning irrigation systems.

Facilitate access to sustainable irrigation technology

Access to irrigation technology adapted to all size farms and geographies will be promoted by exposing producers to demonstrations, giving them access to finance for necessary investments and promoting the formation of groups and cooperatives which collectively, can secure better access to infrastructure and ensure its effective maintenance and management (PP 2041). Particular attention will be given to increasing rural women's access and participation to irrigation schemes and water management initiatives which are proved to be determinants of improved household livelihood, nutrition and health¹⁰⁶. Access to clean and sustainable technologies will be favoured with the promotion of solar powered irrigation pumps for example

Develop of agricultural credit service in a timely manner for the poor, marginalized and small-scale producers through the formal banking system

Bangladesh Bank (BB) along with its public and commercial banks are providing agricultural credit with over 10% growth rate in the recent years to almost three million borrowers where 41% are women. However, the credit disbursement is often not done in a timely manner resulting in underutilization of credit and economic losses. Timely disbursement of credit to the small-scale producers are crucial in this regard and actions need to be undertaken. A recent profiling by CGAP⁹¹ defined the following smallholders farming groups: (i) farming for sustenance; (ii)

¹⁰⁵ Ministry of Finance. 2019. [Medium-Term-Budget-Framework- Ministry of Water Resources 2019/20](#). Government of Bangladesh

¹⁰⁶ Bryan, E. & El Didi, H. 2019 [Guest Commentary - Considering Gender in Irrigation: Technology Adoption for Women Farmers](#). Chicago Council on Global Affairs

battling the elements; (iii) option for growth; and (iv) strategic agriculture entrepreneurs. This profiling will be utilized to improve the targeting. The definition of farmer will also need to be reviewed to include farmers so far excluded such as those rearing livestock, honeybees, cultivating mushrooms etc., thus preventing them from availing credit from banks

Enable investment in sustainable fisheries

DoF will strengthen fishery policies, regulatory frameworks and institutional capacity to reduce investment risks due to regulatory and enforcement gaps. DoF will conduct awareness-raising programmes. Different fishers' and boat owners' associations (both industrial and artisanal) and relevant government entities, such as the Coast Guard, Navy, Police, Bangladesh Land Port Authority, Chittagong Port Authority and Customs, and other stakeholders will be involved.

Promote on-farm production and preservation of quality seeds for pulses, oils and spices

As the lion's share of the total seed requirement -particularly for pulses, oilseeds (see Table 13 above) and spices is still provided by farmers themselves, emphasis should be given to the production and preservation of quality seeds at farm level. Farmers' home-grown seeds are typically of poor quality in terms of purity, germination capacity, vigour, disease and insect resistance because knowledge about seed production technology, processing and storage is very limited. DAE has implemented a project titled *Farmers' level Quality Seed of Pulse, Oilseed and Spice Production, Preservation and Distribution* but more needs to be done to provide training to farmers, especially for the enhancement of quality seeds of high-value crops, such as pulses, oilseeds and spices. Following the COVID-19 pandemic, however, it is likely that own seed production by farmers will have been severely affected and the focus may need to be on urgently supplying seeds to farmers to safeguard future production. In fact, at the time of writing this report, some 1.5 billion BDT had been allocated for the distribution of seeds and seedlings.¹⁰⁷ To this end, there is a need to promote healthy seeds to enhance the yield and nutritional quality of the produce.

Accelerate the use of organic fertiliser through better manure management

Bangladesh has the highest density of livestock in the world with 35.53 million households owning 48.15 million cattle¹⁰⁸ which results in a high concentration of livestock manure, responsible for methane and nitrous oxide GHGs emissions. Dried manure utilized for cooking and heating contributes to air pollution through carbon monoxide emissions and the discharge of both solid and liquid manure into water is responsible for the increase in the occurrence of illnesses such as diarrhoea.¹⁰⁹ Accordingly, the Integrated Livestock Manure Management (ILMM) Policy and Action Plan (2016-2030) aims to encourage livestock farmers to adopt improved manure management practices, such as the use of biodigesters and the creation of value-added manure products, and to facilitate the development of a manure market. The policy encourages farmers to set up societies and to build 'community' biodigester plants and/or environment-friendly manure storage and treatment facilities.¹¹⁰

¹⁰⁷ BBSnews.net (2020) [PM announces Tk 5,000cr package for agriculture over COVID-19](#). 28 April.

¹⁰⁸ BBS (2019) [Preliminary report of agricultural census 2019](#). Dhaka. Ministry of Planning.

¹⁰⁹ GoB (2016) [Draft National Integrated Livestock Manure Management \(ILMM\) Policy](#). Dhaka. Ministry of Fisheries and Livestock.

¹¹⁰ Biskupska, N., Pravalprukskul, P. & Osborne, M. (2019) [Why Do Farmers Take up Biodigesters? An Assessment from Bangladesh](#). SEI Discussion Brief. Stockholm Environment Institute. Stockholm.

Bio digesters create conditions for the anaerobic decomposition of organic material such as cow dung and poultry litter and produce biogas and bio-slurry. The use of biogas reduces the burning of solid manure and other biomass fuels while the use of bio-slurry as fertiliser can increase crop yields and reduce costs. While financing options for the installation of bio-digesters do exist through RDA under Ministry of Local Government, Rural Development and Cooperatives (MoLGRD), the BRAC and Grameen Shakti microfinance programmes and a government-owned financing agency, IDCOL (Infrastructure Development Company Limited) and Bangladesh Council of Scientific and Industrial Research (BCSIR), no digesters are collectively owned or managed by small-scale or landless farmers for lack of access to finance, technical knowledge, livestock and/or manure, and sufficient land.¹¹¹ Thus, the government, with assistance from local NGOs, should look into measures that may encourage farmers to install biodigesters. Likewise, the usage of other organic fertilisers to improve soil health and land productivity should be encouraged. To this end, the government has provided registration to eight companies for marketing organic/ bio-fertilisers in 2021/22.

Expand the usage of bio-pesticides

Bio-pesticides are pest management agents based on living micro-organisms or natural products and their usage can contribute to preserving the safety and nutritional content of the food. The GoB has taken initiatives to develop and spread on-farm bio-pesticides usage under the project *Development and Dissemination of Bio-pesticides Technologies for Vegetables, Fruits and Pan Crops*. However, research and extension activities on bio-pesticide-based integrated pest management technologies remain limited and need to be developed and disseminated with a focus on effective and cheap bio-pesticides.

The government needs to develop a legal framework for commercialisation of bio-pesticide in order to make quality bio-pesticides available at a reasonable price. Involvement of the private sector may also be encouraged in the commercial production and distribution of bio-pesticides with strict quality control measures in place.¹¹² In the medium term, however, the GoB may need to focus its efforts on guaranteeing the availability of more traditional pesticides for farmers in cases where supply chains will have been affected by the measures taken to counter the COVID-19 pandemic.

Improve reservoirs system for rainwater harvesting

Groundwater extraction is increasingly higher than its recharge, thus depleting the groundwater table. For instance, groundwater in the Rajshahi district receded at a rate of 0.23 m/year over the period 2000 – 2014.¹¹³ An alternative to groundwater extraction is rainwater harvesting in ponds and other reservoirs which may contribute cheaply and sustainably to improved water availability during the dry season. Furthermore, rainwater is free from arsenic contamination, salinity and other harmful infectious organisms and pathogens. Bangladesh is characterised by abundant rainfall averaging about 2,200 mm per year, 75% of which occurs between May and September, making this an appealing option. Under several projects, the government has constructed new reservoirs

¹¹¹ *Ibid.*

¹¹² SAARC Agriculture Centre (2013) [Extent and potential use of bio-pesticides for crop protection in SAARC countries](#). Dhaka.

¹¹³ Aziz, M.A, Majumder, Md. A.K., Kabir, Md. S., Hossain, Md. I., Rahman, Niaz Md. F., Rahman, F. & Hosen, S. (2015) [Groundwater depletion with expansion of irrigation in Barind tract: a case study of Rajshahi district of Bangladesh](#). *Int. J. Geol. Agric. Environ. Sci.* 3:32–38.

and repaired old ones for the conservation of rainwater but this has been limited in scale and may be expanded throughout the count.

5.1.2 Strategy 1.2 -Scale up nutrition-sensitive diversification of food production

This strategy consists of 3 AoIs of NFNSP-PoA namely 1.2.1 Promote diversification into horticulture, fisheries, livestock, poultry and dairy products with high nutrient and micronutrient content including regional and ethnic foods, 1.2.2. Increase funding and improve efficiency of R&D for sustainable agriculture, 1.2.3. Improve the availability of safe nutritious food through innovation and expansion of appropriate methods of urban-based food production. It also covers 2 programmes of CIP3 namely Programme I.6. Promotion of agricultural diversification into commodities with high nutrient content and market value including animal-source, regional and ethnic foods I.7. Developed blue economy.

5.1.2 (a) Progress towards achievement

Table 13: Progress towards achievement of NFNSP Strategy 1.2 and CIP-3 program(I.6-I.7)

CIP3 output proxy indicators	Item	2019/20	2020/21	2021/22	Source
Production of selected horticulture Products (lak MT)	Potato	96.06	98.89	101.45	BBS
	Pulses	3.98	4.25	4.32	
	Brinjal	5.58	5.87	6.19	
	Oilseeds	5.57	5.89	6.17	
	Lal shak	0.61	0.65	0.73	
	Pumpkin	3.40	3.56	3.74	
	Beans	1.70	1.70	1.70	
	Guava	2.26	2.44	2.45	
	Mango	12.22	12.15	12.07	
	Jackfruit	10.02	10.97	10.50	
	Coconut	4.12	4.03	4.12	
	Papaya	1.31	1.26	1.47	
	Pineapple	2.18	2.08	2.06	
	Banana	8.18	8.26	8.26	
	Jhur/tan	0.009	0.009	0.011	
GDP from crop sector as % of agriculture GDP, at constant prices 2015/16		47.64%	47.23%	47.02%	BBS
Annual change in quantity of fish production		2.72%	2.62%	2.98%	DoF, MoFL
Fishery exports value as % of total export value		1.39%	1.24%	1.06%	DoF
Shrimp share in fishery exports (%)		74%	67%	70%	DoF
Number of ponds		2,490,000	2,490,689	2502188	Fisheries Statistical Report
GDP from fishery sector as % of agriculture GDP, at constant prices 2015/16		25.30%	26.50%	21.83%	BBS
Production of livestock, poultry and dairy products	Meat (million MT)	7.67	8.44	9.265	MoFL, BBS
	Eggs (million)	17,360	20576.4	23353.5	MoFL, BBS

CIP3 output proxy indicators	Item	2019/20	2020/21	2021/22	Source
	Milk (million MT)	10.68	11.985	13.074	MoFL, BBS
Growth rate of livestock GDP (Constant price)		3.04%	3.80%	3.10%	DLS
Production of selected ethnic and regional foods crops	Tara sabji	17,360	20576.4	23353.5	MoFL, BBS
	Jhur/tan	10.68	11.985	13.074	MoFL, BBS
	Dhumur	7.67	8.44	9.265	MoFL, BBS
Budget allocations for public sector R&D on agriculture (taka)		1037.61 Crore	1044.52 Crore	1112.51 Crore	MoA
Direct gender budgeting as % of MoA revised budget		44.91%	47.54%	34.33%	MoF
Direct gender budgeting as % of MoFL revised budget		40%	31.42%	42.78%	MoFL
Number of people trained in rooftop gardening		4997	5230	5498	DAE
Coverage of marine protected areas (ha)		...*	69,800	7367	DLS, DoFish
Area of land affected by salinisation (hectare)		1030220	1045110	1056000	SRDI
Percentage of wetland and natural sanctuaries maintained		2.1%	2.1%	2.1%	MoFL
Percentage of marine protected area		4.73%	4.73%	6.02%	DoF, MoFL

Production of selected horticulture products increased over time

The production of selected horticulture products has witnessed a substantial increase, highlighting positive growth and development in the horticultural sector. Horticulture encompasses the cultivation of fruits, vegetables, ornamental plants, and other high-value crops. The rise in production indicates improved farming practices, increased investments in horticultural infrastructure, and enhanced market demand for these products. The growth in production contributes to food security, promotes agricultural diversification, and offers economic opportunities for farmers and related industries.

GDP from crop sector as % of agriculture GDP, at constant prices 2015/16 slightly decreased

The GDP from the crop sector as a percentage of the agriculture GDP, at constant prices 2015/16, has experienced a slight decrease, indicating a negative trend in the contribution of crop production to the overall agricultural economy. The GDP from crop sector as % of agriculture GDP decreased from the baseline year from 47.64% to 47.23% in 2020/21 and to 47.02% in 2021/22 from the previous year. The crop sector encompasses the cultivation of various crops, including food crops, cash crops, and industrial crops. The slight decrease suggests improved productivity, market demand, and favourable agricultural policies and practices. This growth in the crop sector contributes to food security, income generation for farmers, and overall economic development. It signifies the importance of crop production in driving agricultural GDP and underscores the sector's resilience and potential for further expansion. Continued support for agricultural research, technological advancements, and farmer empowerment can further enhance the performance of the crop sector and foster sustainable agricultural growth.

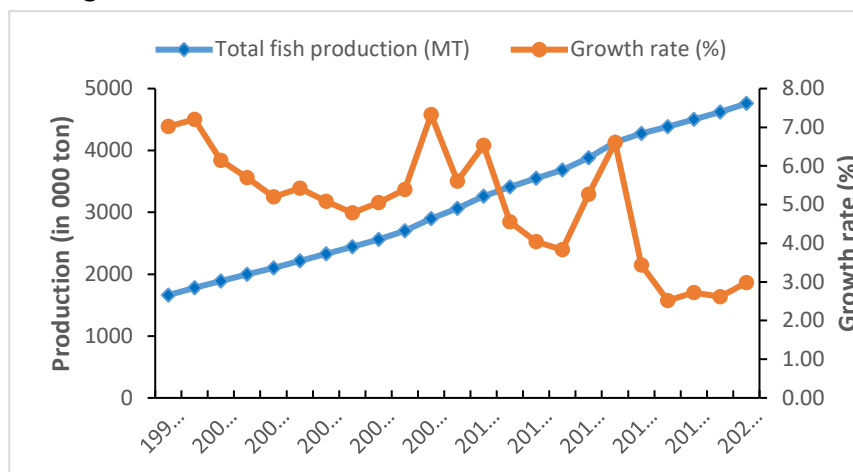
Fish production growth slightly increased last year after a slowed growth trend

Fish production remains mainly driven by aquaculture (57%), followed by capture (28%) and marine fishing (15%) with these proportions remaining substantially unchanged year-on-year. Fish production increased by 2.5 times since 2001/02 up to 4.76 MMT in 2021/22, by 3.0% year-on-

year (Figure 15) for Government's active initiatives in this sector by implementing result oriented specific programs for sustainable fisheries management through innovation and dissemination of environment friendly new fisheries technologies). However, the growth trend has recently increased to 3.0% in 2021/22 from 2020/21 and the growth rate was 2.7 CIP3 baseline 2019/20.

Nevertheless, per-capita consumption has increased. Production is likely to have been severely affected by COVID-19 as fish spawn, fingerling, shrimp and post-larvae were either unsold or sold at very low prices during the lockdown. Government hatcheries tried their best to maintain fish seed production but an extended disruption in the supply of raw materials was likely to close down private hatcheries¹¹⁴.

Fig-13: Fish Production and Growth rate



The value of fisheries in total export value declined

Fisheries' export value in total exports reduced to 1.06% in 2020/21 from the CIP2 baseline 2019/20, and this export value is the lowest ever since the CIP2 baseline. The share of shrimp in total fishery export value also declined to 69% from 84%, over the same reference period. This trend has several explanations: the ban on imports of fish treated with certain antibiotics by a number of countries (Southern Shrimp Alliance, 2018)¹¹⁵; the low competitiveness of Bangladeshi Tiger and Galda shrimp against the cheaper Vannamei variety in a context of weaker prices; and an abundant international supply associated with a slower demand and global reduced economic growth.¹¹⁶ This is worrying in that Tiger and Galda shrimp constitute Bangladesh's most important agriculture-based export, accounting for more than 70% of total overseas earnings.¹¹⁷

Shrimp share in fishery exports (%) slightly decreased

The shrimp share in fishery exports has experienced a slight decrease, signalling a shift in the composition of fishery exports and potentially reflecting changing market dynamics. The Shrimp share in fishery exports decreased to 67% in 2020/21 from the baseline year 74% and increased to 70% in 2021/22 from the previous year. Shrimp, being a high-value seafood product, has traditionally been a significant contributor to fishery exports in many countries. The slight decrease

¹¹⁴ FAO (2020) *FAO COVID-19 Rapid Assessment of Food and Nutrition Security in Bangladesh*. Dhaka.

¹¹⁵ Southern Shrimp Alliance (2018) [2018 Begins with Bangladeshi Shrimp Refused Entry for Banned Antibiotics and Indian Shrimp Refused Entry for Salmonella](#). 5 February.

¹¹⁶ FAO (2019) [Food Outlook – Biannual Report on Global Food Markets](#). May and November 2019. Rome.

¹¹⁷ Holland, J. (2019) [Bangladesh seeks more buck for its bagga](#). Global Aquaculture Alliance.

in its share suggests various factors such as fluctuations in market demand, changes in consumer preferences, or challenges within the shrimp farming industry.

The number of ponds continues to rise

The number of ponds remained similar to the year 2019/20 at 2,490 thousand in 2020/21, but in the year 2021/22 it is at 2502 thousand which is 0.49% higher compared to the base year. This slow but steady expansion in the number of ponds is likely to have contributed to the observed increase in aquaculture production.

Fishery sector contribution to agricultural GDP increased over time

Fishery sector contribution to agricultural GDP increased from the baseline year from 25.30% to 26.50% in 2020/21 and decreased to 21.83% in 2021/22 from the previous year. The fishery sector's contribution to the agricultural GDP has experienced a downward trend, reflecting challenges and potential concerns within the sector. The fishery sector plays a vital role in food security, employment generation, and export earnings in many countries. However, factors such as overfishing, habitat degradation, climate change, and unsustainable fishing practices have put pressure on fish stocks and impacted production levels. This downward trend may indicate declining fishery yields, reduced economic output, and potential threats to the livelihoods of those dependent on the sector.

Egg, milk and meat production improved but milk production still remains largely insufficient

In line with the trend witnessed since the beginning of the CIP3, in 2021/22, the production of egg, milk and meat moderately increased from 17.36 billion to 23.35 billion, from 10.68 million Mt to 13.074 million MT, and from 7.67 million MT to 9.26 million MT, respectively (Table 12). Egg and meat production covered an estimated 130.77 % and 123.2% of domestic demand (Table 14),

Table 14 - Eggs, milk and meat production, demand and per capita availability, demand and supply coverage in 2021/22-

Products	Production	Demand	Coverage (%)
Egg	23.03 billion (136.01 number/year/head)	17.61 billion (104 number/year/head)	130.77
Milk	208.61 ml/day/head	250 ml/day/head	83.44
Meat	147.84 gm/day/head	120 gm/day/head	123.2

* population: 16 crore 52 lakhs (BBS, population census 2022)

Source: Ministry of MoFL: Annual Report 2020.

while milk production covered only 83.44% of estimated domestic demand.¹¹⁸ The Bangladesh Bank dairy loan scheme at a 5% interest rate has been contributing to the positive progress of the

¹¹⁸GoB (2019) [Livestock Economy at a Glance 2020/21](#). Dhaka. Department of Fisheries. Ministry of Fisheries and Livestock.

livestock sector since 2015. This USD 23.53 million refinancing fund is to encourage dairy farming and cut malnutrition and milk powder import bills.¹¹⁹

In spite of the world pandemic COVID-19 situation, Bangladesh earned self-sufficiency in egg and meat production, while Bangladesh is far behind to achieve self-sufficiency for milk production.

The introduction of world-renowned improved breeds of broiler and layer strains has played a vital role in increasing poultry productivity.¹²⁰ Therefore, milk production needs further improvement to bridge the 20.4% gap between domestic production and demand. In particular, the growing modern dairy production value chain which currently covers only 15% of the dairy sector has a strong potential for adding value to the dairy industry.¹²¹ According to World's Poultry Science Association Bangladesh Branch, the poultry sector is expected to start exporting eggs and poultry meat by 2024, especially to the Middle East which is a sizeable market for halal meat.¹²²

Livestock's contribution to agricultural GDP hardly varied but livestock growth rate progressed

Livestock's contribution to agricultural GDP was 16.52% in 2021/22, which was the highest since base year 2019/20 and a slight (0.11%) less than that of previous year. The contribution of this sector is gradually decreasing over the last four years (since the beginning of the CIP2) (Table 15). However, the livestock GDP growth rate consistently reduce to 3.10% in 2021/22 at a slower pace from 3.19% in the baseline 2019/20, and then gradually dropped to 2.94% in last year (2020/21) which was the lowest over the last CIP2 period, especially for world pandemic COVID19 situation (Table 15). The slower and sometimes negative growth rate witnessed is likely to be explained by several factors: the drop in production of small-scale commercial poultry farms - accounting for 81% of commercial poultry farms - which were particularly affected by recurrent outbreaks of Highly Pathogenic Avian Influenza over the last 10 years¹²³; and increase in feed prices which translated into higher production cost. For example, the cost of maize, which constitutes 55-60 % of poultry feed, rose from BDT 16.11 per kg in 2006 to BDT 19.46 per kg in 2018, although a 10% tax exemption in maize and soybean meal import helped dampen this rise in costs.¹²⁴ The 500 million USD World Bank *Livestock and Dairy Development Project (LDDP, 2019-2023)* is likely to contribute to improving the productivity and sectoral value addition for this sector, especially for dairy and beef production.¹²⁵

Production of selected ethnic and regional foods crops increased

The production of selected ethnic and regional food crops has witnessed a significant increase, highlighting the growing popularity and demand for diverse culinary traditions and local food

¹¹⁹ Bangladesh Bank (2019) [Re-financing scheme](#). Dhaka. In Bangla.

¹²⁰ Rahman, M. S., Jang, D. & Jum Y. C. (2017) [Poultry industry of Bangladesh: entering a new phase](#). Korean Journal of Agricultural Science. Volume 44 Issue 2.

¹²¹ FAO & UNIDO (2019) [The Dairy and Beef Value Chain in Bangladesh](#). Draft Report. May.

¹²² WPSA-BB (2019) [Bangladesh Heading Towards Safe Poultry Production & Export](#). Dhaka. World's Poultry Science Association – Bangladesh Branch

¹²³ Rimi, N.A., Hassan, M.Z., Chowdhury, S., Rahman, M., Sultana, R., Biswan, P.K., Debnath, N.C., Islam, S.K.S. & Ross, A.G. (2019) [A Decade of Avian Influenza in Bangladesh: Where Are We Now?](#) Tropical Medicine and Infectious Disease. 11.

¹²⁴ The Financial Express (2018) [Poultry Feed Ingredients See Cut in Import Duty](#). 8 June.

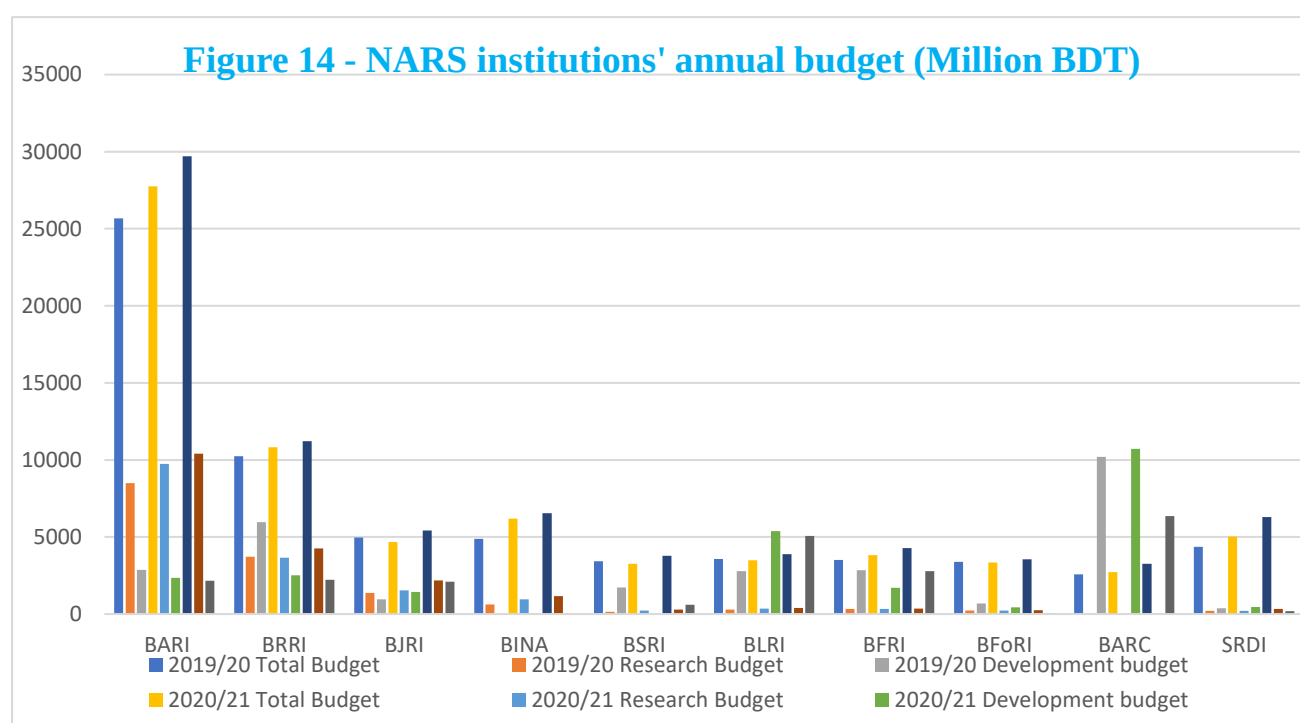
¹²⁵ World Bank (2018) [Project Appraisal Document Livestock and Dairy Development Project](#). Report No: PAD2500.

varieties. Ethnic and regional foods represent the rich cultural heritage and unique flavours of specific communities or geographical regions.

Budget allocations for public sector R&D on agriculture

The budget for agricultural research as a share of total agriculture budget increased slightly to 26.27% in 2021/22 from 25.20% in the previous year, and 24.05 in the baseline 2019/20. However, the annual budget of all research institutes rose in the year under review BARC by 20.28%, BARI by 7.03%, BINA by 5.99%, BJRI by 16.11%, BRRI by 3.72%, BSRI by 15.88%, SRDI by 25.39%, BFRI by 12.09%, BLRI by 11.30% and BForI by 6.54. Since the onset of the CIP3 in 2019/20, the budgets of following institutes rose: BARC (+32%), BRRI (+8.73%), BINA (+25.57%), BSRI (+9.17%), BFRI (17.66%), BLRI (+8.25%) and BForI (5.12%), BARI (+13.51%), BJRI (+8.50%) and SRDI (+30.65%). The total budget of these institutions rose by 14.28%.

The share of gender budget in the total MoA budget decreased



Gender budgeting, or gender-responsive budgeting, promotes gender equity by allocating specific budgets to women and men beneficiaries in projects/programmes. Bangladesh ranked 71 in the Global Gender Gap Report 2022, in 2020 Bangladesh ranked 120 leading by far the South Asian region where other countries' rank is beyond one hundred. The share of direct gender budget in the total MoA revised budget substantially decreased to 34.33% in 2021/22 from 41.46% in 2020/21 as direct gender budget shot up to BDT 5,360.31 million from BDT 6312 million. Similarly, last year decreased to 44.86% in 2018/19 from 49.3% in 2017/18 as direct gender budget shot up to BDT 5,740 million from BDT 6707 million. Thus, several activities specifically targeted at recognizing and enhancing the role of women in agriculture was undertaken in the year under review. For example, credit facilities were provided to female farmers under the *Second Crop Diversification Project*. Concurrently, these beneficiaries were trained on how to manage their loan and become entrepreneurs. Under this same project, community groups were created comprising at least 30% of women and given the training to understand issues such as the

functioning of commodity prices, to facilitate the marketing of their agricultural produce. The Department of Agricultural Extension (DAE) also trained over 300,000 women in technology of crop production, comprehensive pest management, post-harvest preservation and management of crops and marketing.¹²⁶

The share of gender budget allocation over MoFL total budget trippled

Gender budget allocation in 2021/22 lower than the CIP3 baseline, at 35.83% of the total MoFL budget. The share of the direct gender budget reduced to 32.96% in 2020/21 from 40.00% in the previous year but was above all other years since the baseline year. This reflects the continuous efforts made by this ministry to recognize the role and potential of women in this field of agriculture. For example, the provision has been made in the national budget specific to this ministry to include at least a quarter of women as beneficiaries in various development projects as part of gender mainstreaming in fish cultivation and management.¹²⁷ The increased participation of women empowers them and scales up their social position.

Number of people trained in rooftop gardening increased

Number of people trained in rooftop gardening increased to 5498 in 2021/22 that was 4997 in 2020/21. The number of people trained in rooftop gardening has experienced a significant increase, reflecting a growing interest in urban agriculture and sustainable food production. Rooftop gardening involves utilizing available rooftop spaces to cultivate plants, including vegetables, herbs, and fruits. The rise in training signifies a shift towards recognizing the potential of urban areas for food production, even in limited spaces. Training programs focus on equipping individuals with the knowledge and skills needed to set up and maintain rooftop gardens, including techniques for soil management, irrigation, and plant care.

The coverage of marine protected area are greatly decreased

Marine protected area are rapidly decreasing. The decreasing rate is 89.4%, which is a cause for concern for the conservation of marine ecosystems and biodiversity. Marine protected areas are important tools for protecting marine habitats and species, and their decline threatens the health and sustainability of marine ecosystems. Marine protected areas are designated areas in which human activities are restricted or prohibited, with the aim of conserving and protecting marine ecosystems and biodiversity. However, the coverage of these areas has declined significantly in recent years, due to a range of factors including lack of political will, weak governance, and competing interests for marine resources.

Area of land affected by salinization increased

Area of land affected by salinization increased to 105600 hectare in 2021/22 from 1030220 in the baseline year 2019/20. The area of land affected by salinization has witnessed a concerning increase, indicating a growing problem in agricultural and natural ecosystems. Salinization occurs when the salt content in soil and water accumulates to levels that are detrimental to plant growth and environmental health. Factors such as poor irrigation practices, excessive groundwater

¹²⁶ GoB (2020) [Budget 2020](#). Dhaka. Ministry of Finance.

¹²⁷ GoB (2019) [Chapter 10: Ministry of Fisheries and Livestock](#). Bangladesh Budget. Dhaka. Ministry of Finance.

extraction, and climate change contribute to the expansion of salinized areas. The consequences of salinization include reduced crop productivity, loss of arable land, and damage to natural habitats. Efforts to mitigate salinization involve implementing sustainable irrigation techniques, improving drainage systems, and adopting salt-tolerant crop varieties. Addressing salinization is crucial for maintaining agricultural productivity, preserving ecosystems, and ensuring sustainable land use practices in affected regions.

Wetland and natural sanctuaries are also rare

Wetland areas and natural sanctuaries provide an ideal habitat for native species of animals and plants, and thereby contribute to preserving wildlife, biodiversity and the protection of endangered species. The limited expansion of such sanctuaries since before the CIP2 - by a mere 0.20 percentage points (in four years), to 2.1% in 2019/20, and the same amount of expansion (0.20 percentage points) caused in next year (2019/20), but remained unchanged (2.1%) in 2020/21 of all waterbodies- calls for renewed efforts in this regard.

The extent of coastal and marine area protection remains minimal

While relatively less developed than other regions of Bangladesh, disaster-prone coastal areas hold great potential in the access they have to marine and mangrove natural resources.¹²⁸ This could play a major role in supporting the livelihoods and food security of the relatively poorer local communities. Coastal areas' socio-economic systems are centred around fisheries. However, the scarcity of large-scale vessels restricts industrial fishing in the deep-sea area, consequently increasing the pressure of artisanal fishing operations in the continental near shore within 40m depth.¹²⁹ This has contributed to the deterioration of marine habitats, migratory routes, fish spawning and nurseries. **Out of the total 47,291 km² of the *coastal zone* in Bangladesh - or 32% of the country¹³⁰ - only 15.6% was marine protected area as of January 2022. This is still too low, as increased protection could contribute to sustainable coastal development which is essential to avoid over-exploitation of coastal ecosystems. As of 2021/22, out of the 118.8 thousand km² of *marine* areas of Bangladesh, only 6.02% was protected¹³¹; this protected area is as same as was in previous two years, despite a 4.73% rise from 2019/20. The limited coastal and marine area protection reflects the emphasis on preserving the livelihoods of poor local fishermen communities over environmental conservation. However, protection of these areas falls within the preservation of the Bay of Bengal marine ecosystem and as such needs to be strengthened within a regional and transboundary perspective. To this end, the approval of the USD 15 million grant for the *Bay of Bengal Large Marine Ecosystem (BOBLME)* project by the Global Environmental Facility (GEF) and led by FAO (2018) was a positive achievement.¹³² Bangladesh, fishermen often do not comply with the 65-days annual ban to protect spawning fish and rejuvenate fish stocks.¹³³

¹²⁸ IUCN (2015) [National Framework for Establishing and Managing Marine Protected Areas \(MPAs\) in Bangladesh](#). International Union for Conservation of Nature. Dhaka. Bangladesh Country Office.

¹²⁹ *Ibid*.

^{**}UN (2022) *the government of Bangladesh announces new marine protected areas totalling about 8.8% of its Exclusive Economic Zone*

¹³⁰ Ahmad, H. (2019) [Bangladesh Coastal Zone Management Status and Future Trends](#). *Journal of Coastal Zone Management*.

¹³¹ Chowdhury, H.A., Humayun, N.U.M. & Mondal, M.K. (2019) [Blue Economy: Department of Fisheries Initiatives in the Management of Marine Fisheries Resources](#). National Fish Week 2019.

¹³² [thethirdpole.net \(2018\) Eight countries come together to protect Bay of Bengal](#). 4 July.

¹³³ [thethirdpole.net \(2020\) Lines on water cannot save Bay of Bengal fisheries](#). 15 May.

5.1.2.(b) Policy development, programmes and initiatives underway and further action

Assessment of current fish stocks and aquatic resources

The marine research vessel, Dr Fridtjof Nansen, carried out a survey in Bangladesh from 2 to 17 August 2018 to gather information on the current stock of fish and other aquatic resources which are feared to be overexploited. This supports the establishment of the maximum sustainable yield, the highest level at which a natural resource can be utilised up to its regeneration capacity. This vessel is a unique platform for knowledge generation and capacity development: it houses seven different laboratories packed with high tech equipment. This work was carried out as part of the EAF-Nansen programme titled *Supporting the Application of the Ecosystem Approach to Fisheries Management Considering Climate and Pollution Impacts* which is implemented by ERD, FAO and the Norwegian Institute for Marine Research (IMR).

Enhancing marine and coastal fisheries

The World Bank funded *Bangladesh Sustainable Coastal and Marine Fisheries Project* (2019-2023), with a total budget of USD 281.60 million, aims to increase coastal and marine fisheries' contribution to the economy, poverty reduction, and environmental stability. It will achieve its target by enabling activities for sustainable fisheries sector investment and growth, improving infrastructure and production practices, empowering communities and developing livelihoods in 75 upazilas of 16 coastal districts spread over a geographical area of 43,291 km² inhabited by a total population of 33.77 million.¹³⁴ This piloting phase (2017-18) of this project successfully worked on enabling sustainable fisheries investment and growth and improvement of infrastructure and fisheries production practices.

Incentivizing fish culture and capture

A 20-year master plan on *haor* development was approved in 2012, where 22 fishery projects were proposed accounting for USD 594 million to increase the culture and capture of fish production.¹³⁵ To accelerate the achievement under this master plan, various ancillary initiatives have been taking place including the establishment of the *Haor and Char Development Institute* in 2018 to improve the individual capacities and thereby sustain *haor* agriculture development.¹³⁶ To promote the production of capture fisheries, specially hilsa and shrimp, the government provides food incentives to around 0.4 million fishermen during the of 65 days fish harvesting ban. In addition, the government is continuing the waterbody re-excavation project accounting for USD 34.37 million in 229 *upazilas* under 53 districts to remove 7.66 million m³ soil. Further, the proposal for extension of this project until 2021 with an additional USD 51.56 million budget is underway in the Ministry of Planning.¹³⁷ The project was extended for the 2nd time up to June 2022 and the revised budget was fixed to Tk 4090 million (totally GoB funded) and the project area was extended to 349 Upazilas of 61 districts.

¹³⁴ [GoB \(2018\)](#) *Sustainable Coastal and Marine Fisheries Program (SCMFP)*. Dhaka. Ministry of Fisheries and Livestock. In Bangla.

¹³⁵ DBHWD (2012) *Master Plan for Haor*. Bangladesh Haor and Wetland Development Board. Bangladesh.

¹³⁶ [Haor Institute](#), Bangladesh Agricultural University. Website under construction.

¹³⁷ GoB (2019) জলাশয় সংস্কারের মাধ্যমে মৎস্য উৎপাদন বৃদ্ধি প্রকল্প

Promoting non-traditional aquaculture for export markets

Non-traditional forms of aquaculture are being developed in different parts of Bangladesh. For instance, the project on the *Adoption of Innovative Technology: Seed to fattening of mud crab (Scylla olivacea) and health management in Bangladesh condition (2018-2021)* explores the export market potential of crabs which offer good micronutrient density. Bangladesh Fisheries Research Institute (BFRI) also started the *Conservation, Propagation and Culture of Mussels and Snails (2017-2021) Project* aimed at developing an economically viable technology towards the culture of oysters and snails. A pearl culture development and extension project was conducted between 2012 and 2019, aiming to expand the technology to rural women, farmers and entrepreneurs. To promote emerging sectors with export potential including non-traditional aquaculture products such as eel and crab, since 2019, the GoB has started providing 10% cash incentive on selected items, in accordance with the export-led economic growth strategy of the country.¹³⁸ A sum of Tk 18.31 billion was released in favour of Bangladesh Bank to provide incentives/subsidies to the local exporters for the 1st quarter (July-September) of FY 2020-21.¹³⁹

Developing cluster models of shrimp farms

The Bangladesh Shrimp National Action Plan (BSNAP), which is underway, will enable DoF to promote modern production capabilities for black tiger shrimps (*bagda*) and advocate measures to ensure that export markets' safety and traceability requirements are met. To reach these objectives, this document proposes the introduction of a cluster farming model which consists in grouping shrimp farms who use common land resources for farming. By acting collectively, these clusters of farmers can receive a better price for their produce without the involvement of middlemen. DoF has planned three phases, the first ending in 2020 by which time 1,050 clusters comprising 26,250 farmers should be formed. By 2030, the end of the third phase, the number of clusters should be 2,075 clusters, with 51,875 farmers involved and 20,750 hectares of production sites.¹⁴⁰

Development of low-cost aquaculture feeding approaches

Keeping the price of fish feed low is a key challenge for cultured fish production in Bangladesh. Over the last decade, efforts have been made to develop a new low-cost feeding system that would allow farmers to profit while still guaranteeing consumer safety. The Wageningen University and World Fish have been trialling in Bangladesh (and Vietnam) a novel aquaculture feeding concept under the *Nutrition Pond Project (2014-2019)* that exploits pond ecosystems to encourage farmed fish and shrimp to ingest naturally occurring food (such as phytoplankton) alongside feed. While still a pilot, this system has the potential to reduce both production costs and environmental impacts.¹⁴¹ The rice-fish system, which is promoted by some as a way around the scarcity of land and water resources, also allows farmers to use home waste and homemade feed such as waste rice as fish feed which can reduce the cost.¹⁴²

Registration of farmers and feed sellers

¹³⁸ Dhaka Tribune (2019) [What is cash incentives on exports](#). 17 June.

¹³⁹ Financial Express (2020). Tk 18.31b cash incentives for exporters. 22 July.

¹⁴⁰ Holland, J. (2019) [Bangladesh seeks more buck for its 'bagda'](#). Global Aquaculture Alliance.

¹⁴¹ Layzell, C. (2019) [Aquaculture in action: reducing the need for feed](#). The Fish Site. 24 January.

¹⁴² Hayat, A. and Md. S. Islam (2017) [Integrated Rice-Fish Farming System in Bangladesh: An Ex-ante Value Chain Evaluation Framework](#). Integrated Rice-Fish Farming. In: Gatzweiler F., von Braun J. (eds) *Technological and Institutional Innovations for Marginalized Smallholders in Agricultural Development*. Springer, Cham.

The feed industry has steadily grown because of increasing consumption of meat, eggs, and fish. Over 400 domestic mills are meeting up to 96% of annual poultry feed demand with the rest being met by imported feed or homemade feed-mix.¹⁴³ Half of these mills operate without registration which renders quality checks challenging. The DLS has therefore taken the initiative to bring all poultry farmers and feed sellers under registration to try and ensure safe and good poultry farming practices for sound public health.¹⁴⁴

Launching the largest livestock project in Bangladesh

The World Bank [*Livestock and Dairy Development Project \(LDDP\)*](#) was officially launched in December 2019 with the aim to improve climate-resilient productivity growth, enhance market access, and improve risk management among smallholder farmers and agro-entrepreneurs, by providing support for climate-smart production systems, farmer empowerment and commercialization.¹⁴⁵ Under annual development programme, 19 development projects was implemented with a cost of 128.322¹⁴⁶ million USD to ensure the sustainable production of milk, meat and egg for achieving self-sufficiency along with creating employment opportunity, strengthening marketing system and value-addition of animal source products.

Conservation and improvement of livestock breeds

To enhance the climate resilience and sustainability in the livestock sector, a number of projects on the improvement of indigenous genetic stock (buffalo, goat and native cattle) were underway during 2018/19. In continuation with the first phase of *Buffalo Development Project (2010-2017)*, the [second phase of the project](#) (2019-2020) is ongoing with a total estimated budget of 19.2 million USD to develop a highly productive and reproductive potential buffalo breed through insemination to increase milk and meat production. A 4.9 million USD project was also initiated in 2018 to improve and extend the native Black Bengal goat breed throughout the country. As for the large ruminant sector, the improvement of native cattle has been promoted through the *Breed Upgradation through Progeny Test Project* since 2003 till 2019.

Livestock development in coastal areas

To increase the productivity of livestock in coastal and *char* areas bypassing the negative impacts of climate and utilizing the local genetic and feed resources, the government launched several development projects including the *Integrated Livestock Development Project in Char Land and the South-West region livestock development Project*.

Regulate fish-farming

Bangladesh is now the fifth-largest aquaculture producer in the world after the success in the introduction through state-run agricultural extension projects of intensive fish-farming in the early 1980s. This, however, has come at a price, and some blame intensive fish-farming such as the monoculture of tilapia or other carp species for the collapse of freshwater aquatic systems. Uncontrolled and extensive use of non-organic nutrients in agriculture and aquaculture threatens the quality of land and now also the Bay of Bengal, parts of which suffer from

¹⁴³ USDA (2019) [Gain report- Bangladesh Grain and Feed Annual 2019](#). BG 1903. USDA Foreign Agricultural Service.

¹⁴⁴ The Independent (2019) [Steps taken to bring poultry farmers under registration](#). *The Independent*. 26 January.

¹⁴⁵ [World Bank \(2018\) Livestock and Dairy Development Project](#).

¹⁴⁶ GoB (2022) [Annual Report 2020-21](#). Dhaka. Department of Livestock Service. Ministry of Fisheries and Livestock

eutrophication¹⁴⁷ leaving ‘dead zones’ that affect marine fisheries too.¹⁴⁸ In addition to monitoring farming practices and the utilisation of land for fish farming, due attention needs to be paid on the assurance of the competitive quality of fish and feed, value addition and traceability of supply chain through updating the acts and rules in existing legislative documents.

Promote intensive aquaculture production

Average pond aquaculture productivity is 5.1 ton/ha in Bangladesh¹⁴⁹, while Vietnam produces 20 ton/ha and 30 ton/ha without and with aeration, respectively.¹⁵⁰ There is, therefore, plenty of room for improving productivity in Bangladesh through mechanisation, for example, the use of RAS (Recirculating Aquaculture System), or biofloc technique of enhancing water quality through balancing carbon and nitrogen in the system. Intensive farming can further be promoted by ensuring low-cost and quality feed through increased domestic production of raw materials and/or bilateral import negotiations.

Finalise the policy framework for cage culture

Cage farming is gaining popularity with *rui*, *pangas*, *boal*, *magur*, *pholi*, butter catfish and *koi* now being farmed in nearly 10,000 cages in rivers. This is a recent phenomenon and there is much scope for further promoting cage culture in inland open and marine water in order to expand aquaculture production. However, in the absence of a legal framework defining user rights, this will be complicated. Thus, the DoF is drafting a policy to this effect which needs to be finalised.

Bring nutrient-dense and indigenous fish species into commercial culture

Conventional culture fisheries mostly grow the exotic (Indian carps, pangas, tilapia, etc.) and crossbred fishes. The preference for these fish species varies according to consumers, but the demand for nutrient-dense and indigenous species of fishes such as *gulsha*, *tengra*, *shing*, *koi*, *pabda*, *taki*, *shol*, eel, *mola*, *dhela*, *batasi*, *kachki*, *gutom* is constant and yields a premium price. These species are naturally rich in good quality protein, micronutrients and essential fatty acids, adaptive to local ecological conditions and respond to consumer preference with their traditional taste and flavour. Scaling up the production of these species and bringing them into processed and frozen forms could substantially boost the country’s aquaculture production.

Research and development

R&D will be crucial to develop high yielding and resistant varieties of crops used as feeds such as maize and soybean. Helping to produce the raw materials used in feed will help Bangladesh becomes less reliant on imports and on fluctuations in international prices and changes in import and export policies. R&D will also help identify or further develop techniques of safe feed and fodder production at low cost and throughout the year thus minimising reliance on imports. This will include investigating the possibility and economic feasibility of using non-conventional feed resources and of recycling waste. Hydroponics fodder production may also be investigated as a way to respond to fodder needs during the rainy season, as well as salinity-resistant fodder.

¹⁴⁷ Excessive richness of nutrients.

¹⁴⁸ Arju, Md. (2019) [Bangladesh’s polluting fish farms](https://thethirdpole.net). thethirdpole.net.

¹⁴⁹ GoB (2022) *Yearbook of Fisheries Statistical of Bangladesh*. Dhaka. Department of Fisheries. Ministry of Fisheries and Livestock.

¹⁵⁰ Seafood Trade (2014) [Intensive pond farming](https://www.seafoodtrade.com).

Methods to maximise the use of available feed resources such as agricultural and agro-industrial by-products, natural pastures and browse will be sought. Supplementation strategies to complement nutritional apport of feed at affordable prices will also need to be developed. Research should also focus on improving the feed resources that many smallholders often produce themselves. Fodder conservation practices should be developed to enable a stable supply of feed throughout the year. Low-cost aquaculture feeding techniques that can also help to reduce environmental impacts will also be further developed.

Reduce feed and health management costs in intensive farming

Low profit margins prevail in intensive livestock farming in Bangladesh. This can be attributed mainly to high feed costs (60-70% of total production cost) and herd health management costs.¹⁵¹ Import dependency for feed ingredients contributes to feed price hikes, and the occurrence of emerging and re-emerging diseases including transboundary diseases gives rise to important treatment costs, especially in high yielding livestock farms because of poor adaptability. Policies to pre-negotiate imports and increase the production of local feed ingredients, to develop local vaccines and medicines, and to boost disease control capacities may contribute to the transformation of existing family farms into commercial farming. In the wake of the COVID-19 pandemic, guaranteeing affordable feed will be paramount especially as many farmers will need to recover from important losses and rebuild their business. Indeed, shortages in imported feed or medical supplies such as vaccines for example or limited services from veterinaries will have set back the industry on a large scale.¹⁵²

Enabling the cooperative and farmer centre systems

Bangladesh Milk Producers' Cooperative Union Limited (Milk Vita) has been a successful model of dairy producer's cooperative since 1965. Further expansion of this model throughout the country has the potential to sustain the livelihood of milk producers and to boost the country's dairy production towards self-sufficiency. Alternatively, farmer centre systems could be a viable option for dairy farmers to rent a space for their cows, cold chain storage facilities, access to inputs, veterinary services, machinery, market, price information and other services. To successfully support the establishment of these models it would be essential to ensure reaching out to successful cases applied globally of farmers organisations and farmers' social networks, for instance, [We Farm](#) and [Producers Direct](#).

Harness the opportunity of the Blue Economy

The verdict of the International Tribunal for the Law of the Sea on the Bangladesh-India-Myanmar maritime dispute in 2015 opened opportunities for the Blue Economy of Bangladesh with new rights of access on 200 nautical miles of deep-sea in the Bay of Bengal. Unfortunately, existing artisanal fishing is already over-exploited¹⁵³ with a presence of 68 thousand boats.¹⁵⁴ Marine fishing in the artisanal area needs to be rationalised and the deep-sea area exploited to its full potential. Along with marine fishing, mariculture of seaweed and other macro-algae, mussels, oysters, marine pearls and sea cucumber are subsectors with potential for both growth and value addition. This can be achieved through due partnerships between the public and private sectors.

¹⁵¹ UNIDO (2019) [The dairy and beef value chain in Bangladesh](#). Draft Report.

¹⁵² FAO (2020) *FAO COVID-19 Rapid Assessment of Food and Nutrition Security in Bangladesh*. Dhaka.

¹⁵³ Islam, M.M, Shamsuzzaman, M.M., Mozumder, M.M.H., et al. (2017) [Exploitation and conservation of coastal and marine fisheries in Bangladesh: Do the fishery laws matter?](#) Marine Policy. Volume 76.

¹⁵⁴ GoB (2019) *Yearbook of Fisheries Statistical of Bangladesh 2019*. Dhaka. Department of Fisheries. Ministry of Fisheries and Livestock.

Extending good practices is needed for the promotion of sustainable use of resources. The Blue Economy is a concept for the sustainable development of the ocean economy which requires a cross-sectoral approach for economic and sustainable development of the coastal region of Bangladesh. As such, the various ocean industries involved (tourism, ship breaking, fishing, marine agriculture, energy production) need to develop a holistic approach and common strategy for coastal and marine development.

5.2 Progress towards outputs for NFNSP objective-2 and CIP3 pillar-2

5.2.1 Strategy 2.1 Improve market access and stabilize food markets

This strategy consists of 4 AoIs of NFNSP-PoA namely 2.1.1. Promote the establishment, improvement and management of post-harvest marketing infrastructure and processing facilities for horticultural products, pulses and legumes, livestock and fisheries, 2.1.2. Set up financial intermediation services with improved access to credit for rural markets along with other complementary services, 2.1.3. Maintain an orderly market management by securing property rights, regulating competition and stabilizing prices 2.1.4. Ensure trade liberalisation and facilitation to support the supply of quality food at all times.

It also covers 4 programmes of CIP3 namely Programme II.1. Efficient Food Value Chains (FVCs) through transport infrastructure, Programme II.2. Efficient FVCs through innovation and improvements in post-harvest management and marketing, improved infrastructure, reduced FLW and enhanced cooperation among agents, Programme II.3. Orderly market management by securing property rights, regulating competition and stabilizing prices, Programme II.4. Trade liberalisation and facilitation to support the supply of quality food at all times.

5.2.1 (a) Progress towards achievement

Table 15 - - Progress towards achievement of NFNSP Strategy 2.1 and CIP-3 program(II.1-II.4)

NFNSP-PoA & CIP3 Proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
Upazilla and union road network in good and fair condition	38%	67%	75%	LGED
Number of growth centres, rural markets, women market centres, and Union Parishad Complexes developed by LGED and DAM	335 LGED 93 DAM Total 428	205-LGED 96-DAM Total 301	180-LGED 96-DAM Total 276	LGED, DAM
Credit disbursed to agriculture as % of total credit	108.33%	97.03%	101.54%	BBank
Number of markets regulated by DAM	949	977	977	DAM
Bangladesh's food trade (USD)		379,798,060		World Integrated Trade Solutions – Trade Statistics, Food
Bangladesh's food trade in South Asia (SAARC countries) as % of Bangladesh's total food trade		20%	45.11% Ex 43.90% Im	BBS
Food and beverages exported in million BDT	86099	104156	102856	BBS

The improvement of rural roads continued but is still off target

Rural connectivity plays a fundamental role in generating both on and off-farm rural income, providing employment opportunities and in ensuring physical access to food thereby supporting improving nutritional outcomes. Upazila and union road networks in good and fair condition improved to 75%, up from last fiscal year as well as the reference period (Table 17). As of 2021/22, LGED has upgraded 34,021 km of upazila roads, which is 92.68% out of total 36,708 km of upazila roads and 32,482 km of total 41,868 km of union roads as paved roads across the country through various development projects. This increasing trend shows that rural connectivity has improved which has accelerated transport connectivity in rural areas and facilitated the movement of people and goods in those areas ¹⁵⁵(LGED Annual Report 2021-22). Besides, to strengthen rural connectivity between rural communities, productive agricultural areas and socioeconomic centres, LGED and ADB kick-started the 449 million USD *Rural Connectivity Improvement Project July 2018- June 2024*. The project's interventions aim at upgrading 2630 km of rural roads to all-weather standards in 34 districts located in five divisions; improving the capacity of infrastructure agencies; and financing the enhancements to the national rural road master plan.¹⁵⁶

Development of growth centres and rural markets reduced over the previous year

The number of growth centres, rural markets, women market centres and Union Parishad complexes reduced over the previous year by 25 units to a total of 276. While having new establishments is certainly important, quality maintenance of the existing centres play an essential role in ensuring the quality of perishable food products.

Increased and more diversified food and beverage exports

Food and beverage exports decreased by 14% from the previous year where the total export decrease was 16.93%. This was due to covid-19 pandemic. The decreased amount was BDT 16629.50 million. Fish, crustacean and other aquatic products continued to be the largest food group at 39.43% of total food and beverage exports down from 41.17% of the previous year (Figure 18). This was partially due to the waning international prices of shrimp and the weak competitive pricing of black shrimp – which registered a -7.89% in export earnings to USD 332.65 million in 2018/19, against the Vietnam shrimp.¹⁵⁷

In 2019/20, preparations of cereals, flour, and starch products represented the second largest exported food group (17.32%), followed by edible vegetables, roots, and tubers (BDT 13401.35 million, 15.57 %), which obese their share (from 7.5%) while increased in absolute value (up from BDT 8,375 million). The decline in the shares of the previous food groups was offset by an increased share of cereals (2.9%), animal and vegetable fat (12.76%), and sugar (3.17%) (Figure 18). The GoB plans to increase agro-processing exports to BDT 170 billion (5% of the total export value) by 2021 by creating a conducive environment of agro-processing exporters.¹⁵⁸ However, reaching this target may be hampered as a result of the COVID-19 pandemic.

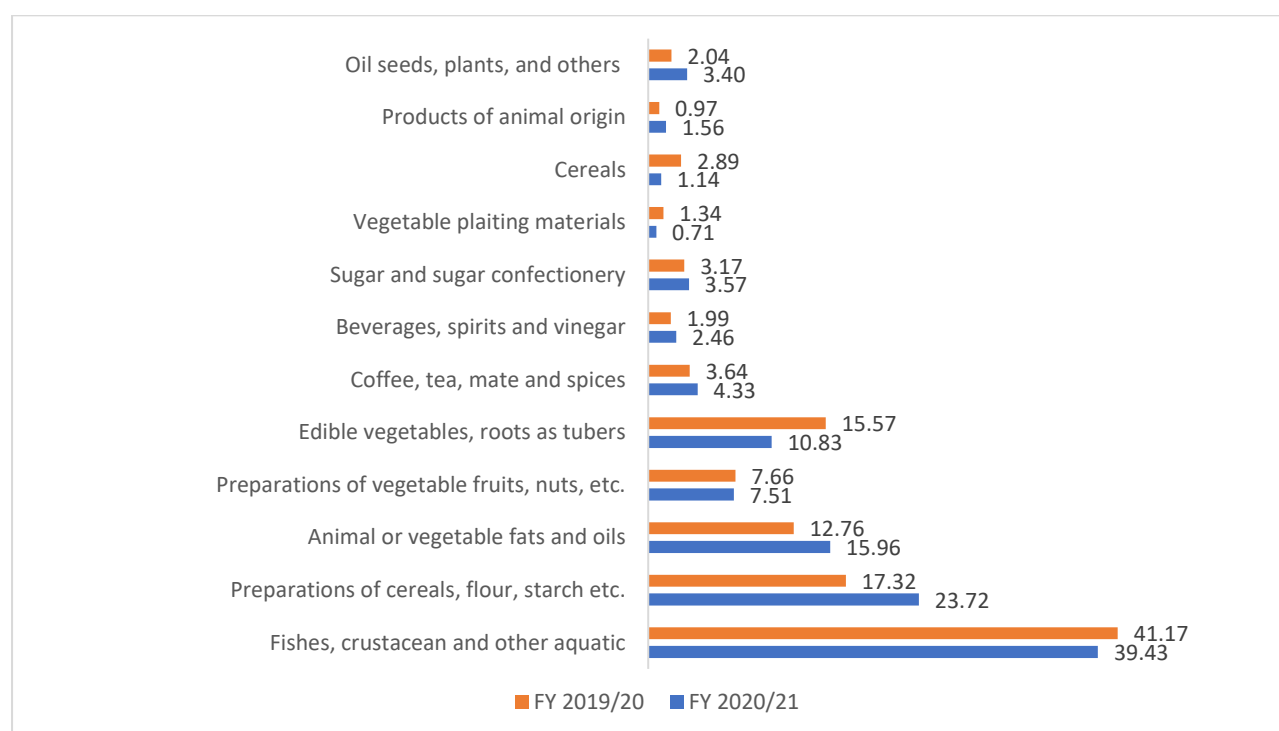
¹⁵⁵ LGED Annual Report 2021. <https://www.lged.gov.bd/>

⁵³ [Bangladesh: Rural Connectivity Improvement Project - Project Administration Manual](#)

¹⁵⁷ Rahman, S. (2019) [Drastic fall in shrimp export earnings](#). *The Financial Times*. 31 August.

¹⁵⁸ Dhaka Tribune (2019) [Export earnings from processed food to exceed \\$1b by 2021](#). *Dhaka Tribune*. 19 November.

Figure 15– Components of food and beverage exports in % of total value



Source: Data from BBS Foreign Trade Statistics.

Production of medium and large-scale food manufacturing industries decreased

The quantum index for both private and public medium and large-scale food manufacturing industries summarizes the sectoral production trends. In 2020/21, it reduced by 23% compared to the 2019/20 fiscal year to 447.60 but is still 16.2% higher than the baseline year. The index shows that food processing expanded slowly through 2019/20 continuing a strong growth trend that was interrupted in 2020/21. The major food and beverage industries in Bangladesh include Transcom Beverages Ltd., Square Food & Beverage Ltd., Acme Food & Beverage Co., Akij Food and Beverage Ltd., Partex Beverage Ltd., and PRAN Foods Ltd. In 2019/20 FY, the Bangladesh Agro-Processors' Association (BAPA) enlisted 564 food manufacturers mainly involved in exporting dry and processed food, seeds, pickles potato chips and flakes, puffed rice, frozen vegetables, spices, juice, candy, and other snacks. This number increased to 610 in the FY 2021/22 from 594 in FY 2020/21.¹⁵⁹ (Reference: Mr. Abdul Matin, Assistant Secretary, BAPA).

Farm gate-retail price differences widened, except for green chilli

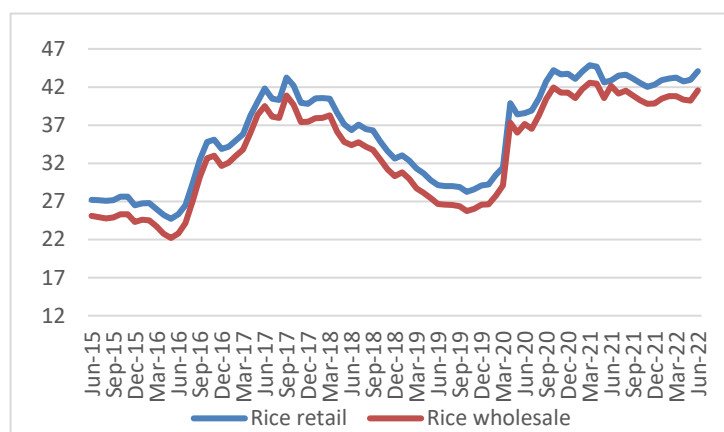
The difference between farm gate and retail prices is a measure of the value addition which farmers are able to capture from the value chain in relation to the other agents operating along the value chains. From all the monitored food commodities, it increased for coarse rice, lentil and brinjal whereas decreased for onion, potato and green chilli in 2020/21. Year-on-year differences between farm gate-retail prices widened for coarse rice (+12.49 percentage points), lentils (+ 11.34 percentage points), and brinjal (+ 1.95 percentage points) may be due to lockdown situation along with disrupted transportation system for covid pandemic. Onion registered a massive decrease

¹⁵⁹ BAPA (2022) List of active members of BAPA.

from the previous FY by 96.92 percentage points, which was probably due to the surge in its domestic price transmitted from India (increasing since the end of the 2018/19 financial year). In the 2020/21 FY, this difference minimizes to 114.13 percentage points may be due to the current stable market situation.

Farm gate-retail price difference for lentils also increased compared to the previous year due to

Figure 16 - Retail and wholesale rice price (nominal)



high transportation cost. In the case of potato, the differences decreases in 2020/21. There was an increasing trend over the period of 2019/20 from the baseline year that suggests that farmers progressively lower margins compared to other agents, exacerbated by some inefficiencies in the marketing systems, such as growers' illiteracy and lack of information on price, and syndicate system of intermediaries.¹⁶⁰ Besides, shortage of preservation and processing in facilities in local

areas induced higher farmgate-retail price gap. However, in 2020/21, the differences decrease significantly to 19.59%, which is 27.85 percentage points lower from the FY 2019/20. Over 11 million tons of potatoes production due to the cultivation in more lands in 2021 might contribute to this¹⁶¹. For coarse rice, the increase in wholesale-retail price gap over the period from the baseline year to 2020/21 may be due to production, import decisions and rice procurement volume at the government level and Syndicate of rice market intermediaries¹⁶²(Figure-19).

Table 18 presents the price transmission dynamics in the value chains of brinjal, potato and tomato. Among the various agents, farmers obtain the lowest profit while retailers receive the highest. In 2022, Tomato value chain has been producing the largest margins, closely followed by brinjal with potato lagging behind. The production cost of some agricultural commodities is calculated by DAM based on one acre of land of production (Figure 20). While the production cost of garlic is the highest among the selected crops at BDT 30.87 per kg, with its average retail price is 91.21 BDT per kg. The production cost of onion is BDT 19.24 per kg and the seasonal average retail price is BDT 50.24 per kg. The production cost of boro rice is amongst the highest (BDT 26.01 per kg) and its retail price is 27.26 per kg. However, the production cost of cucumber is BDT 9.52 per kg that is the lowest among those analysed but its average retail price is 38.51 per kg.

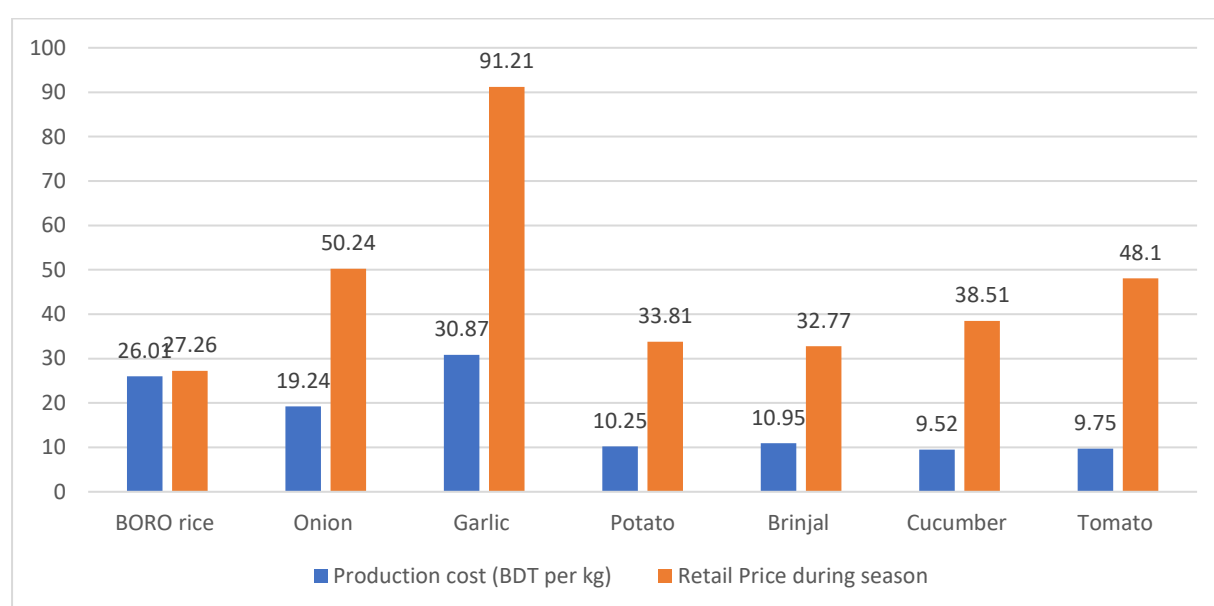
¹⁶⁰ Singha, U. & Maezawa, S. (2019) *Production, Marketing System, Storage and Future Aspect of Potato in Bangladesh. Reviews in Agricultural Science*. Volume 7. pages 29-40.

¹⁶¹ Potatopro (2021). <https://www.potatopro.com/news/2021/bangladesh-cold-storage-association-bcsa-suggests-subsidy-kg-potato-stored>

¹⁶² Barc (2020), *Availability and Price Volatility of Rice in Bangladesh-An Inter-Institutional Study in 2020*, barc.portal.gov.bd

Table 16. Price transmission (in BDT) in the value chain of brinjal, potato and tomato

Agent	Brinjal			Potato			Tomato		
	Production cost/ Purchase Price	Sale price	Gross profit	Production cost/ Purchase Price	Sale price	Gross profit	Production cost/ Purchase Price	Sale price	Gross profit
Farmer	9.95	19.71	9.76	10.27	14.00	4.27	9.37	17.63	8.26
Local Trader	19.71	29.00	9.29	14.00	16.00	2.00	17.63	38	20.37
Wholesale	29.00	30.00	1.00	16.00	16.25	0.25	38	39	1.00
Retailer	30.00	37.00	7.00	16.25	19.00	2.75	39	49	10.00
Consumer	37.00	--		19.00	-	-	49	-	-

Figure 17 - Production cost (BDT per kg) and retail price of selected crops

Source: Data from DAM Annual Report 2020-21 and [DAM website](#)

Establishing a favourable policy and technical support to food processing

The MoInd has been drafting an agro-food processing promotion policy 2021. This Ministry has also developed SME Policy 2019. The 20% cash incentives and tax exemption for the export of selected fresh and processed food items continued. The National Agriculture Policy 2018 (NAP 2018)¹⁶³ was developed aiming to make agriculture safe and profitable, achieving sustainable FNS with among others, emphasis on reducing postharvest loss, enhancing agro-processing activities and extending postharvest technology to end-users. The National Agriculture Extension Policy 2020 also includes boosting production and export of high value cash crop. The Export Policy 2018-21¹⁶⁴ provides a clear rationale for the adoption of good practices to produce and export safe food. The Hortex Foundation of MoA and Bangladesh Fruits, Vegetables and Allied Products Exporting Association (BFVAPEA) provide primary producers and exporters with support for

¹⁶³ GoB (2018) *National Agriculture Policy (NAP) 2018*. Dhaka. Ministry of Agriculture.

¹⁶⁴ GoB (2018) *Export Policy 2018-2021*. Dhaka. Ministry of Commerce.

compliance with regulatory standards of the importing countries. Hortex Foundation also partnered with BAPA and provided technical supports to the association working for fostering food processing industry in the country. The BFVAPEA facilitates the production of high quality and safe fruits and vegetables through contract growers for export purposes.

Modernised quality and safety standards and monitoring and surveillance by the regulatory authority

BFSA produced some important regulations i.e. Food Safety (Food Hygiene) Regulations 2018¹⁶⁵, Food Safety (Food Contact Materials) Regulations 2019, Food Trader's Obligations Regulations-2020, Safe Food (Protection of Healthy Environment) Regulations 2018, under the Food Safety Act 2013.¹⁶⁶ Moreover, BFSA has drafted some other rules as (i) Safe Food (Withdrawal) Regulations, 2020, (ii) Safe Food (Control of Microbial Contaminants) Regulations 2021, (iii) Safe Food (Restaurant) Regulations 2021, (iv) Control of Trans Fatty Acids in Foodstuffs Regulations, 2021 and (v) Safe Food (Advertising) Regulations, 2021¹⁶⁷. BFSA also increased its analytical capacity by installing a modern Mobile Food Testing Laboratory. Besides, BFSA has installed "Najor" app to implement the monitoring activities of food processing areas of hotels and restaurants through online app and until 2021, it is conducting monitoring on six restaurants in Dhaka city. The Bangladesh Standards and Testing Institution (BSTI) has increased monitoring and surveillance in storage, processing industries and the market for quality control of mandatory processed food products (cereal products, oilseed products, dairy products, fruits and vegetable products, spices and condiments, etc.). BSTI also revised Bangladesh Standards (BDS) on pasteurized milk, poultry feed, chip-crackers, *lachcha-semai* with up-to-date scientific information. In 2020/21, BSTI has tested 28016 number of Food Commodities, Organic Commodities and Inorganic Commodities (Annual Report of BSTI 2020/21).

Promoting nutrition-dense and export-oriented value chains

The MoA has been implementing the *Smallholder Agricultural Competitiveness Programme (SACP-2018-2024)*¹⁶⁸ and working with 225,000 farmers who engaged in production, primary processing and value addition of high-value crops. It targets the cultivation of high-value crops such as cereal, fruit and vegetable, pulse and oil crops for farmers to increase their revenues and profits. Scaling up underutilized local fruits and vegetables is especially relevant in this regard, with a need for promoting their greater use in local food systems and not only targeting high-value export chains but leveraging the nutritional benefits for local consumers. Proper post-harvest management is critical as it enhances the quality, nutritional and economic value of crops while reducing different types of loss. This includes innovations made in the packaging sector. For example, newly designed packaging materials for sugars and sugar-cubes have been developed at the Carew & Co., the State-owned only distillery in Bangladesh located inside the Darsana Sugar Mill compound and under the authority of Bangladesh Sugar and Food Industries Corporation. Bangladesh Good Agriculture Practice Policy 2020 has been formulated and the National Agricultural Marketing policy is under preparation.

¹⁶⁵ Bangladesh Food Safety Authority (2018) [Food Safety \(Food Hygiene\) Regulation 2018](#). In Bangla.

¹⁶⁶ Bangladesh Food Safety Authority (2019) [Food Safety \(Food Contact Materials\) Regulation 2018](#). In Bangla.

¹⁶⁷ <http://www.bfsa.gov.bd/> (Annual Report 2020-21 of Bangladesh Food Safety Authority).

¹⁶⁸ IFAD (2018) [Smallholder Agricultural Competitiveness Programme- Final Project Design Report](#). Asia and the Pacific Division, Programme Management Department and DAM annual Report 2020/21.

5.2.1 (b) Needs for further actions under this programme

Strengthen product certification to ensure quality and safety

Although the export-oriented large-scale food processing industries have quality and safety certification (GMP, GHP, HACCP, ISO 22000:2005, etc.), certified farms for the primary producer (e.g. GAP and ASEAN Good Aquaculture Practices (ASEAN GAqP) are almost absent in Bangladesh. Therefore, steps to be taken to bring the primary producers and MSMEs under various certification schemes to assure product quality and safety for the domestic and export markets. The Bangladesh Agricultural Certification Body (BACB) has been established to provide Bangladesh GAP Certificate but yet to start functionality.

Increase the competitive environment for agro-processing to boost exports

Bangladesh's agro-processing sector is a 3.2 billion USD industry as per annual turnover. Export earnings of agro-processing companies are growing: BAPA reported a record 700 million USD total export earnings in 2018/19, up 10.24% over the previous year. 169 Exports of processed food items declined substantially so far this fiscal year (FY) due to higher operating costs and raw material prices than the competitors.

The total export earnings of the country increased 14.12 percent to US\$ 45,367 million in the fiscal year 2020-21 as compared to previous FY 2019-20, according to the Export Promotion Bureau (EPB). Besides, the share of agri products export earning is 2.65% of the total earnings during the FY 2020-21.

Creating an enabling environment with, for example, the provision of incentives, especially by way of soft credit, or continued tax exemption and cash incentives can boost this sector. Credit collaterals need to be easier for new or small entrepreneurs; such as equipment-based credit instead of asset-based collateral. Export opportunities in global markets can only be exploited through long-term planning with an emphasis on market research, product adaptation and assurance of rigorous compliance requirements. Market research provides information on product needs and changes in consumers' tastes and preferences, and on compliance requirements of importing countries. In addition to processed food, fresh horticultural produce, especially fruits and vegetables, are exported particularly to countries with a large Bengali diaspora. Exports activities need to be automated so that all activities can be done in one stop platform. To access mainstream export markets exporters must comply with the rigorous compliance requirements of importing countries. Primary producers and MSMEs require technical and financial support to adopt improved practices throughout the supply chain (GAP, GMP, GHP, HACCP, etc.) to assure product quality and safety for domestic and export purposes. ISO 22000, for instance, facilitates border crossing of products so as to bring people food that they can trust.

¹⁶⁹ Ahmed, W. (2020) [Processed food export](#). *The Financial Express*. 10 March.

Explore blockchain as a mean to ensuring traceability of nutrient-rich foods

Establishing block chain is a future need for NSVC management. Block chain is a decentralised, distributed and public digital ledger that is used to record transactions across many computers so that the record cannot be altered without the agreement and active involvement of everyone in the network. Transactions can be viewed simultaneously and in real-time, with both greater security and transparency. However, there are many barriers and challenges that hinder its wider popularity among producers and systems. The challenges involve technical aspects, education, policies and regulatory frameworks. High-speed internet service and devices are crucial for chain management through efficiently linking the postharvest operations and the value chain actors.

Food value chain covers activities and participants involved in moving food products from the growers to the consumers. Participants in this chain need financing to carry out their activities. MSMEs generally turn to traditional financing institutions, rural producers, processors and retailers, whereas large companies receive resources from banks. In India, some commercial banks have invested in acquiring knowledge about domestic agricultural markets to identify unmet financial needs that they can serve. The strategy used to cater to this clientele segment leverages on digital technology to ensure these services are more convenient to clients, in addition to having low operation costs. Digital technology can also be tailored to fit unique transactions that take place in agricultural value chain segments. In addition, it allows the recording of a transaction history, which can then be used for the development of additional rural financial services.¹⁷⁰

Innovate in packaging and storage

Improved packaging is a must for prolonged shelf life, retained quality and safety of food. There is a strong correlation between foods with the highest percentage of wastage and the least amount of packaging.¹⁷¹ There is a lack of improved packaging, especially for perishables in Bangladesh although large-scale food processors are increasingly engaged in packaging innovation, ranging from the materials used to technologies that can help reduce contamination of packaged foods on the assembly line. But more research is needed to understand what the most effective packaging approaches and technologies might be, such as passive technologies, or active and intelligent packaging through chemical or biological agents to prevent food spoilage. Any new food packaging introduced must be of food-grade and approved by food safety standards and regulations.¹⁷² Proper labelling also needs to be assured. Food items have an array of date labels that cause consumers to be wary of buying or consuming food such as: ‘best before’, ‘use by’, ‘sell by’ and ‘expiry’. However, labelling needs to abide by the recently promulgated Packaged Food Labelling Regulations 2017 of BFSA.¹⁷³

¹⁷⁰ FAO (2017) [*Innovative risk management strategies in rural and agriculture finance – The Asian experience*](#). By Emilio Hernández (ed.). Rome.

¹⁷¹ Ameripen (2018) [*Quantifying the Value of Packaging - As a strategy to prevent food waste in America*](#); McEwen Associates (2013) [*The Value of Flexible Packaging in Extending Shelf Life and Reducing Food Waste*](#). Prepared by for the Flexible Packaging Association.

¹⁷² BFSA (2019) [*BFSA Food Contact Materials Regulations 2019*](#).

¹⁷³ BFSA (2017) [*BFSA Labelling Regulations of Packaged Food 2017*](#).

5.2.2 Strategy 2.2: Improve value chain and marketing systems

This strategy consists of 5 AoIs of NFNSP-PoA namely 2.2.1. Stimulate innovation-led efficiency gains in food value chains by shortening the chain, improving cooperation among agents, and by reducing food losses and waste, 2.2.2. Encourage and support the establishment and growth of financially viable MSMEs, 2.2.3. Create an enabling environment to attract private investment in infrastructure, processing, value addition, marketing and eliminate business barriers, 2.2.4. Promote inclusive cooperative/group-based processing and marketing, 2.2.5. Strengthen ICT-based market information system to provide real time support to farmers. It also covers 3 programmes of CIP3 namely Programme II.1. Efficient Food Value Chains (FVCs) through transport infrastructure, Programme II.2. Efficient FVCs through innovation and improvements in post-harvest management and marketing, improved infrastructure, reduced FLW and enhanced cooperation among agents, Programme II.3. Orderly market management by securing property rights, regulating competition and stabilizing prices.

5.2.2 (a) Progress towards achievement

Table 17 - - Progress towards achievement of NFNSP Strategy 2.2 and CIP-3 program(II.5-II.7)

NFNSP-PoA & CIP3 Proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
Capacity of cold storage available (in thousand MT) a) total volume/ capacity (m ton) b) number of storages/ units	N/A	7,050,000 396	7,050,000 396	DAE
Actual disbursement of agricultural loan in billion BDT (share of its target)	227.5 (94%)	255.10 (97.03%)	288.30 (101.54%)	BB Annual Report 2021-22
Number of Micro, Small and Medium Enterprises (MSME)	16770 micro 23306 small 3178 medium	16770 micro 23306 small 3178 medium	16770 micro 23306 small 3178 medium	BBS (SMI Survey)
Number of food processors (and n. of applications pending)	344 (45)	363 (50)	448 (250)	SME Foundation
% of households with access to electricity	96.2%		99.34%	MoPFM Annual Report
Number of agricultural marketing groups (DAM)	1380	2750	3000	DAM

Cold storage number and capacity remained same as the previous year

Number of cold storage and their capacity remained unchanged during 2020/21 to 2021/22 at 396 units and 7050 TMT respectively but a big increase is noticed from its base year's capacity at 4000 MMT. Every year huge amount of food commodities are spoiled due to insufficient cold storage facilities. Therefore, DAM has taken a project to establish 500 zero-energy cool chambers (ZECC) on the household premises of 500 selected farmers in 31 districts over the next five years. As on 2020-21, 104 zero energy cool chamber have been established. Beside this, 300 specialized house with storing facilities for onion and garlic will be constructed. under the where onion and garlic will be stored. Further 450 model houses will be constructed using local technology for potato preservation. Three thousand vegetable growers, 875 officers and 750 employees of DAM will also be trained in the usage of ZECC storages. Another program by DAM has been implementing aiming to storage, processing and marketing of tomatoes produced in Rangpur, Dinajpur and Panchagor District.

Number of Micro, Small and Medium Enterprises (MSME)

The SMI Survey 2019 assessed that accumulated number of manufacturing establishments in the country is 46,110 where around 50% (23306) are the small type industry. Other 3 types industries are Micro, Medium and Large scale industries that holds the figure of 16770, 3178 and 2856 respectively. Total employee engaged in these 3 types of industries is 1.8 million which is approximately 33% of the total persons engaged in manufacturing industries.

Number of Agriculture Marketing Group

DAM has formed the Agriculture Marketing Groups (AMG) under different projects aiming to enhance the bargaining power of the farmers and ensure fair price for the agricultural products. The members of these groups are provided training to enhance their processing and marketing capacity as well as value addition. Also some logistics like tray, triple, hygrometer, digital weight machine, knife sensor are provided to some selective farmers who are engaged with processing and marketing of their products. To ensure the safety measures farmers are advised to use hand gloves that are also supplied by DAM.

Under the close patronize AMGs are increasing every year. In 2021/22, the number reached at 3000, which is, 9% increase comparing to previous year and the number more than doubled than the base year. DAM is acting intermediary role to establish linkages between the farmers and traders. Thus, marketing facilities of the small holding farmers are being established.

Households access to electricity: The Key Findings of the HIES 2022 discloses that 99.34% households have access to electricity (National Grid/Solar electricity) in Bangladesh. In rural areas this rate is 99.14% and 99.78% in urban areas. This is a big improve in the access of electricity which is the key for overall development of the country.

Table 18: Access to electricity: HIES 2022, HIES 2016 and HIES 2010 by residence

	National	Rural	Urban
HIES 2022	99.34	99.14	99.78
HIES 2016	75.92	68.15	94.01
HIES 2010	55.26	42.49	90.10

Source: HIES 22 Key Findings The Eight Five Year Plan continuous the path of electricity generation that was prioritized during 6th and 7th Five Year Plan with increased focus on energy efficiency gain. The rapid development of the energy sector during the 6th and 7th FYP periods played a catalytic and enabling role in this, helping move forward the industrialization agenda. Bangladesh has been achieved the SDG indicator 7.1.1 which is Ensure access to electricity for 100% population. NPT 20 Increase renewable energy share in total final energy consumption to 10% (SDG Indicator)

Population owing a mobile phone:

Access to ICT, and cell phone connectivity in rural areas are being expanded which is helping improved access to market information for the poor and vulnerable population. Rural farmers are using mobile phone to know the daily price of their products in urban markets. Thus the small holding farmers are getting financial benefit from mobile phone. Mobile phone owners in rural area are climbing rapidly. Bangladesh Sample Vital Statistics 2020 (BSVS) disclosed that as much as 75 percent of people in survey area were reported to be owners of mobile phone whereas in rural areas user of mobile phones are 69% in 2019/20. The “Access and Use of ICT by the Households and Individuals 2022” disclosed that 89.9% of the individuals are using mobile phone. Although current data is not available it is assumed that mobile phone users in rural areas are increasing parallel with urban users. The government is working to make digital and mobile financial services more effective in financial inclusion of poor and marginalized groups, supporting small business holders and addressing gender disparity.

The number of Digital Centres increased

Digital centres in rural areas play an essential role in ensuring the delivery of a variety of public services to the underserved rural households thereby realising digital inclusion by helping more than six million previously under-served citizens.¹⁷⁴ The number of digital centres increased, from 5,286 in the baseline to 8363 in 2021. Besides, 1659 number of Eksheba Digital Centre and 61 numbers of Franchise digital service has been established across the country.

Expansion of storage, transport and laboratory infrastructure

Establishment of an efficient cold chain is essential to ensure NSVC both in the public and private sector. In addition to public sector storage facilities for foodgrain, there are more than 400 private cold storage units for potato in Bangladesh¹⁷⁵. But there is a dearth of low-temperature storage facilities as well as cool transportation facilities for other perishables, especially milk, fish, fruits and vegetables. Adequate refrigerated transportation facilities need to be established throughout the country through public-private initiatives in order to reduce loss and waste and maintain the quality and safety of food. The ADB-supported *Rural Connectivity Improvement Project (RCIP, 2019-2023)* aims to: upgrade about 1,700 kilometres of rural roads to all-weather standards under 34 districts; to improve the managerial and technical capacity of LGED’s officials, the road users’ awareness on road safety in project areas, and the skills of women workers in road construction; and to enhance the rural road master plan, by using GIS (Geographic Information System) to identify agricultural value chains, road conditions, and mechanisms for allocating priorities, and resource optimisation.¹⁷⁶ Although export-oriented large-scale food processing industries receive quality and safety certification (GMP, GHP, HACCP, ISO 22000:2005, etc.) from a number of certified farms for primary producers (e.g. GAP, GAqP, etc.), the extensive certification is scant in Bangladesh. BSFA has listed 50 food-testing laboratories across the country but only 10 laboratories are designated (BFSA Annual Report, 2020/21). BSFA has an initiative for establishing a central food-testing laboratory and divisional laboratories as well. The MSMEs and the primary producers are in dire need of quality certification, and the Bangladesh Agricultural

¹⁷⁴ See the [a2i One-Stop Shop](#) website.

¹⁷⁵ The Financial Express (8 April, 2021). Addressing potato growers storage problem.

¹⁷⁶ ADB (2018) [Bangladesh: Rural Connectivity Improvement Project -. Project Administration Manual](#). Project Administration Manual. September.

Certification Body (BACB), which was recently established, is yet to start delivering Bangladesh GAP Certificates.

Innovations to share information and enhance market opportunities

Several initiatives have been undertaken to improve networking and knowledge exchange between different actors in the value chain. They are paving the way for improved market services for farmers and consumers. Modern technologies such as IoT, machine learning and artificial intelligence contribute to modernising agriculture. The GoB is also working to mainstream ICTs throughout the agricultural value chain. In February 2017, the Bangabandhu Sheikh Mujibur Rahman Agricultural University, Huawei Technologies and Awami League's research wing Centre for Research and Information signed an MoU to initiate the *E-Village Project*.¹⁷⁷ They will deploy and test sensor-based real-time data collection and information sharing for the farmers. Another example is *Krishi Kontho*, an agricultural information service which utilises pre-recorded voice messages and SMSes pushed to farmers.¹⁷⁸ The agricultural information service *Krishi Kontho* was developed by the international NGO Christian Aid in collaboration with the technical partner mPower, the local NGO Gana Unnayan Kendra (GUK), and local farmers subjected to field trials.

Traditionally, small-scale farmers have been unable to access financial services. The online fintech platform *iFarmer* connects farmers to retail investors. It enables access to funding without using farm assets as collateral. Banks can massively contribute to developing the rural agriculture and agro-processing sectors. There have been continued efforts to make up for the lack of rural banking infrastructure and the agro-processing sector was declared a priority sector by the government. The Rajshahi Krishi Unnayan Bank (RAKUB) has also introduced a special credit programme promoting small agro-enterprises (see Outcome I).¹⁷⁹

Establishing markets for safe and fresh foods

Food safety, quality and nutritional aspects are critical concerns for agri-businesses in Bangladesh. The consumers have limited trust in agri-products. Because from raw vegetable and fruits to milk and milk products, fish, meat and processed food—every food item is contaminated. Contamination of foods with toxic chemicals like carbide, formalin, heavy metal, chemical, textile colors, artificial sweeteners, ripeness, flavors, DDT, urea and so on pose a serious threat to public health.

To foster a market for safe food, Shwapno, the chain store with support from the *Agriculture Value Chain (AVC) Project* launched a new brand initiative ‘Shuddho’¹⁸⁰ whereby markets are supplied with agricultural foods of high standards and safety. AVC along with GLOBALG.A.P. and the Dhaka Chamber of Commerce and Industry has significantly improved the supply chain and trained the farmers and services providers about Good Manufacturing Practices (GMP). Bangladesh Society for Safe Food has been established with a slogan “Safe Food for Healthy Nation”. This organization has been working to develop awareness about adulteration and contamination. This has generated consumer interest and a market for certified safe food in Bangladesh.

¹⁷⁷ CRI (2019) [E-village- digitally empowering village](#).

¹⁷⁸ Christensen, L.R., Ahsan, H. & Akand, E. (2018). [Krishi Kontho: An Agricultural Information Service in Bangladesh](#). NordiCHI '18: Proceedings of the 10th Nordic Conference on Human-Computer Interaction. September. Oslo.

¹⁷⁹ Innovision and Katalyst (2016) [Study on the Roles and Opportunities for Private Sector in Agro-food Processing Industry of Bangladesh](#).

¹⁸⁰ USAID (2019) [Bangladesh USAID Agriculture Value Chain Project](#). United States Agency for International Development. US Government.

5.2.2. (b) Needs for further actions under this programme

Incentivise private sector for high-value crop processing

An agri-processing zone can significantly improve the food sector and boost the economy. Studies suggest setting up agro-processing zones in the Northern region of Bangladesh since most of the agriculture crops are produced there. Such endeavour can significantly reduce transport costs. To facilitate private sector investment, the government may provide incentives such as easy land leasing system, one-stop service for all utility connections, guarantee for loans and tax concessions. The private sector can build the infrastructure in exchange for land and basic utilities. Besides, credit facilities for new and small entrepreneurs can enhance expanding local level processing centres. Technology development for small processing industries is essential. This may strengthen private public partnerships.¹⁸¹

Establishment of e-markets and secure payment systems

Developing a virtual platform to create a unified national market for agricultural commodities can help improve competitiveness and transparency in the market. There are a number of benefits of this market as (i) Instant Payment (ii) Higher payment security (iii) Better customer convenience (iv) Saves processing costs (v) Low risk of threat (vi) transparent (vii) Contactless etc. The platform could inform the users about the stock arrivals, prices, buying and selling offers. Such online trading platform can reduce transactional costs, bridge the information gap, cut the middlemen and expand market access for farmers around the country. It also provides a secure e-payment modality to transfer money directly to farmers' bank accounts. The cash transactions have started decreasing after the integration of an electronic payment system in the markets. This means the small businesses need to start using the latest technology to prevent the risk of being overtaken by the competitors.

Facilitate private sector to establish safe food through IoT technologies

IoT can change the demographics of the Bangladesh agricultural sector. Modern technology can be used to inform the decision making at farm and business levels. Technology like block chain can be used to create a digital identity of the farmers along with automated payments, agricultural insurance; traceability etc.¹⁸² Bangladesh's agricultural sector is the sector where most of its population is making their living. Bangladesh is placed as 2nd in freshwater fish production in 2020. The use of IoT can increase the efficiency of fish production and can take us to a place where nobody can beat us in a shorter while. Different IoT based water monitoring and environment controlling solution can increase fish production to a significant amount. Again high precision farming or precision agriculture can increase our crop productivity and increase our GDP by a substantial value. The lack of internet connectivity, awareness and human resources are the main inhibitors in countrywide implementation of sustainable and smart agricultural practices. The country needs to develop adequate infrastructure to enable the implementation of such initiatives.

¹⁸¹ Innovision and Katalyst (2016) [*Study on the Roles and Opportunities for Private Sector in Agro-food Processing Industry of Bangladesh.*](#)

¹⁸² FAO and ITU (2019) [*E-Agriculture in Action: Blockchain for agriculture Opportunities and Challenges.*](#) Bangkok.

Private sector expertise can be used to fill the gaps and adequate policy attention should be given to allow this to happen. Big data analytics for climate-smart agricultural practices in South Asia (Big Data² CSA) - in partnership with the public and private sector in Bangladesh and supported by CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) - is developing digital data collection systems serving as crowdsourcing, data-mining and interpreting environmental, climatic and remotely sensed data, primary agronomic management, and the socio-economic data from thousands of smallholder farmers producing rice and wheat.¹⁸³ This would allow to identify key patterns in yield, profitability, greenhouse gas emissions intensity and resilience.

Dynamic and machine learning-based early warning system

With the looming climate adversities and changes in soil conditions, traditional farming methods are becoming inadequate if agriculture is to be sustained. With the help from drones, sensors and IoT devices, farmers could make better informed decisions. GIS is a low-cost tool that can help monitor crop coverage, identify fishing sites and detect soil health. It can also help collect, store and maintain climate data. IoT devices can offer ‘just in time’ services which could help dairy and fish farms through health care monitoring, for instance through wearable collars, artificial insemination, through accurate estrus detection, and automated fish feeding, thus reducing cost for the farmers and increasing farm productivity.¹⁸⁴

Shorter value chain for the perishable products

Cold storage is the best way to preserve the integrity of perishable products. A cold chain from the farm to the processing units or markets can help minimise fresh produce postharvest losses. Existing cold storage facilities in Bangladesh cannot meet the country’s requirements. To address this issue, shorter value chain should be encouraged. Building low-cost cold storage facilities (e.g. CoolBot) across the country could dramatically reduce food loss. It would also provide farmers the confidence they need to start growing high-value crops. Private companies may also be encouraged to establish local standard cold storage and vegetable packaging industries to foster local-level processing industries.

¹⁸³ CIMMYT (2019) *Big data analytics for climate-smart agricultural practices in South Asia (Big Data² CSA)*.

¹⁸⁴FAO (2013) *ICT uses for inclusive agricultural value chains*. Rome.

5.2.3 Strategy 2.3 Preserve and enhance nutrient content along the value chain

This strategy consists of 4 AoIs of NFNSP-PoA namely 2.3.1. Preserve and promote food safety and nutrients along the value chain including during transportation, processing, packaging, storage, wholesale and retail, 2.3.2. Promote the fortification and nutrition enhancement of relevant foods where desirable and efficient, 2.3.3. Promote innovation and development of appropriate technologies to preserve nutritional value in local and export processing zones (EPZs), including under Public Private Partnership (PPP), 2.3.4. Build the capacity of the private sector to test food and communicate results to and engage with value chain actors for adequate remedial actions, and establish food traceability mechanisms. It also covers 2 programmes of CIP3 namely Programme II.1. Efficient Food Value Chains (FVCs) through transport infrastructure, Programme II.2. Efficient FVCs through innovation and improvements in post-harvest management and marketing, improved infrastructure, reduced FLW and enhanced cooperation among agents.

5.2.3 (a) Progress towards achievement

Table 19: Progress towards achievement of NFNSP Strategy 2.3 and CIP-3 program II.8

NFNSP-PoA & CIP3 Proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
Number of mandatory food items certification by BSTI	76	88	88	BSTI
Number of management system certification by BSTI	20	23	26	BSTI
% of upazilas covered under any social protection program providing nutritionally enriched fortified food	150 (FFP)-30% 100 (VGD)-20%	251 (FFP)-51% 170(VGD)-34% 85% (421 upazilas) only fortified rice through FFP and VGD	251 (FFP)-51% 170 (VGD)-34% 85% (421 upazilas) only fortified rice through FFP and VGD	BBS, DGFood, MoWCA
Number of private and public food testing laboratories listed under BFSA and BAB	10 (BFSA) 13 (BAB)	10 (BFSA) 14 (BAB)	10 (BFSA) 14 (BAB)	BFSA+ BAB
Number of food testing accredited labs	11	13	15	BAB

Number of mandatory food items certification by BSTI

The BSTI product certification scheme is a third party product certification scheme based on ISO Type 5. It consists of determining conformity of a product with a Bangladesh standard through product sampling, initial testing and assessment of the factory quality management system. The system has been up gradated in accordance with the international standard ISO/IEC Guide 65 (General requirements for bodies operating product certification system) with a view to ensure safety as well as to promoting export. To ensure the transparency & impartiality in the process of the product certification system BSTI Council has approved the formation of 1) The Certification Advisory Panel and 2) The Certification Committee. Determination and supervision of the implementation of the product certification policy and procedures in accordance with national and international requirements Grant, renew, suspend, revoke or withdraw product certification based on the reports and evidence submitted by the Director (CM) Review and approve all reports for the grant, extension, withdrawal of certification license Bangladesh Standards and Testing Institution Ordinance. We have started implementing it in the product certification system for receiving accreditation from the international accreditation body. BSTI listed 229 products Under Mandatory Certification Marks where 88 are agricultural and food products. The number remained same in 2020/21 as it was in the previous year.

Number of management system certification by BSTI

Although there has been some progress in BSTI awarding food system management certificates to producers and manufacturers in recent years -reflecting compliance with food safety standards set by the authority in their management and quality- the number remains low. Initiatives have been taken by several UN and Global Trade Promotion bodies to strengthen the capacity of Bangladesh Accreditation Board (BAB) to provide accreditation to certification and inspection agencies based on international standards (ISO 17020 and ISO 17021).

Percentage of upazilas covered under any social protection program providing nutritionally enriched fortified food

Through rice fortified with essential 6 vitamins and minerals, as vitamin A, iron, zinc, iodine, vitamin B12 and folate, the initiative Scaling up rice fortification aims to reduce micronutrient deficiencies in high-risk groups i.e. the poorest with a strong focus on women and children. Two safety net programs mainly distributes; (i) the Vulnerable Group Program (VGF) and (ii) Food Friendly Program (FFP) fortified rice are distributed. Both the area coverage and beneficiaries are continuously increasing every year. 34% Upazilla are covered by VGD and 51% Upazilla i.e. 251 Upazillas are covered by FFP program where fortified rice are distributed. 86 Upazilla overlapping where both of the programs are ongoing.

Number of private and public food testing laboratories listed under BFSA and BAB

Bangladesh Accreditation Board (BAB) has been installed 12 food testing laboratories in the base year 2019/20 and this number increased to 13 in the FY 2021/22.

Number of food testing accredited labs

Bangladesh Accreditation Board (BAB) has set 11 food testing accredited labors in the base year 2019/20 and this number increased to 13 in the FY 2020/21 and 15 in 2021/22.

5.2.3 (a): Needs for further actions under this programme

Collect evidence on gaps and opportunities to preserve food safety and nutrients along the food value chain and implement recommendations

Evidence needs to be collected to understand where on the FVC safety measures need to be enforced to have a safe and sustainable food system, in line with the Food Safety Law 2013. Research can also identify the stages of the value chain where nutrients are being lost due to inadequate practices or infrastructure and/or where they could be enhanced. A value chain approach may be used explicitly as a tool to achieve nutritional goals¹⁸⁵. So far, the focus of different studies has mostly been on the economic benefits of food production, although value chain concepts offer considerable potential for enhancing efforts to improve nutritional quality and safety. Understanding the viewpoint of the different stakeholders to see how their involvement in optimising value chains nutrition sensitive product development is required. For example, the underlying objectives and operating principles of the private sector may not obviously match the goal of improving nutrition¹⁸⁶, creating challenges and barriers to designing and implementing

¹⁸⁵ Hawkes, C. & Ruel M.T. 2011. [Value Chains for Nutrition](#). Prepared for the IFPRI 2020 Paper for the international conference “Leveraging Agriculture for Improving Nutrition and Health” February 10–12, New Delhi, India

¹⁸⁶ SUN (2011) Private Sector Engagement Toolkit

NSVC: this needs to be resolved since there is a clear role for the private sector in integrating nutrition considerations into value chains¹⁸⁷. Once evidence is made available on these issues, recommendations should be implemented.

Sensitise stakeholders of the value chain to food safety and nutrition

Food producers and agribusinesses must be sensitised to the importance of preserving the nutritional value of food and when possible, enhancing it, as well to food safety issues. Strengthening value chains for promoting local, micronutrient rich foods, producing foods with fewer chemicals and compliance to nutritional standards for food products are important considerations. Promoting the processing of local fruits such as mangoes and litchis is one such example. Incentives to comply with existing standards must be created and/or flagged to those concerned. For example, compliance to international standards and alignment with global market requirements may open up export markets and in turn increase productivity. The flow of information among participants in the supply chain is also important, as well as the product management, in order to maintain the food quality in the supply chain. Sensitization of consumers to these issues (see AoI 3.2.2 and 5.1.3) will translate into greater demand for safe and nutritious foods.

Establish and ensure efficient and safe food storage facilities

Food contaminated with pathogenic bacteria may look, smell, and taste normal but if food is not stored properly, the bacteria (pathogens) in it can grow and multiply to dangerous levels. To combat these issues, there is a dire need to establish and ensure sufficient and efficient food storage facilities, including cold storage. Commercial and public storage facilities need to be regularly audited and the facilities need to follow the standards set by BFSA. This includes safe storage of food distributed as part of the Public Food Distribution System. Any noncompliance will lead to strict actions against the defaulters. Safe storage with appropriate temperature controls must be ensured at all stages of the value chain: in farms, processors, wholesalers and retailers, and even consumers.

Identify areas, roles and gaps to develop agricultural produce EZs

BEZA, in coordination with the MoInd, the MoA and local government authorities, will identify areas where agro-processing zones could have the highest impact in terms of job creation and human capital development. Regions where specific horticulture produce crops can be processed for commercial viability, given the soil conditions, topography, climate and nutrient content, should be mapped. An analysis of territorial competitiveness of the selected areas will be produced, in line with local stakeholders' buy-in and interests and private investors' requests. The territorial competitiveness studies will aim at providing an analysis at local level (district/upazila level) by market-specific (agricultural specialisation, availability of workforce and productive inputs) and development-specific indicators (contribution to broader Bangladesh economic development) and by identifying infrastructural and resource endowment (power generation capacity, logistics corridors -air, road sea rail- health facilities, education facilities, availability of social housing and other amenities) which would contribute to preserve nutritional value in the produce.

¹⁸⁷ Downs, S. & J. Fanzo. 2016. Managing Value Chains for Improved Nutrition in Kraemer K, Cordaro JB, Fanzo J, Gibney M, Kennedy E, Labrique A. & Steffen J. Good Nutrition: Perspectives for the 21st Century

5.2.4 Strategy 2.4 Raise incomes of the poor and food insecure

This strategy consists of 2 AoIs of NFNSP-PoA namely 2.4.1. Expand and promote agriculture-driven, off-farm employment and other employment along the food value chain by expanding vocational training opportunities for rural youth, women and disabled people, 2.4.2. Provide adequate credit, technology, information and other related services for the growth of agro-based industries and the broader rural non-farm economy, with special emphasis for the most vulnerable sections of the population.

It also covers 3 programmes of CIP3 namely Programme II.1. Efficient Food Value Chains (FVCs) through transport infrastructure, Programme II.2. Efficient FVCs through innovation and improvements in post-harvest management and marketing, improved infrastructure, reduced FLW and enhanced cooperation among agents, Programme II.3. Orderly market management by securing property rights, regulating competition and stabilizing prices.

5.2.4 (a) Progress towards achievement

Table 20 - - Progress towards achievement of NFNSP Strategy 2.4 and CIP-3 program II.9

NFNSP-PoA & CIP3 Proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
Number of Agriculture Service Centres (Krishi Tottho Service)	12,356	12,362	12,364	DAE
% of rural population owning a mobile phone	69%	69%	69%	SVRS-BBS
· n. of internet users in rural areas (crores)		10.34	29.7	BTRC
· n. of 4G mobile users in rural areas (crores)		3.52	3.47	BTRC

Agriculture Service Centres (Krishi Tottho Service)

Agriculture Information Service (AIS) is a government organization under the Ministry of Agriculture (MoA), Government of Bangladesh. The main target of this organization is to carry modern agricultural information and technologies to the farmers' doorstep at the grass root level through mass media. It was incepted in 1961 as Agriculture Information Agency, which was turned into Agriculture Information Service in 1985. Information services are being rendered through Headquarters in Dhaka and 11 regional offices nationwide. AIS provides information through media and print media. Print media includes Krishikotha a renowned farm magazine and the Shomprosharon Barta, the monthly news bulletin. The electronic media used are Bangladesh Television (BTV), Bangladesh Betar, Community Radio, and Video Materials. Moreover, AIS organizes different rallies, seminars, workshops, fairs, etc. on national/international days and events. Every year the number of Agriculture Service Centres is increasing gradually which was 12356 in 2019/20, 12362 in 2020/21, and 12364 in 2021/22.

Population owning a mobile phone:

The SVRS which was conducted by BBS in 2019 disclosed that in the base year 2019/20 the percentage of population owing mobile phone in rural areas was 69. BTRC generated 58.7% of the population are owing mobile phone. After this period, no reliable data was generated. But however, currently, it is most likely to have increased number of mobile phone users both in rural and urban areas which results in improved quality of people's lives, better social relationship and higher access to digital economy in remote areas.

Like other developing countries the use of mobile phone in agriculture sector of Bangladesh playing very important role. Especially in supplying facts and data on prices of food and agriculture commodities, thereby ensuring efficiency in the co-movement of prices across markets. This implies that mobile phone for small farmers is the key player to secure their position in the market place, having fair price and process of farming for increased agriculture productivity and sustainability. More so, using social media tools as Facebook, Twitter, YouTube, LinkedIn, and WhatsApp for fetching better ways of sharing agriculture information made a vast world impact. Thus digital revolution i.e. mobile phone applications in farming has facilitated development and technological progress that assisted small farmers easing information asymmetry and bridging the knowledge gaps, backward and forward linkages, driving the enhancement of productivity, employment and economic growth.

Internet Users in Rural Areas:

Information is a fundamental resource for the socio-economic upliftment of any community as it is required and utilized by society for its enrichment and development. There is no denying the fact that Bangladesh has done well in terms of access to information both in rural and urban. Commonly, compared to rural areas the use of the ICT facilities is much higher in urban areas. According to The Bangladesh Telecommunication Regulatory Commission (BTRC), the number of internet users in rural areas increased from 10.34 crores in 2020/21 to 29.7 crores in 2021/22.

As per the report published by the Daily Star on Sep 13, 2020, although the rate of rural internet users is increasing and despite the government's pro-digital approach, a significant percentage of rural households in Bangladesh do not have access to the internet, a new study conducted by the BRAC Institute of Governance and Development (BIGD) shows.

And experts fear this 'digital divide'¹⁸⁸ could hinder e-governance progress. The study surveyed 6,500 rural households across the country to develop a Digital Literacy Index (DLI) that illustrates the current state of digital literacy in rural Bangladesh. 'Experts at an online seminar on 'Digital Literacy in Bangladesh', where the findings of the study were unveiled, said they fear that this 'digital divide' between rural and urban households in Bangladesh will continue to hamper the country's successful expansion of e-governance. System.

4G Mobile Users in Bangladesh:

Bangladesh is a small country with increasing number of internet users. The demand and supply of Internet connectivity in various ICT devices in Bangladesh is increasing day by day. The government allowed 4G services in selected areas on 19 February 2018. Currently, 4G service is being offered in 64 districts. 4G technology is in its early stages. But the demand is high (M. Rahman, 2010).¹⁸⁹ In the FY 2021/22, the number of 4G mobile users in rural areas of Bangladesh is 3.47 crores (BTRC).

¹⁸⁸ Digital divide is usually measured in terms of people's access to ICTs and those without such access or skills.

(Islam, M.A & Gausul Hoq, K.M, 2010, Community Internet Access in Rural Areas: A study on Community Information Centres in Bangladesh.

¹⁸⁹ M. Rahman, 2010. High-Speed 4G Mobile Internet connectivity in Bangladesh.

5.2.4 (b) Needs for further actions under this programme

Increase market demand-based vocational training on the food value chain for rural youth, women, and disabled persons

The need for training of rural youth, women, and disabled persons to develop adequate skills to run an enterprise is recognised as an issue to be dealt with in the 8FYP and can be addressed through location specific community based TVET training focusing on the agri-food sector including on activities related to food processing, packaging, storage, transportation, and retail sale. Promoting safe marketing of food and commodities of the 2017 Bangladesh National Youth Policy (BNYP)), especially food production safe from chemical and environmental hazards and incentivizing rural youth to become self-employed in safe food marketing would be also an effective strategy.

A market demand-based well-designed course focusing on the rural community setting and particular agro-ecological zones may help rural enterprise growth in line with the draft National Skill Development Policy 2020. Existing TVET services need to be modernized to provide rural-based training in high demand areas in order to enhance participation from women, youth and the disabled.

Capacity building training for women enterprises

MSMEs face a substantial challenge in their productivity in terms of value added per workers and low average wage¹⁹⁰. The National Strategy for Promotion of Gender Equality in TVET aims to increase female participation from 13% to 40% by 2020. To increase the productivity level of these already existing enterprises and to integrate left out women, capacities need to be built and credit facilities, extension services and ICT services (see AoI 1.1.4) provided along with market integration.

Women market corner at each village marketplace as well as in growth centres can help develop agro-food sector value chains ¹⁹¹, however, without skilled women entrepreneurs this may not be sustainable. Training can be arranged from both public and private agencies in order to support market linkages (both horizontal and vertical integration). ICT based women enterprise platforms may help in this regard providing both physical and online training facilities. Financial inclusion through the availability of digital mobile phones with low-cost internet connections and mobile financial services for the rural women can increase the productivity through capacity development training participation.

Promote training on Agri Service Centres for repair and servicing of agriculture machineries

Most rural areas suffer from inadequate service centres for agricultural machineries as well as lack of skilled mechanics. TVET training on agricultural machineries' repairing and servicing could provide an income generating activity to rural youth, women, and the disabled community. In addition, establishing agri-service centres in rural areas through private-public initiatives could help mobilize this under-used rural manpower. Piloting some model service centres by DAE from the public funding and running it by the TVET-trained rural youth would play a vital role in this regard.

¹⁹⁰ World Bank.2019. Financing Solutions for Micro, Small and Medium Enterprises in Bangladesh. World Bank and PRI.

¹⁹¹ Food Planning and Monitoring Unit (FPMU). 2020. *Op. cit.*

Increase access of formal sector finance with special emphasis for the most vulnerable sections of the population

Efforts will be made to increase access to individual and group based agro-based (both crop and animal husbandry) and non-farm CMS enterprise activities as proposed under AoIs 1.1.4 and 2.1.2 but emphasising the participation of the most vulnerable and usually excluded sections of the population. In particular, collateral-free access to microcredit will be facilitated as well as a lowering of interest rates. The Bangladesh Bank has introduced measures to increase access to formal sector credit. Banks and Non-bank Finance Institutions (NBFIs) can get refinance for promotion of agro-based product processing industry; and new entrepreneurs in CMS industry sector. CMS enterprises that use by-products such as straw/husk, hay, jute leaf, jute stick etc. will also be promoted and market linkages facilitated, in line with the National Agriculture Policy (NAP) (2018). Efforts will be made to increase access to microcredit for small borrowers, to undertake enterprise activities, in line with the PP2041 that aims at creating employment for 1000 male and female youth every year from each upazila. Separate allocation will be made to target PwD and make them more self-reliant.

5.3 Progress towards outputs for NFNSP objective-3 and CIP3 pillar-3

5.3.1 Strategy 3.1. Develop a long-term national plan for ensuring safe, nutritious and sustainable diets in alignment with recommended nutrient intakes at every stage of the life cycle.

Strategy 3.1 aims to improve nutrition knowledge, promote good food safety practices and consumption of safe and nutritious diets. While the emphasis is given to dietary diversity and proportionate consumption of cereal and non-cereal foods towards meeting dietary requirements of macro and micronutrient deficiencies, child stunting, wasting and the emerging concerns of non-communicable diseases (NCDs) merit attention. Promotion of a healthy diet, lifestyle and increased physical activity are key strategies to prevent NCDs. Accordingly, three programmes are included in this strategy. They are: 1) Programme III.1. Development of a national-level food production, supply and consumption plan based on a nutrient gap analysis; 2) Programme III.2. Operationalization of healthy diets for nutrition outcomes; 3) Programme III.3. Expanded human resources and strengthened institutional arrangements to improve performance of nutrition services with special emphasis on enhancing child nutrition outcomes at sub national levels. Under this strategy we have three area of inventions also, those are-**AoI 3.1.1.** Develop a national-level food production, supply and consumption plan based on a nutrient gap analysis considering energy and nutrient demand for a healthy and active life; **AoI 3.1.2.** Support the implementation of DDP plans for a healthy and sustainable food system; **AoI 3.1.3.** Expand human resources and strengthen institutional arrangements to improve performance of nutrition services with special emphasis on field level.

5.3.1.(a) Progress towards achievements

Table 21 - -Progress towards achievement of NFNSP Strategy 3.1 and CIP-3 program (III.1-III.3)

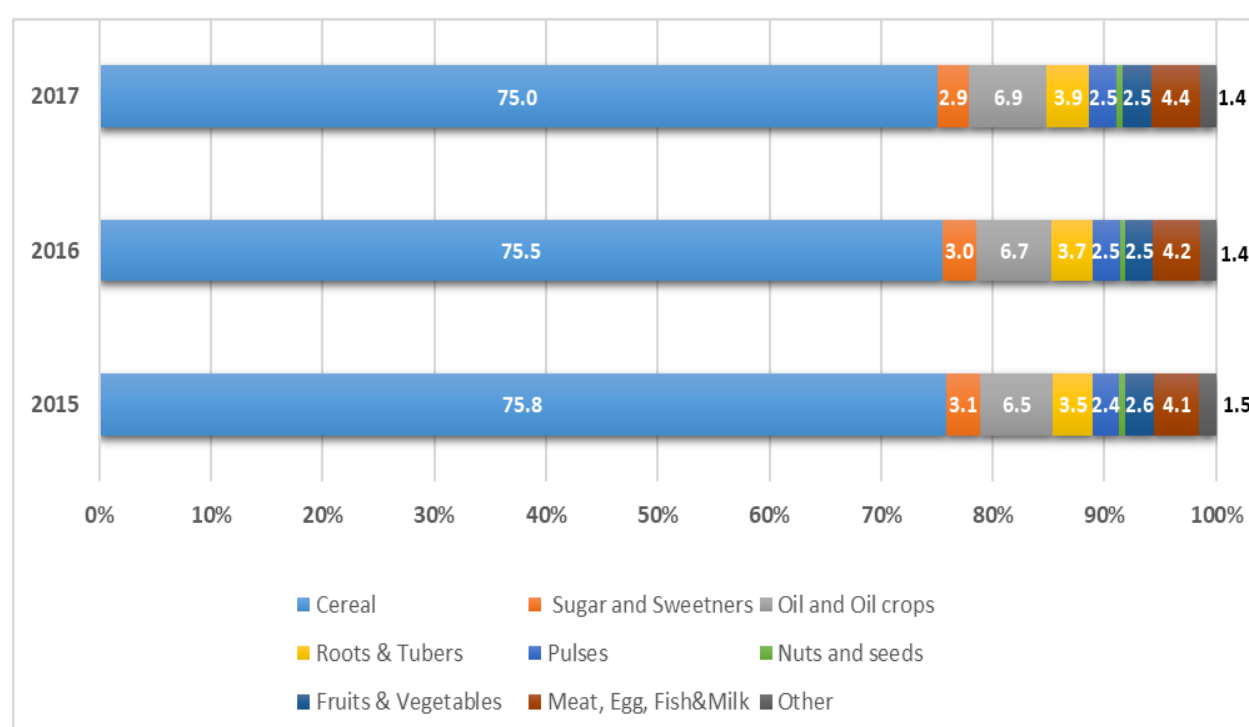
Strategy 3.1 Develop a long-term national plan for ensuring safe, nutritious and sustainable diets in alignment with recommended nutrient intakes at every stage of the life cycle.					
Programs under strategy 3.1	Proxy indicator	Baseline 2019/20	2020/21	2021/22	Verification source
Programme III.1. Development of a national-level food production, supply and consumption plan based on a nutrient gap analysis	% of Dietary Energy Intake (DEI) from cereals	64% (2016)	64% (2016)	52% (Approximate -HIES-2022)	HIES, BBS
Programme III.2. Operationalization of healthy diets for nutrition outcomes	n. of "Growth Centres" in rural and urban areas	110	120	130	LGD
	Per capita daily availability (from own production) of selected foods according to DDP targets a) rice b) fruits c) vegetables d) pulses e) milk f) fish g) beef, mutton and poultry h) egg	a) 633.30 gm b) 81.39 gm c) 74.89 gm d) 6.51 gm e) 174.79 ml f) 73.70 gm g) 125.59 gm h) 0.28 no.	a) 609.28 gm b) 83.27 gm c) 76.63 gm d) 6.89 gm e) 194.16 ml f) 74.86 gm g) 136.73 gm h) 0.33 no.	a) 608.53 gm b) 85.31 gm c) 79.10 gm d) 6.91 gm e) 208.04 ml f) 74.59 gm g) 148.18 gm h) 0.37 no.	BBS
Programme III.3. Expanded human resources and strengthened institutional arrangements to improve performance of nutrition services with special emphasis on enhancing child nutrition outcomes at sub national levels	n. of district nutritionists recruited	0	0	0	BNNC
	% of district and upazila nutrition coordination committees functioning	25%	34%	55%	BNNC, MoHFW

R: Revised; *: Not available

Share of total dietary energy intake (DES) from cereals has declined

Share of total dietary energy intake (DES) from cereals has declined from 64% in 2016 to 52% in 2022 as per the preliminary report of BBS-HIES-2022. WHO/FAO normative recommendations are that 55-75% of the proportion of total energy consumption should come from carbohydrate, 10-15% from protein and 15-30% from fat. In 2017, consumption of cereals provided 75% of the average dietary energy, the maximum of the recommended range for carbohydrates (Figure-18). The aggregate supply of dietary energy from protein-rich animal source foods and vegetable protein (i.e. pulses) was close to 7% which is significantly lower than the normative recommendation. The DES from oil and oil crops was approximately 7%, also significantly lower than the recommended intake. The DES is clearly predominantly cereal-based, reflecting a lack of dietary diversity in Bangladesh.

Figure 18 - Share of food groups as percentage of Daily Energy Supply (DES)

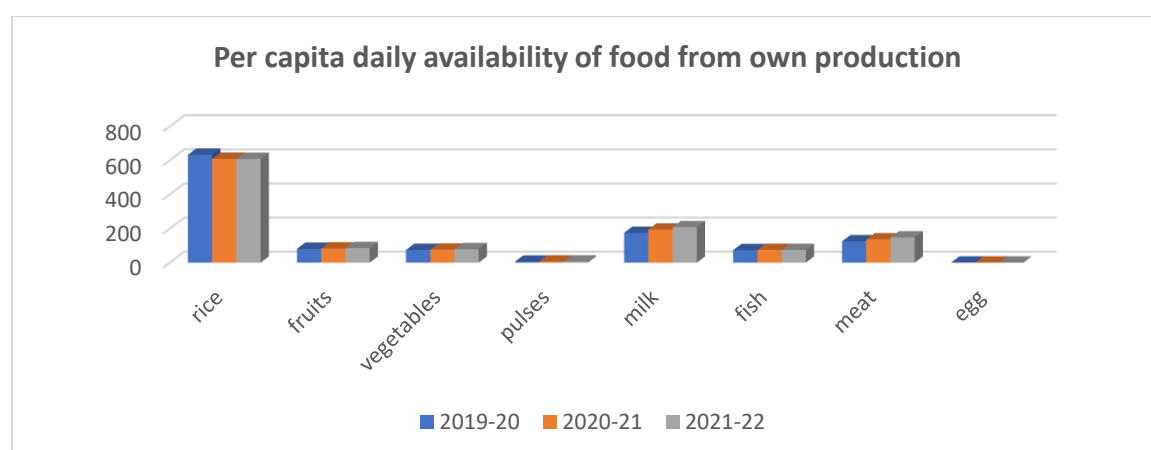


Source: Data from FAOSTAT

Increased number of "Growth Centres" in rural and urban areas

Growth Center is a major connection between urban and rural areas and an effective rural development strategy. In the context of Bangladesh, growth centers are rural markets or intermediate urban centers that have been identified by Planning Commission on the basis of socio-economic and administrative criteria for making development investment. Table: 3 shows that the increase of growth centers in rural areas from 110 in 2019/20 to 130 in 2021/22 (APA, LGD), which fulfils its target for the year 2021-2022. The development of the growth centres has led to significant progress in the rural economy. It is necessary to increase the number of such centres across the country to ensure continued development. Since, government had promised to extend the benefits of the city to the villages.

Figure -19: Per capita daily availability of selected foods according to DDP targets



Source: FPMU database, BBS

Improvement of district and upazila nutrition coordination committees functioning

District and upazilla nutrition coordination committees are one of the most important and influential institute for implementing nutritional activities i.e. sharing nutrition knowledge and information in the sub-national level. Functioning of the district and upazilla nutrition coordination committee is improved from 25% in 2019-20 to 55% in 2021-22. Though it has improved but it is far behind from our National target 100% (BNNC). Nutrition is a broad issue, it is inter-related with multiple sectors; including food, health, agriculture, fishery, education, social protection/safety net, water, sanitation, and hygiene (WASH); and family planning activities. To establish good management of multisectoral nutrition activities, the government convened the District and Upazila Nutrition Coordination Committee (DNCC & UNCC), with the participation of 22 representative ministries.

5.3.1. (b) Policy development, programmes and initiatives underway and Needs for further actions under this programme

Promotion of Dietary Guidelines for Bangladesh

The Dietary Guidelines for Bangladesh 2015 has been revised as a joint effort of the MoHFW and MoFood, BIRDEM, NNS-IPHN, with support from FAO and WHO and in partnership with other stakeholders. The Dietary Guidelines for Bangladeshi Population 2020 are based on the principles of a food-based approach to healthy eating that can help improve the nutritional and health status of the population on a sustainable basis. It supports an eating plan of diverse nutrient-rich foods. Following the recommendations of a high-level Technical Working Group to revise the dietary guidelines with three sections, FAO and FPMU were vested with the responsibility for updating and finalizing the general guidelines, while the remaining two sections on age-specific, and disease specific guidelines were the responsibility of WHO and MOHFW, to which FAO also provided technical support.

The Food Based Dietary Guidelines has been disseminated by the Ministry of Food in collaboration with FAO-MUCH for the wider promotion of the dietary guidelines and nutrition messages at the sub-national level through dissemination workshops in all divisions to sensitize the sub-national level government officials and concerned stakeholders so that they could reach out to the communities. From the dissemination workshops it was possible to familiarise and

capacitate the participants on an understanding of the FNS policy frameworks in Bangladesh including relevant policies and also possible to disseminate food based dietary guidelines for better nutrition and health and nutrition principles in terms of foods and dietary practices. The workshops have contributed to the improvement of nutrition behaviour in the population of sub-national level.

Promotion of nutrition through national events

Bangladesh has been celebrating a *National Nutrition Week* (NNW) on 23-29 April each year since it was reintroduced by the government in 2018. In 2019, the NNW was organized with the ‘Think about nutrition if you think about food’. With the theme "*Proper nutrition for healthy life*", the National Nutrition Week 2022 was observed across the country in 2022. Activities, as well as mass-media campaigns, were organised to increase public awareness and disseminate information on tackling malnutrition and undernutrition with the use of locally available foods. On this occasion, BNNC, United Nations organisations, DPs, INGOs and NGOs jointly reaffirmed their commitment to collective action to accelerate the reduction of malnutrition in Bangladesh. The *Nutrition Olympiad* (NO) was celebrated as part of the NNW: it is a national event organised since 2017 to bring youth and adolescents at national level to demonstrate Nutrition Club knowledge and to build and extend their network. Youth and adolescents participate in the Nutrition Olympiad, the successive 5 years (2017-2021) had triggered national attention to focus on adolescent nutrition. The theme of the 2022 NO was "*Let the Youth Lead for Better Nutrition*". International Nutrition Olympiad 2022 held during October 1-2, 2022 days with a series of preparatory activities and pre-Olympiad events. Sher-e-Bangla Agricultural University, Dhaka hosted the INO 2022 as Partner. The two-day event involved activities to attract youth engagement such as a food design competition, street plays, debate, paintings, nutrition carnival, public speaking and a healthy snacks competition. A large number of youths, government officials, international and national organisations, civil society, professionals, academia, and media participated in the event. NO offers the opportunity to Nutrition Clubs - constituted by school students, adolescents and youth – to receive regular mentorship and training from experienced nutritionists. Other important national events include the World Food Day, the World Breastfeeding Week, the National Food Safety Day, World Food Safety Day, 3-day National Vegetable Fair, 3-day National Fruit Fair and World Egg Day.

Initiation of the Nutrition Challenge Badge

The Nutrition Challenge Badge (NCB) is the outcome of the Youth and United Nations Global Alliance (YUNGA) Learning and Action Series, which is designed to help children and youth explore basic concepts of good nutrition, healthy and environmentally friendly eating habits and lifestyles through the nutrition clubs established under the programme. On completion of the assigned activities, the children are entitled to receiving an NCB. The *Meeting the Undernutrition Challenge (MUCH)* project, implemented by GoB and FAO launched the NCB in Bangladesh in collaboration with the BIID Foundation to coincide with Universal Children’s Day. The target was to enrol 600 children, youth and adolescents from 20 selected schools in Sylhet, Dhaka, Rangpur, Chattogram, Mymensingh and Rajshahi.

Implementation of the school meal policy and programme

Nutritious meals for school children have a high return on investment as they improve children’s health, increase enrolment in schools and productivity throughout their life. The government-led *School Feeding Programme in Poverty Prone Areas* project which has been running since 2013

started providing hot meals (see Programme IV.2). The meal is intended to be a healthy, fresh, locally-sourced meal that will fulfil part of the day's macro and micronutrients requirements. A National School Meal Policy 2019 was formulated and recommended that at least 30% of daily calorie requirement and 50% of daily micronutrient requirements of every primary school student be covered by school meals. This new policy will contribute to increase primary school attendance and reduce the dropout rates in the primary schools.

Revise and implement the National Strategy for IYCF

Despite the current progress in EBF, inappropriate infant feeding remains prevalent. The challenges related to optimum breastfeeding include socio-cultural beliefs that favour mixed feeding, a non-supportive health-system, inadequate skilled support at health facilities and community level, aggressive promotion of infant formula, milk powder and other breast-milk substitutes (BMS), inadequate workplace policies to support maternity and paternity leave legislation and poor knowledge of the benefits of EBF. Strict implementation of the BMS Act 2013 and compliance with the existing laws against infant formula or breastmilk substitutes are required. Poor dietary diversity of child feeding is another major concern.

The NNS under the Health, Population and Nutrition Sector Programme (HPNSP) 2018-19, IPHN with the technical support of Bangladesh Breastfeeding Foundation (BBF) have been revising National strategy for infant and young child feeding for 2018-2025 which had not been updated since 2007. It will build on existing achievements and, based on evidence from Bangladesh and globally, provide a framework for actions to protect, promote and support the optimal IYCF. This revision process needs to be accelerated and the revised strategy should be implemented as soon as possible.

Promote healthy diets and lifestyles to prevent NCDs, including diabetes

Diets in Bangladesh tend to be carbohydrate intensive, with a predominance of refined grains. Moreover, emerging food-production technologies and supermarkets have made energy-dense foods more readily available. This includes refined carbohydrate foods with added sugars, refined grains and unhealthy fats. Altering diets by replacing refined cereals such as white rice with whole grains (e.g. brown rice), encouraging low glycaemic index meal along with high dietary diversity and increasing physical activity can help to prevent diabetes in high-risk individuals. This calls for introducing changes in policies related to healthy eating, enabling healthy environments and improving health systems to tackle NCDs.

It is therefore recommended to scale up the Multisectoral Action Plan for Prevention and Control of Non-Communicable Disease 2018-2025. Under the fourth HPNSP for 2017-2021, the WHO Package of Essential Non-Communicable Disease Interventions protocol for early detection and management of cardiovascular diseases, diabetes, chronic respiratory diseases and cancer to prevent life-threatening complications (e.g. heart attacks, stroke, kidney failure etc.) is being rolled out at the primary care level like community clinics and upazila health complexes. As part of the protocol, patients diagnosed with hypertension and diabetes will be counselled about living a healthy lifestyle and provided with required anti-hypertensive and anti-diabetic drugs free of cost at the primary healthcare level. The outreach should be expanded through other health programmes such as immunization or family planning.

Promote under-utilised foods

Underutilised foods and especially Neglected and Underutilized Species (NUS) need to be promoted through food-based dietary guidelines, and the food composition tables must document the nutrient composition of such foods as well as ethnic foods. These foods which include minor cereals, special maize varieties, oilseeds, indigenous fish species, local fruits, vegetables and seeds are underutilised, despite having a much higher nutrient content than globally known species or varieties commonly produced and consumed. In addition to their superior nutritional qualities, many of these crops require fewer inputs, can be grown on marginal land and are easily intercropped or rotated with staple crops, and fit easily into integrated practices such as agroecology. Because they are frequently adapted to marginal conditions and often have the unique ability to tolerate or withstand stresses, NUS can make production systems more sustainable and climate-resilient.

They are also less damaging to the environment and are culturally acceptable. Unfortunately, due to the urbanisation and transformation of eating habits towards increasing consumption of imported and processed foods, they are minimally consumed. Traditional foods should be promoted by preserving genetic species, highlighting their importance in the current production systems, and exploiting opportunities to enhance their production and consumption through production technologies, nutrition education and value chain development.

5.3.2 Strategy 3.2. Enhance nutrition knowledge, promote good dietary practices and encourage consumption of safe and nutritious diets

Under the Strategy 3.2 there are two Area of Interventions (AoI) including AoI 3.2.1 and AoI 3.2.2. AoI 3.2.1 is ‘Develop and promote local foods, healthy cooking and food combinations, safe storage including knowledge on nutrient labelling’. AoI 3.2.2. is ‘Scale-up integrated nutrition education strategies to enhance consumption of healthy, diets, increase awareness of the nutrient composition of local foods as well as to prevent and control malnutrition (undernutrition and over nutrition)’. Accordingly, one programmes is included in this strategy. This is Programme III.4: ‘Enhanced nutrition knowledge, good dietary practices and consumption of safe and nutritious diets for the prevention and control of malnutrition and NCDs’.

5.3.2 .(a) Progress towards achievement

Table 22 - Progress towards achievement of NFNSP Strategy 3.2 and CIP-3 program III.4

Strategy 3.2. Enhance nutrition knowledge, promote good dietary practices and encourage consumption of safe and nutritious diets					
Program under strategy 3.2	Proxy indicator	Baseline 2019-20	2020/21	2021/22	Verification source
Programme III.4. Enhanced nutrition knowledge, good dietary practices and consumption of safe and nutritious diets for the prevention and control of malnutrition and NCDs	Number of mass media activities for nutritional behaviour	2606	2606	N/A	Ministry of Information, FPMU
	% change in per capita consumption a) vegetables b) fruits	a) 0.73 % vegetables increase b) 20.13% fruits decrease	a) 0.73 % vegetables increase b) 20.13% fruits decrease	a) 20.68% vegetables increase b) 166.48% fruits increase	BBS-HIES, HIES 2010, HIES 2016 and HIES 2022

The number of mass media activities for nutrition behaviour change is same

Mass media are one of the most important and influential tools for NBCC for sharing nutrition information and knowledge. More than two thousand six hundred mass media activities related to food and nutrition were recorded including health bulletins, print media (newspapers), radio television and mobile applications in 2020-21. BTV, the national television, and the 12 private TV channels telecasted a wide range of programmes on food and nutrition on a daily, weekly and quarterly basis. BIRTAN developed a mobile application *Amar pushti* focusing on eight topics-applied nutrition, nutrients in food, balanced diets, malnutrition, nutrition in life cycle, cooking methods and safe food (Table---). Popular newspapers, magazines and health bulletins published information on safe food, healthy diet, nutrition and healthy lifestyle in their weekly, fortnightly and monthly copies. BIRDEM published two nutrition-related magazines which were widely distributed.

Table 23- Number of mass activity for nutritional behaviour including the themes of nutrition and health, and agriculture and technology (MR 2020)

Sector	Subject of programme	Number of activities	Coverage
Bangladesh Television	Shukhi poribar, Shustho thakun, Maa o shishur bitorko, Shishu o nari, Shastho barta, Banglar krishi, Maati o manush, Krishok o binodon, Tothya batayan, Adhunik biggan	1,211	Nationwide
Private TV Channel	Channel 24, ATN, Jamuna TV, NTV, RTV, Channel i, Channel 24, Ekattor 71 TV, Independent TV, Somoy TV, ETV, Desh TV, Boishaki, Mohona TV	300	Nationwide
Bangladesh Radio	Shuker shoptahe thikana, Nari o shishu Unnoyan, Shashtho shokol shukher mul, Aponar shashtho, Aongona, Banni shikha, Jatio pushti prokolpo, Kishan bodhu, Banizzik karjokrom	300	Nationwide
Radio Community Program	Shashtho-e- shukher mool, (pramanno prog), Jatio pushti prokolpo 2016-2022, Bohirangon	36	Nationwide
BIRTAN	Amar pushti (mobile app)	8	Nationwide
Print media (newspapers & magazines)	Nutrition and health messages published on a weekly, fortnightly a monthly basis	736	Nationwide
BIRDEM	Kanti	3	1,500 copies
BIRDEM	Diabetes Newsletter (monthly)	12	48,000 copies
Total mass media activities		2,606	

Percentage change in per capita consumption (vegetables and fruits):

There is a significant improvement in the consumption of fruits and vegetables as per the BBS-HIES 2022. Considering the food consumption data from the previous report BBS-HIES 2016, per capita vegetable consumption has increased 0.73% in 2016 comparing with the previous consumption in 2010 and per capita fruits consumption has decreased 20.13% in 2016 comparing with the previous fruit's consumption in 2010. Recent BBS-HIES 2022 preliminary report shows that per capita vegetable consumption has increased 20.68% in 2022 comparing with the previous consumption in 2016 and per capita fruits consumption has increased 166.48% in 2022 comparing with the previous fruit's consumption in 2016.

5.3.2.(b) Needs for further actions under this programme

Promote Cooking Demonstration and safe food preparation:

Promotional campaign on safe and nutritious food preparation needs to be implemented to ensure consumption of healthy diet. Food based nutrition training, Behaviour Change Communication and Mass Media Activities will be need to be developed to encourage appropriate cooking technique. Household level food preparation, processing and storage techniques need to be promoted. It is important to ensure healthy food preparation to reduce nutrient loss during processing and to ensure hygiene and safety through hygienic food handling, storing, serving and consumption.

Promote production and consumption of local and indigenous fruits and vegetables:

It is important to take initiatives to promote production and consumption of indigenous and underutilized nutritious foods including fruits, vegetables and fishes. Food Based Dietary Guidelines (FBDG) and Food Composition Tables (FCT) should include the nutrient content of these underutilized and indigenous foods. Dissemination of National FBDG and FCT will encourage not only to increase the production but also to consume these foods to ensure diet diversity.

Integrate Nutrition Behaviour Change Communication (NBCC) into nutrition-sensitive programming:

Integrating NBCC with nutrition-sensitive interventions such as homestead production of diverse, nutrient-rich foods and social protection programmes can have positive effects on the nutritional status and health of rural households, particularly among women and young children. Based on results of *Transfer Modality Resource Initiative (TMRI)*, integrating intensive high-quality BCC in social protection programmes, more specifically in the social safety nets that provide sufficient amount to have an impact (1,500 BDT/per month) can improve household food security and child nutrition. Encouraged by the TMRI results, the Ministry of Women and Children Affairs (MoWCA) piloted the Investment Component for the Vulnerable Group Development (ICVGD) programme for destitute women, which adds a cash grant for investment, fortified rice distribution and nutrition BCC to existing Vulnerable Group Development (VGD) activities. Lessons learnt from this programme, the existing nutrition-sensitive social safety net and agricultural programmes, need to be linked to BCC and nutrition education to have an impact on nutrition outcomes. NBCC should focus on enhancing dietary and nutrition knowledge for all, regardless of economic and social status, age or gender. Hence, appropriate contextualized BCC focusing on standardized and correct information on dietary knowledge, healthy cooking methods, nutrient dense-recipes, dietary diversity, appropriate IYCF practices, food handling, preservation, storage, food safety issues and WASH should be developed and disseminated.

5.3.3 Strategy 3.3. Optimise food utilization through provision of safe water, healthy diets and improved food hygiene and sanitation

This strategy consists of 4 area of interventions AoI 3.3.1. Expand programs for immunization, control of ARI, prevention of cholera and diarrhoeal diseases/AoI 3.3.2. Strengthen the implementation of NNS delivery integrated with community clinics targeting children and women suffering from persistent weakness and micronutrient deficiencies/AoI 3.3.3. Scale up the supply of safe water for consumption and domestic use/AoI 3.3.4. Improve sanitary facilities and hygiene practices, including the prevention of animal to human transmission of disease and prevention and control of food and water- borne illness. There are three programmes under the Strategy 3.3. They are Programme III.5, Programme III.6 and Programme III.7. Programme III.5. is ‘Expansion of programmes for immunization, control of ARI, prevention of cholera and diarrhoeal diseases’; Programme III.6. is ‘NNS delivery and early childcare practices to promote maternal and child nutrition’; Programme III.7 is ‘Supply of safe water for consumption and domestic use enhanced, improved sanitary facilities and hygiene practices to better impact food utilization and nutrition outcomes’.

5.3.3.(a) Progress towards achievement

Table 24 - Progress towards achievement of NFNSP Strategy 3.3 and CIP-3 program (III.5-III.7)

Strategy 3.3. Optimise food utilization through provision of safe water, healthy diets and improved food hygiene and sanitation					
Programs under strategy 3.3	Proxy indicator	Baseline 2019-20	2020/21	2021/22	Verification source
Programme III.5. Expansion of programmes for immunization, control of ARI, prevention of cholera and diarrhoeal diseases	Children (Under-5) mortality rate per 1,000 live births (SDG 3.2.1, SDG-NPT 6 and 8FYP)	45 per 1000 live birth (BDHS-2018)	28 per 1,000 live birth (BBS 2020)	31 per 1000 live birth (BDHS 2022)	BDHS, BBS Sample Vital Registration System 2020
	% of children aged 12-23 months who received all basic vaccinations by age 12 months (BCG, measles, triple pentavalent DPT containing, and triple polio doses) (SDG 3.b.1 and 8FYP)	86%	86%	N/A	BDHS, SDG Tracker
Programme III.6. NNS delivery and early childcare practices to promote maternal and child nutrition	n. of national surveys collecting data on MDD-W	0 (2019-20)	1 (2021)	1 (2022)	BBS
	% of households consuming iodised salt (>15 ppm) (NPAN2)	58.5% (2019)	58.5% (2019)	N/A	MICS-BBS
	Coverage of vitamin A supplementation in children 6- 59 months (NPAN2)	80% BDHS 2018	97% (MoHFW)	97% (MoHFW)	BDHS, MIC S, MoHFW, BBS
	n. of community-based fortification and supplementation programs	7 [fortification: rice, oil, salt/iodization ; supplementati on Fe and Folic acid, Vitamin-A, Zn, MNP]	7 [fortification: rice, oil, salt/iodization; supplementation programme: Fe and Folic acid, Vitamin-A, Zn, MNP]	7[fortification : rice, oil, salt/iodization ;supplementat ion programme: Fe and Folic acid, Vitamin-A, Zn, MNP)	MoHFW, MoInd
Programme III.7. Supply of safe water for consumption and domestic use enhanced, improved sanitary facilities and hygiene practices to better impact food utilization and nutrition outcomes	% of population with safely managed drinking water services (SDG 6.1.1) a) urban b) rural	a) 44.7% (2019) b) 48.8% (2019)	a) 44.7% (2019) b) 48.8% (2019)	N/A	MICS-BBS, SDG Tracker
	% of schools with access to basic drinking water (SDG 4.a.1 and 8FYP) a) primary b) secondary	a) 78.88% (2018) b) 97.48% (2020)	a) 78.88% (2018) b) 97.48% (2020)	N/A	BANBEIS-BES, SDG Report SDG Tracker
	% of population using: (a) safely managed sanitation services (SDG 6.2.1 and 8FYP) b) hand-washing facility with soap and water (SDG 6.2.1)	64.1% (2019) 74.8% (2019)	64.1% (2019) 74.8% (2019)	N/A	MICS-BBS, 8FYP MICS-BBS, SDG Tracker

Under-5 mortality rate per 1,000 live births:

Children (aged under-5) Mortality rate was 45 per 1000 live birth in the baseline year (2019-20) as per the Bangladesh Demographic and Health Survey (BDHS)-2018. Children (aged under-5) Mortality rate has declined to 28 per 1000 live birth as per the BBS Sample Vital Registration System 2020, where mortality rate was expected to lower down at 27 within 2025 according to 8FYP and 25 within 2030 according to SDG. However, preliminary report of BDHS-2022 shows that Children (aged under-5) Mortality rate is 31 per 1000 live birth in 2022 which is lower than that of the baseline data and higher than the data of BBS Sample Vital Registration System 2020.

Percentage of children aged 12-23 months who received all basic vaccinations by age 12 months:

In the baseline year (2019-20) basic vaccination coverage was 86% according to Bangladesh Demographic and Health Survey (BDHS). As per the official data from MoHFW, it was found that the basic vaccination coverage was 97% in the following year. 8FYP target to achieve 98% basic vaccination coverage within 2025 and SDG target to achieve 100% basic vaccination within 2030 where Bangladesh is very close to achieve those targets within the required time.

Number of national surveys collecting data on MDD-W:

Minimum Dietary Diversity of Women (MDD-W) is an important indicator developed by FAO and partners to fill the need for a simple, food-based indicator for measuring dietary diversity and micronutrient adequacy, key dimensions of diet quality of women of reproductive age. Only one single survey conducted in 2021 for collecting data on Minimum Dietary Diversity of Women (MDD-W) and still it is the only survey conducted for MDD-W data collection nationally.

Percentage of households consuming iodised salt (>15 ppm):

Household consuming adequate iodized salt (>15 ppm) is an important indicator under the strategy 3.3 to find out the causes of the prevalence of iodine deficiency. According to MICS-BBS survey in 2019, 58.5% households were consuming adequate amount of iodized salt, which is far below than the national target by Second National Plan of Action of Nutrition (NPAN2). Target from NPAN2 is to achieve 90% household consuming iodized salt within 2025.

Coverage of vitamin A supplementation in children 6- 59 months:

In the baseline year (2019-20) Coverage of vitamin A supplementation in children 6- 59 months was 80% according to Bangladesh Demographic and Health Survey (BDHS)-2018. As per the official data from MoHFW, coverage of vitamin A supplementation was 97% in 2021-22. NPAN2 target is to achieve 99% vitamin A supplementation coverage within 2025, which is nearer to the present situation.

Number of community-based fortification and supplementation programs:

Number of community-based fortification and supplementation programs has been implementing in Bangladesh is 7. Community-based fortification programme includes rice fortification programme under Food Friendly Programme and VGD, Oil Fortification under the Oil Fortification Act, Salt iodization under the Salt Act. Supplementation Programmes includes Iron and Folic Acid Supplementation Programme for pregnant and lactating mother, Vitamin-A supplementation programme for the children under five years, Zinc supplementation programme

for children, and Micronutrient Powder (MNP) Programme. These 7 Community based fortification and supplementation programs are still remains same as the previous year 2021.

Percentage of population with safely managed drinking water services (urban and rural):

Percentage of population with safely managed drinking water services includes percentage of household members with an improved drinking water source located on premises, free of E. coli and available when needed. About 44.7% urban population and 48.8% rural population has access to safe drinking water in 2019 and within 2025, 8FYP targets to cover 100% population of the country with access to safe drinking water.

Percentage of schools with access to basic drinking water (primary and secondary):

78.88% primary schools and 97.48 % secondary schools has access to basic drinking water in 2020. Within 2030, 100% primary and secondary schools must be under the basic drinking water coverage to achieve SDG goal.

Percentage of population using safely managed sanitation services and hand-washing facility with soap and water:

In 2019, 64.1% and 74.8% of the total population were under the coverage of safely managed sanitation services and hand washing facility with soap and water. According to 8FYP, 80% of the total population should be covered with safely managed sanitation services and hand washing facility with soap and water within 2025. SDG goal is to cover 100% of the population with safely managed sanitation services and hand washing facility with soap and water within 2030.

Policy development, programmes and initiatives underway

The GoB Bangladesh has undertaken to strengthen the capacity of upazila water and sanitation committees to enhance WASH in rural areas. Along with the universal coverage of safe water and sanitation, the government is focused on improving water quality (free from chemical and microbial contamination) through the implementation of the Water Safety Plan 2014.¹⁹² This includes the management of on-site and off-site sewage treatment and faecal sludge management. For WASH, commendable achievements have been recorded with, for instance, the proportion of the population with access to basic handwashing facilities increasing from 59.1% in 2012-13 to 74.8% in 2019.¹⁹³ Progress has been specially recorded in rural areas but in urban slums, the situation remains challenging. In the context of an ever-growing urban population, urban WASH and health are some of the critical challenges that the government needs to address. The Department of Public Health Engineering (DPHE), MoHFW and the Ministry of Local Government, Rural Development and Cooperatives (MoLGRDC) need to continue focusing on generating evidence and measuring the impact of their interventions.

Iodized Salt Act 2021

The parliament has passed Iodized Salt Act-2021 aiming to ensure proportionate use of iodine in salt and regulate the salt market in the country. The proposed Bill will be enacted through annulling

¹⁹² WHO/SEARO/Country Office for Bangladesh (2014) [Water Safety Plan \(WSP\) -A Risk Based Approach for Water Safety](#). Dhaka.

¹⁹³ Multiple Indicator Cluster Survey (MICS) 2019.

previous “Iodine Deficiency Disease Prevention Act-1989.” Under the proposed law, a 14-member national salt committee, headed by the Industries Secretary as its chairman, will be formed to oversee production, processing, refining, storage, transportation and marketing of salt, ensuring iodine use in salt, supply of iodine to the salt factories, regulating salt import, as well as to place recommendations over salt management policy. There will be a separate cell under the Industries Ministry to ensure the proportionate mixing of iodine in salt. Implementation of the Act will help to the population to consume adequately iodized salt.

Global Handwashing Day celebrated

In order to influence, inform and increase public awareness on the positive effects of handwashing, MoLGRDC and UNICEF successfully celebrated the Global Handwashing Day on the 15th of October 2018. Around 1000 school and university children took part in the event and promoted the theme ‘Clean hands – a recipe for health’. As a community engagement strategy, the GoB included schools and school children to encourage behaviour change around WASH.

Technical Symposium on Nutrition-Sensitive WASH

The MoFood and MoLGRDC with support from FAO and WHO and technical collaboration from WFP and UNICEF conducted a symposium on Nutrition-Sensitive WASH on the 5th Nov 2018. This multisectoral collaboration was the evidence of the GoB’s commitment to improved nutrition-sensitive WASH.

The COVID-19 effect

In May 2020, the GoB launched a strategic paper to respond to WASH issues during and after the COVID-19 outbreak. Among other measures, the pandemic led to sustained mass communication on hand washing. If this effect can be sustained, it could be beneficial for overall hygiene practices.

5.3.3.(b) Needs for further actions under this programme

Promote public and private sector partnership for improved and innovative social and behaviour change communications

Innovative partnerships and models combining strengths of the public and private sector need to be implemented at scale. To realize the impact of WASH interventions, multi-sectoral actions are needed. The government needs to design and invest in programmes that address the full spectrum of WASH related issues. These include clean water proper sanitation facilities, availability of water and soap for handwashing and behavioural issues such as instilling the habit of handwashing with soap at critical times notably before preparation of food, washing babies, after using the toilet. Unfortunately, commercial financing in emerging markets currently makes up only a small portion of WASH investment in Bangladesh. WASH sector on average attracted only 3% of private sector participation in infrastructure projects.¹⁹⁴ Involvement of the private sector through partnerships must be promoted in order to enable behaviour change. Indeed, the public sector can benefit from utilising the outreach and social marketing platforms of the private sector to reach a larger audience in their mission to positively affect behaviours.

Integrate nutrition-sensitive WASH in policies and programmes

Nutrition and WASH are interconnected and correlated. Studies have established that when WASH interventions are combined with nutrition interventions, the level of stunting can be greatly reduced. In UNICEF's causal framework of malnutrition, the two immediate causes of malnutrition are inadequate dietary intake coupled with sub-optimal feeding and care practices in the first two years of life and high rates of infectious disease due to predominantly unhealthy environment. A meta-analysis carried out by UNICEF shows that improved sanitation and drinking water integrated with other nutrition and health interventions can bring about a decline in child stunting. Stunting reduction is driven by safe water and sanitation, women's education and empowerment and the quantity and quality of food. Income and governance play key facilitation underlying roles.¹⁹⁵

¹⁹⁴ WWAP (UNESCO World Water Assessment Programme) (2019) [The United Nations World Water Development Report 2019: Leaving No One Behind](#). Paris. UNESCO.

¹⁹⁵ Smith L.C. & Haddad, L. (2015) [Reducing child undernutrition: past drivers and priorities for post-MDG era](#). *World Development*. 68. 180–204.

5.4 Progress towards outputs for NFNSP objective-4 and CIP3 pillar-4

Objective IV consist of 3 Strategy. Strategy 4.1 Improve management of the public food stock and distribution system. Strategy 4.2 Improve disaster preparedness, responses, rehabilitation and mitigation. Strategy 4.3 Strengthen social protection for poor and vulnerable groups, including disabled and displaced. This objective 4 also covered the 7 programme of pillar-4 under CIP-3.

5.4.1 Strategy 4.1. Improve management of the public food stock and distribution systems

This strategy covered the three areas of intervention (AoI) such as AoI 4.1.1. Inform decision-making and improve planning for price support to farmers, market stabilization and public food distribution AoI 4.1.2. Enhance the management of procurement, public food stocks and prices stabilization activities and implement a nutrition sensitive PFDS and AoI 4.1.3. Ensure adequate storage of food grain maintaining quality and prevent deterioration of stored foodstuffs in the PFDS. This strategy focused on efficient management of public stock to ensure access of staple food for the vulnerable at all times by price stability and maintaining public secure stock. Moreover, this strategy emphasized to provide incentives to farmer by supporting prices, adequate technology-based Morden storage facilities with ensure quality especially focused on nutrition sensitive PFDS.

Added that **Strategy 4.1** run by under the Third country investment plan (CIP-3) **programme IV.1.** programme Improved management of the public food stock and distribution system.

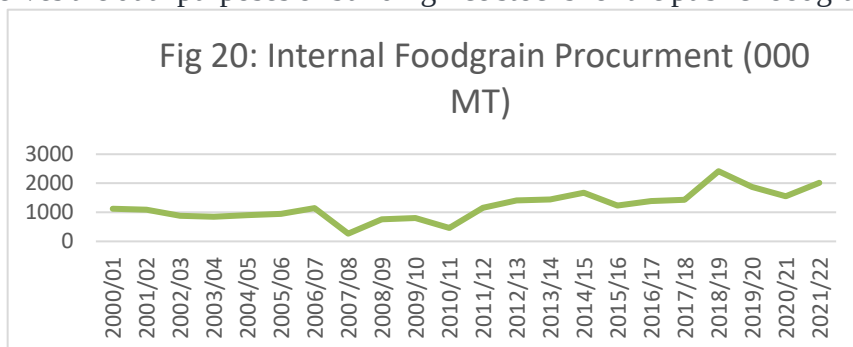
5.4.1. (a) Progress towards achievements

Table 25 - Progress towards achievement of NFNSP Strategy 4.1 and CIP-3 program IV.1

NFNSP & CIP3 output proxy indicators	2019/20 Baseline	2020/21	21/22	Source
% of internal foodgrain procurement target achieved	82.5%	90.5%	105%	DGFood
Total Foodgrain distribution under PFDS (million mt)	2.78	2.29	3.08	DGFood
PFDS distribution as % of target	101.8%	93.3%	94%	DGFood
Distribution of food grain through PFDS in OMS, FFP & LEI (million MT)	1.24	1.19	1.66	DGFood
Government stocks at the beginning of the financial year (million mt)	1.6	1.12	1.45	DGFood
Public storage capacity (million mt)	2.15	2.16	2.18	DGFood
Effective grain storage capacity at close of fiscal year (million MT)	2.02	2.02	2.05	Food Directorate
Average use of effective GoB food grain storage capacity	77%	46%	79%	MISM, Food Directorate

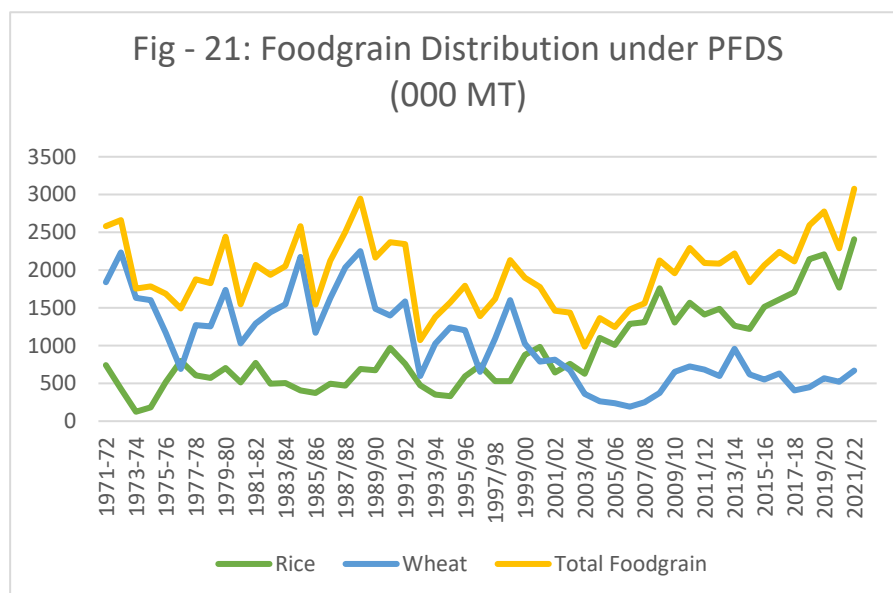
internal Foodgrain procurements target achieved

Domestic rice procurement serves the dual purposes of building rice stocks for the public foodgrain distribution system (PFDS) and providing farmers with income support. Mainly government procure paddy, rice and wheat from internal production. Rice procure from Aman and Boro season. Actual foodgrain procurement by public sector during FY2021-22 was 2.02 million metric ton (mmt) which was 105% of targeted amount. In FY 2021/22 of 317 thousand mt paddy and 1.56 mmt rice which in total equivalent to 2.02 mmt in terms of rice.



Record amount of Foodgrain distribution under PFDS

In FY 2021/22 Total food grains distribution under the Public Food Distribution System (PFDS) was 3.08 MMT which was 34.5% higher than previous FY actual distribution. This amount of foodgrain distribution represent record amount of distribution under PFDS. Public food distribution through the Food Friendly Programme FFP



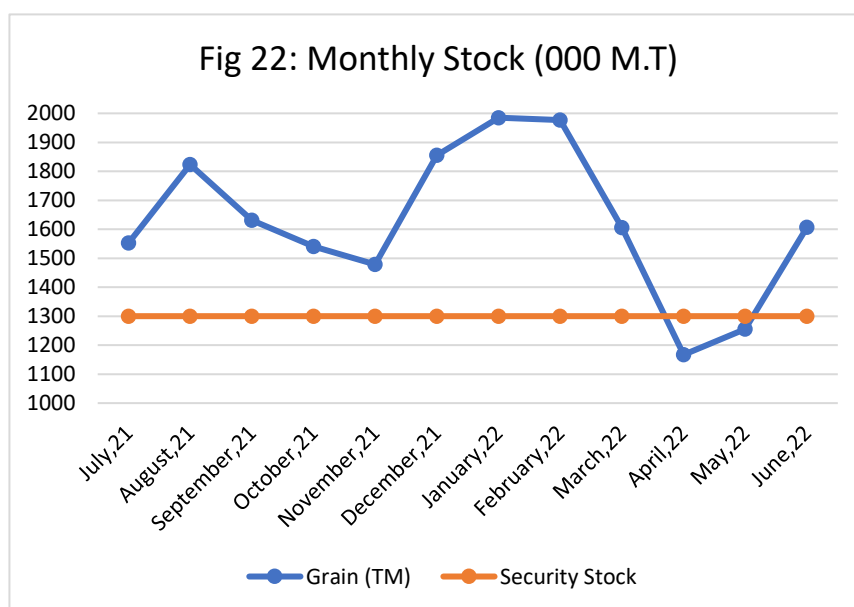
(Khadya Bandhob Karmasuchi)- followed by the Vulnerable Group Development (VGD), Open Market Sale (OMS), Essential Priorities (EP), Vulnerable Group Feeding (VGF), Gratuitous Relief (GR), Food For Work (FFW), Hill Tract Area (HT), others priorities (OP), Large Employee(LE), Test Relief (TR) and other channels of PFDS. The PFDS distributes foodgrain targeted to poor and vulnerable people through different programmes to address emergency and non-emergency food insecurity. In FY 2021/22 government had a plan to distribute a large amount of foodgrain to cater additional demand arouse due to post covid impact and global ongoing crisis considering food price stability and access to food for food price shock for vulnerable people. According revised distribution budget of FY 2021/22 government had set a target to distribute 3.3 MMT of foodgrains. Against this target 3.08 MMT foodgrains has been distributed which represent 93.3% of achievement of revised target set by government. As a whole 3.08 MMT foodgrains distribution was a record amount of distribution under PFDS which efficiently maintain access to food.

Distribution of food grain through PFDS in subsidies program expanded

Open Market Sale (OMS) is a policy instrument of the government used to curb seasonal price increases of food grains. The Open Market Sale Program (OMS) is to reduce food grain prices for customers when prices are rising abnormally. The programme has been implemented by the Ministry of Food. This programme belongs to the Food security & disaster assistance Cluster and Covariates in the life cycle approach and this programme is being implemented only in urban areas. Under the OMS program about 0.89 mmt food grains has been distributed in FY 2021-22. A program titled Khaddo-Bandhob Karmasuchi (Food friendly program) which is the Honorable Prime minister's Branding program, has been introduced under which 50 lac rural poor and ultra-poor families (Widows, elderly, women-led family, women-led downstream poor families) are entitled to purchase 30 kg rice each month for five months in a year during the lean season (September to November and March to April) at 10 Taka per Kg but in FY 2022-23 at 15 Taka per Kg. By this program nearly 2.5 crores poor population are beneficiaries of this program. In 2016, the branding program of the Honourable Prime minister "Food Friendly Program" was launched and on September 07, 2016, at chilmar upazila of Kurigram district. The program slogan is "Prime minister's Sheikh Hasina's Bangladesh, Hunger will disappear. In the last FY (2021-2022), 0.75 MMT of rice have been distributed under this program. About 1,15,000 tea garden workers get wheat under Large Employee Industry LEI program. Each worker gets 15 kg of wheat per month. In FY 2021-2022 about 22 thousand MT of foodgrain has been distributed in this programme. Under the above mentioned three programs (OMS, FFP, LE) about 1.66 MMT foodgrains has been distributed which was 39% higher compare to previous FY as response to ensure access to food considering post covid impact and ongoing global food price crisis.

Public Stock of Food grains prevailing at a satisfactory level

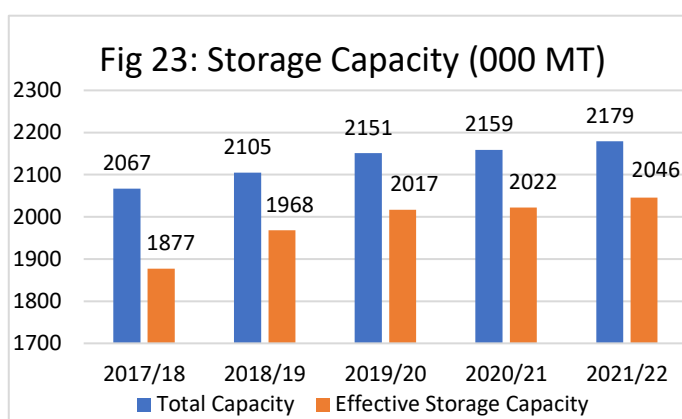
Public food stock is a vital factor for food price stabilization as well as public food distribution system. To maintain a healthy stock and food price stabilization government procured food grains from both internal and external sources. National Food and Nutrition Policy 2020 has considered 1.05 mmt foodgrain as a secure stock at the beginning of FY. Based on food grain price stability and PFDS volume and coverage as well as



vulnerability and shocks FPMC (Food Planning and Monitoring Committee) has considered 1.3 mmt foodgrains as a secure stock for normal condition and 1.4 mmt foodgrains for crisis condition. At the beginning of FY 2021-22 the government stock was 1.45 million MT which was 0.33 MMT higher at the same time of a year earlier and 0.15 mmt surplus to secure stock of PFDS that had been prevailing at a satisfactory level. The average closing stock of food grains per month was about 1.6 MMT during the last FY (2021-22).

Total Public grain storage capacity improved marginally

Total storage capacity for foodgrain reached to 2.18M MT in 2021/22, slightly increased from the previous year. At the same time during 2020/21 Total foodgrain storage capacity was 2.16 MMT. However, Effective Grain storage capacity reached 2.05 MMT in 2021/22, slightly increased from the previous year. To reduce foodgrain losses by 50% The *Modern Food Storage Facilities Project (2014- 2020)* plans to create another 535,500 MT of



storage capacity and modernize management. However, there are delays in the constructions of the first three of the planned eight silos due in April 2021, so the project is being extended from June 2020 to October 2023. To provide direct incentive to farmer government is being constructed 30 paddy silos in paddy producing dominate areas. This initiative will be expanded across the country. By the year 2023 the public storage capacity will be reached approximately 2.5 million MT. Government has also planned to increased the Public grain storage capacity up to 3.7 million metric ton as per 8FYP.

Satisfactory use of effective GoB foodgrain storage capacity

The average use of foodgrain storage capacity in 2021/22 was 79%, which shows 2% increase than the baseline year and average use of food grain storage capacity decreased from 77% to 46% in 2020/21(Table-25). About 75% utilization may be considered close to full capacity utilization given the seasonality of procurement and the impossibility of attaining full capacity utilization for more than a short time in traditional storage facilities. The improvement of utilization of storage capacity suggests a greater ability to respond to unexpected shocks using the PFDS.

5.4.1. (b) Policy challenges and recommendations for further actions

Provide better information to farmers

Making foodgrain prices readily available to producers and consumers can help them make informed decision. Farmers will be able to decide whether to plant for the next season and whether to participate in the procurement drive. While DAM provides this information on a daily basis, digital display boards will be introduced in marketplaces for everyone to access live information. Other means of dissemination may be looked into, making use of ICTs (e.g. through mobile applications). In order to encouraging farmer participation in the procurement drive, producers need to be educated on the required standards notably with regards to moisture content.

Increase the number of procurement centres

The coverage of the procurement is only 6 % of the total production, which needs to be expanded to provide price incentives to the producers. Decentralization of the number of procurement centers may be looked into for enhanced farmer participation¹⁹⁶ although this should not lead to inefficiencies in the procurement system.

¹⁹⁶ *Ibid.*

Expand the use of the digital applications developed for the monitoring of procurement

A Krishoker App has been piloted to relieve the complexity of existing manual procedures in the rice procurement system. Farmers apply to participate in the procurement drive and the computer system selects a fixed number of them through a lottery system. Besides the Directorate of Food has introduced an inspection report management software, foodgrain movement programming software and food database which help to oversee the foodgrain procurement, distribution and stock management. The system also provides a facility to devise national procurement targets and determine procurement targets for individual farmers/rice mills accurately. The web-based food grain procurement management system in place allows to gauge the procurement status of paddy/rice across the country at any point in time. These initiatives will be rolled out.

Enhance the monitoring of food distribution and management of stocks

The Covid-19 epidemic pointed to the acute need to closely monitor food distribution: an IFPRI survey uncovered vast leaks in the subsidized rice programs for the extremely poor -the Food Friendly Programme (FFP). Presently, several ICT-based management systems are used in the implementation of the PFDS, but they are not interlinked. A transparent surveillance system needs to be devised to monitor food distribution and stocks across the country. Public food stock management involves in monitoring stock movement, stock rotation, and storage and transit losses. By further enhancing the existing digitalized system, leakage in the process of foodgrain storage and stock maintenance can be minimized.

A modern technology-based monitoring and evaluation (M&E) system is required to manage the activities of the PFDS under one umbrella to ensure the food security for poor and vulnerable people.

Plan to include nutritious foods under the PFDS

In response to the first wave of Covid-19 in 2020, part of targeted safety net programmes, packages of fortified rice, rice flakes, lentils, molasses, fortified biscuits, and oil were distributed to bridge the nutrient gap of poorer sections of the population. Guidelines will be prepared to amend the PFDS permanently – learning from the Covid-19 experience- to include nutritious foods in addition to foodgrain to the basket distributed or sold at subsidized prices. The possibility of including dried fish will be explored. Which sections of the population it will support will need to be decided based on an assessment of the needs of and benefits to the recipients as well as the cost and complexity of operationalization.

Refurbish and construct new warehouses for foodgrain storage

The 8FYP emphasizes the need to ensure quick responses and delivery to those vulnerable to hunger which entails improved storage capacity in specific areas of the country. The determination of the desirable stock size and therefore storage needed local will need to be based on such consideration.

Develop technology-based modern storage facilities (in line with 8FYP)

Given the scarcity of land in Bangladesh, the Government will focus on developing vertical storage to expand its capacity across the country. Attention will be given to intensive production zones and disaster-prone areas to boost response capacity. Modern technology will be use to maintain quality: mechanized bagging systems, weighing and handling equipment and enhanced drying methods while maintaining moisture content and temperature to ensure the quality of stored foodgrain.

5.4.2 Strategy 4.2. Improve disaster preparedness, responses, rehabilitation and mitigation:

This strategy consists of the four areas of intervention such as AoI 4.2.1. Increase the resilience of agriculture systems through various mechanisms notably climate-smart technologies, adoption of stress-tolerant crop varieties and implementation of good agriculture, animal husbandry and fisheries practices for the production of healthy foods, AoI 4.2.2. Increase the disaster-coping ability of poor farming families, support home-based farming especially through Amar Bari Amar Khamar (My Home My Farm), and protect poultry, livestock and other assets, AoI 4.2.3. Ensure operation of emergency shelters with nutritious and safe food, safe drinking water, sanitation and healthcare for disaster-affected people, especially for women, elderly, disabled and children, and AoI 4.2.4. Facilitate and coordinate disaster response, mitigation and rehabilitation through timely and strategic storage of public food stock, rapid distribution to disaster-affected people, and effective mobilization through various modalities including public-private partnerships.

Added that **Strategy 4.2** covered 4 programme of CIP3; **programme IV.2.** Increased resilience of agriculture systems, **Programme IV.3.** Disaster-coping ability of vulnerable families as well as **Programme IV.4.** Facilitation and coordination of disaster response, mitigation and rehabilitation respectively.

5.4.2.(a) Progress towards achievement

Table 26 - Progress towards achievement of NFNSP Strategy 4.2 and CIP-3 program (IV.2-IV.4)

NFNSP & CIP3 output proxy indicators	2019/20	2020/21	2021/22	Source
Annual change in agricultural rehabilitation budget allocation	9.17%	12.9%	33.3%	MoF
Total number of usable cyclone shelters	4068	4168	4388	MoDMR
No. of disaster resistant homes built in rural areas to cope with the impact of climate change and disaster risk	17,004	66,112	48,591	MoDMR
Distribution of food grain through PFDS in relief work (million M.T)	1.18	0.73	1.03	DG Food
Annual % change in the development budget allocated to disaster management and relief	33.8%	(-)13.7%	13.5%	MoF

Agricultural rehabilitation budget allocation Increased

National Food and Nutrition Security Policy(NFNSP) 2020 and its Plan of Action Strategy 4.2 covered improving disaster preparedness, responses, rehabilitation, and mitigation implementation by AoI 4.2.4 will strengthen FNS-related disaster responses, mitigation, and rehabilitation during and after disasters. Agricultural rehabilitation is the process of restoring land to a productive state following a period of degradation or desertification. This may include activities such as re-cultivating the land, improving soil fertility, restoring vegetation, controlling erosion, and introducing drought-resistant crops or varieties. The goal of agricultural rehabilitation is to

increase production, improve water conservation, and promote sustainable land management practices. In some cases, agricultural rehabilitation may also involve improving access to markets, providing training to farmers in new production techniques, and improving access to financial services. Ultimately, the goal of agricultural rehabilitation is to ensure that rural communities have access to sustainable sources of food and income. In FY 2021-22 Agricultural rehabilitation budget allocation has increased 33.3% compare to previous FY. Moreover, this figure represents 24.13% higher compare to base year allocation which is positive response considering to maintain upward growth of agricultural sector.

The number of cyclone shelters increasing gradually

The number of usable cyclone shelters increased from 4,168 in 2020/21 to 4,388 in 2021/22. The shelters built serve as primary schools, and when cyclones and other natural disasters occur, they double up as shelters. Emphasis is also given to building connecting roads and communication networks to shelters to ensure easy accessibility. Bangladesh experienced one significant cyclone, “Sitrang” lashed Bangladesh on 24 October 2022 evening and the centre made landfall at that mid night (local standard time) in coastal district of Bangladesh. According to the Ministry of Disaster Management and Relief (MoDMR) of the Government of Bangladesh (GoB), 10,000 houses and crops of 6,00 hectares had been damaged. Major human loss was avoided after millions of people were evacuated and moved to cyclone shelters in coastal districts.

The number of rural communities was significant increase in disaster-resilient habitats

The number of rural communities with disaster-resilient habitats has built 48,591 in 2021/22. Disaster resilient habitats incorporate structural safety, adaptive technology, sustainable livelihoods, early warning and community cooperation. Short-term recovery measures must be followed by adequate investment in long-term risk reduction so that communities are not trapped in repeated disaster-cycles.¹⁹⁷ For example, the *Haor Flood Management and Livelihood Improvement Project (2014 to 2021)* is investing in livelihoods and infrastructure to reduce risks of flash floods in north-east Bangladesh.¹⁹⁸

FAO supported the *SAFE Plus Project* to plant half a million tree seedlings for reforestation in Cox’s Bazar, to help regulate the watershed, reduce floods and landslides, provide materials for livelihoods and fuel, and conserve biodiversity.¹⁹⁹ The Asia-Pacific Disaster Report 2019 estimates that 78% of the population of Bangladesh lives in ‘high-multi-hazard-risk areas’.²⁰⁰

¹⁹⁷ Sadik, Md. S., Nakagawa, H., Rahman, R., Shaw, R., Kawaike, K. & Fujita, K. (2018) [A Study on Cyclone Aila Recovery in Koyra, Bangladesh](#). *International Journal of Disaster Risk Science*. 9: 28–43.

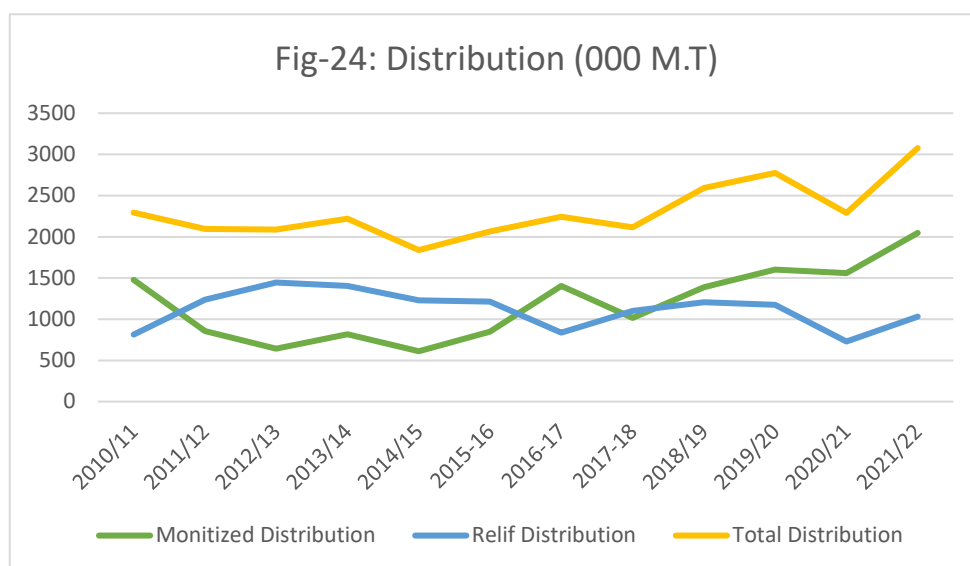
¹⁹⁸ JICA (2018) [Bangladesh Our Profile](#); JICA (2016) [Haor Flood Management and Livelihood Improvement Project](#).

¹⁹⁹ FAO (2019) [Nearly half a million trees planted in two months: FAO restores degraded forests and watersheds in Cox’s Bazar](#).

²⁰⁰ United Nations (2019) [Asia-Pacific Disaster Report 2019](#). Bangkok. ESCAP.

Distribution of food grain through PFDS in relief work rise

The Plan of action (PoA) of National Food and Nutrition Security Policy (NFNSP) 2020 emphasizes the role of the PFDS is to provide relief during emergency periods of natural disasters and targeted food distributions to alleviate chronic food insecurity.



Moreover, foodgrains distribution under PFDS operation implemented considering livelihood coping strategy as well as vulnerability of different time and seasons. In FY 2022/23 1.03 MMT foodgrains has been distributed under this non-monetize relief work program. This amount of foodgrains represent 41% higher than previous FY.

Budget allocated to disaster management increased

Bangladesh has achieved remarkable progress in recent decades in terms of economic growth, poverty reduction and food and nutrition security (FNS). However, the acceleration in the frequency of natural disasters is challenge for Bangladesh. It's disaster profile may be changing under climate change in terms of disaster types, frequency, intensity, locations and predictability. Different types of climate vulnerability is observed in Bangladesh such as cyclone, degradation of soil quality, destruction of aquatic and terrestrial biodiversity of cultivation land due to dry season, repeated natural disaster, salinity, water level rise, waterlogging, river erosion, seasonal flooding, shifting cultivation, landslides etc. Considering the geographical substantiality, it is important to support people living in the marginalized and hard-to-reach areas as well as families which are socially and economically vulnerable to food and nutrition security. Government of Bangladesh has given significance to help people affected by the flood, drought, natural disaster, and other adverse climatic events. As a response to improve disaster preparedness, responses, rehabilitation and mitigation development budget of Ministry of Disaster Management and relief has been increased to be a great extent. Annual development budget allocation has increased 13.5% in 2021/22 compare to previous FY.

5.4.2.(b) Policy challenges and recommendations for further actions

Shortlist technologies and practices for upscaling specifically for each “disaster hotspot”

Many good technologies and practices are sitting on the “technology shelf” waiting to be scaled-up, and the Government will address this inertia by shortlisting technologies and practices for upscaling for each “disaster hotspot” identified in the BDP 2100, viz.: 1/ Coastal zone; 2/ Barind zone; 3/ *Haor* zone; 4/ Chattogram Hill Tracts; 5/ River Systems.²⁰¹ Initially the Government will priorities for scaling-up a few technologies, varieties and practices most beneficial or scalable for each hotspot. EAS will be delivered by Government agencies and also in partnership with NGOs and DPs. Gradually more technologies, varieties and practices will be prioritized for each hotspot.

Adopt measures and infrastructure to enhance water management

Many of the new seeds, breeds, technologies and innovations need linkage to water management as an enabler for upscaling and adoption, particularly by small producers. Across the country rainwater harvesting and storage tanks will be promoted to relieve groundwater depletion. There is great scope to improve water harvesting and retention through the use of pools, dams, pits, retaining ridges, and increasing soil organic matter to heighten the water retention capacity of soils. Water use efficiency needs to be strengthened through sprinkler, drip and micro-irrigation. The Bangladesh Agricultural Development Corporation (BADC) and Barind Multipurpose Development Authority (BMDA) should better incentivize water saving irrigation devices

Promote homestead agriculture

As part of broad-based support, the Government will promote homestead agriculture, especially through implementation of *Amar Bari Amar Khamar*. The quality and availability of gender-sensitive extension services will be enhanced to support homestead production.

Protect household assets during disasters

Disasters destroy household assets which undermines the coping and recovery ability of families. The Government will invest in protecting livestock (with *killas* for example), household agricultural assets and farm machinery, such as by building and maintaining adequate shelters. Families will be supported with practical measures such as to cover pond embankments with nets to retain fish if ponds overflow in disasters. Household and community-based storage facilities, like silos, can be increased for storing food, seeds and other commodities. As well as the Government-run silos discussed in Strategy 4.1, the Government has distributed 70-litre waterproof food-grade plastic silos to half a million households in 19 disaster-prone districts to store seeds and foods during disasters, 7,80,000 household silos has been distributed²⁰².

²⁰¹ The BDP 2100 defined six disaster hotspots: 1/ Coastal zone (110 upazilas; 15% population); 2/ Barind zone (82 upazilas; 15% population); 3/ *Haor* zone (58 upazilas; 10% population); 4/ Chattogram Hill Tracts (25 upazilas; 1% population); 5/ River Systems (144 upazilas; 28% population) – and 6/ Urban zones (99 upazilas; 21% population).

²⁰² Directorate General of Food.

Invest in resilient infrastructure

The resilience of basic services, especially water, sanitation and healthcare, are crucial for household recovery. Facilities, such as medical centers and schools, will be strengthened, such as through elevation measures. More resilient water supply and sanitation infrastructure will be built.

Develop insurance schemes

There is a need to facilitate the development of insurance schemes via public–private–NGO cooperation for losses due to disasters and climate change by supporting needs assessments and providing technical assistance. Bangladesh has been working in this area, and there is a need to expand and concretize the efforts. This would include the ADB-funded Pilot on Weather Index-Based Crop Insurance, Swiss-funded Bangladesh Micro-insurance Market Development Project 2017-2021, and the World Bank-funded Bangladesh Insurance Sector Development Project 2017-2022.

Ensure productive social protection coordinated with My Village, My Town

The Government has plans to stimulate rural transformation through investments under the My Village, My Town programme, involving 14 ministries and 20 agencies, which will extend modern civic amenities to every village. Since this is a multi-sectoral, multi-ministerial investment and development programme, coordination and cooperation from planning through to implementation will be crucial to ensure that productive social protection programmes make the best of the new opportunities, and thereby include the poor, and this action will ensure this. It is intended that by 2030 all upazilas will have a master plan. My Village, My Town aims to create employment through agriculture-related and non-agricultural small-scale village manufacturing workshops and rural growth centres.

Enhance attention to nutrition in disaster preparedness and response

This action will ensure more attention to nutrition in disaster preparedness and response. Nutrition Coordination Committees should be part of disaster preparedness and responses. Nutrition-specific measures should be better integrated into disaster-responses to support continued breastfeeding during disasters, the quality and availability of complementary foods especially for 6-23-month-olds, micronutrient supplementation where suitable, and timely identification and appropriate treatment of severe malnutrition.

5.4.3 Strategy 4.3. Strengthen social protection for poor and vulnerable groups, including disabled and displaced. This strategy covered the four areas of intervention such as AoI 4.3.1. Strengthen social protection in disadvantaged areas and for disadvantaged groups, AoI 4.3.2. Ensure safety nets for the poorest and nutritionally vulnerable, especially female-headed households, during periods of seasonal crises and food shortages, AoI 4.3.3: Develop and implement nutrition-sensitive social protection programs, including food fortification, nutrition education, and behaviour change communications, and AoI 4.3.4. Ensure proper coordination and co-operation to integrate social protection with agricultural development, income generation, and micro-entrepreneurship development.

On the other hand, Strategy 4.3. run by under the country investment plan 3 programme IV.5 Strengthened social protection in disadvantaged areas and for disadvantaged groups with particular attention to nutrition sensitivity, Programme IV.6. Safety-nets in place during periods of seasonal crises and food shortages and Programme IV.7. Coordination and cooperation to integrate social protection with agricultural development, income generation, and micro- entrepreneurship development respectively.

5.4.3 (a)Progress towards achievement

Table 27: Progress towards achievement of NFNSP Strategy 4.3 and CIP-3 program (IV.5-IV.6)

NFNSP & CIP3 output proxy indicators	2019/20	2020/21	2021/22	Source
Number of beneficiaries in VWB programmes (million)	1.00	1.04	1.04	MoWCA
· Number of beneficiaries in Mother and Child Benefit Schemes (million)	1.04	1.04	1.05	MoWCA
· Share of fortified rice in PFDS (%)	4.79%	7.73%	10.20%	DG Food
Number of children covered by the School Feeding Programs in Poverty Prone Areas (million)	2.76	3.00	2.95	MoPME
Food security and Income generation Programs budget as % of Social safety net programs budget	19.01%	15.49 %	14.14%	MoF
Number of beneficiaries in Food security and Income generation Programs(million)	23.01	34.85	39.14	MoF
Number of trained young people (thousands)	311	300.5	300.2	MoYS

Vulnerable Women Benefit (VWB) program continue support the beneficiaries

VWB (Vulnerable Women Benefit) aims to reach ultra-poor rural women with complementary inputs support that could improve their nutritional and would enhance their livelihoods and self-reliance. VWB coverage slightly increased to 1.04 million in 2021/22, from base year 1.00 million person months.²⁰³ The Investment Component for VWB (IC VWB), piloted with 10,000 beneficiaries, adds a cash grant of 15,000 BDT for investment, 30 kg of fortified rice, and training on livelihoods, entrepreneurship, financial management and nutrition BCC. After this pilot phase, the ICVGD is to be upscaled to 100,000 women in 64 subdistricts from 2019/20. A study by IFPRI²⁰⁴ found, *inter alia*, that whilst VGD targeted female-headed households with no income-earning adult male or with no other source of income, 30% of such households received remittances making them rather well off. The Ministry of Women and Children Affairs adopted IFPRI's improved targeting criteria in January 2019, which are more observable, verifiable, and correlated with poverty.²⁰⁵ The GoB decided to include into VGD 40,000 women specifically from Cox's Bazar, half of which are in the *Enhancing Food Security and Nutrition Project (EFSN)*, which provides vulnerable women USD 12 monthly, entrepreneurship training and a USD 180 grant to start a small business. The linkage of these two programmes was intended to create a more comprehensive coverage in Cox's Bazar, where food security and nutrition have been strained by the ongoing Rohingya crisis.

Coverage of beneficiaries in Mother and Child Benefit Scheme similar trend

Ministry of women and children affair operating three (Maternal allowance for poor mother, Lactating allowance for working mother, Mother and Child Benefit Scheme) special program for mother and child nutrition aspect. This program has been successful in providing financial assistance to some of Bangladesh's most vulnerable citizens, and has been widely praised by health and welfare organizations. Coverage of beneficiaries of Mother and Child Benefit Scheme slightly increased from 1.04 million in 2020/21 to 1.05 million in 2021/22. The Mother and Child Benefit Schemes is a government initiative that provides financial assistance to beneficiaries in Bangladesh. This scheme is directly administered by the government and provides financial support to mothers and children in need. The scheme covers a wide range of beneficiaries including pregnant women, single mothers, and new mothers who are unable to afford medical treatment or nutrition for their children. The scheme is also beneficial for disabled children and children from disadvantaged backgrounds. Under this scheme, beneficiaries are entitled to receive allowance which can be used to cover the costs of medical treatment, nutrition, and other basic needs.

²⁰³ GoB (2020) *Social Safety Net Programmes Budget*. Ministry of Finance.

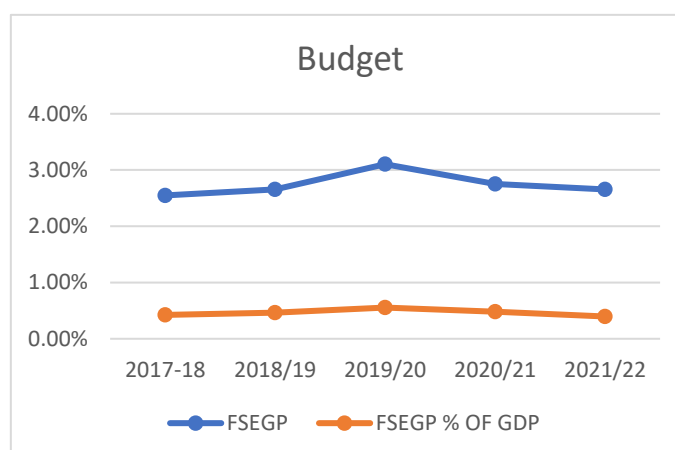
²⁰⁴ Ahmed, Akhter (2018) *Assessing indicators for selection of participants for the Vulnerable Group Development (VGD) program in Bangladesh*. Dhaka, Bangladesh and Washington, DC: IFPRI.

²⁰⁵ Ahmed, A. and J. Ghostlaw (2018) *A Bureaucratic Catch-22: Study in Bangladesh shows how Safety Nets can Overlook the Poorest*. IFPRI Blog: Research Post.

Total Budget allocation and coverage on Food security and Income generation Programs are expanded

National Food and Nutrition Security Policy emphasis on ensure safety nets for the poorest and nutritionally vulnerable, especially female-headed households, during periods of seasonal crises and food shortages. Food security and employment generation programs (FSEGP) related social protection budget amount has been increased 6% compare to previous FY revised budget. But in terms of % portion has been slightly decreased. Food security and employment generation programs related social protection budget was 14.14%

of total SafetyNet budget. The amount of budget allocation represents 2.66% of national budget and 0.4% of GDP. Number of beneficiaries in Food security and Income generation Programs has been increased as response to additional demand arouse to post covid impact and global food price shocks. About 4.29 million beneficiaries in Food security and Income generation Programs has been extended which represent 12.3% higher than previous FY in terms of coverage of beneficiaries.



Share of fortified rice in PFDS followed upward trend

Out of the 17 goals of SDG, the second goal SDG- 2(Zero Hunger) in achieving the nutrition related targets. Bangladesh government has formulated ‘National food and nutrition security policy 2020’ to improve the food and nutrition security status to the level needed to achieve the Food and Nutrition Security relevant SDG targets and fulfil other related national and international commitments. The Ministry of Food is working in collaboration with the Ministry of Women and Children Affairs, Bangladesh Standards and Testing Institution, Institute of Food Science and Technology, WFP, Nutrition International, and private sector rice millers regarding fortified rice. Fortified rice kernels are either coated rice kernels or extruded rice shaped kernels prepared with a mix of vitamins and minerals.

The fortified rice, branded as Pushti Chal in Bangla, contains six most essential vitamins and minerals, vitamin A, Vitamin B1, vitamin B12, Folic Acid, Iron and Zinc. The nutrients are powdered and mixed with rice flour to form pre-mix kernels and these kernels are then mixed with regular rice in 1:100 ratios. Fortified rice, or Pushti Chal, has the same shape, color and texture. The cooking process of fortified rice is similar to the normal rice. Production and distribution of Fortified Rice are ongoing in selected upazillas within two of the largest government Social Safety nets the Food Friendly Programme under the Ministry of Food and Vulnerable Group Development (VGD) Programme implemented by the Ministry of Women and Children Affairs for poor and vulnerable women and children. In 2022-23 FY DG food covered 251 upazillas in FFP and 170 upazillas in VGD under fortified rice distribution. Both of two programs about 0.314 MMT fortified rice has been distributed which contributed 10.2% of share of total distribution under PFDS.

The School Feeding Programmes in Poverty Prone Areas Decrease Due to Covid Pandemic

The School Feeding Programme in Poverty Prone Areas, begun in 2013, provides school children in selected areas biscuits fortified with vitamins and minerals and hot meals using locally-sourced vegetables, lentils and micronutrient-fortified rice and oil. Students' attendance has grown by 11% in schools where cooked meals are being served, and by 6% where biscuits are being served. Coverage expanded from 2.76 million children in 2019/20 to 3.00 million in 2020/21, but the number reduced to 2.95 million in 2021/22. The GoB has a plan to universalize the school feeding programme by the fiscal year of 2023/24.

Number of trained young people are followed similar trend

Trained young people in Bangladesh are a key part of the country's success story. They are the driving force behind the nation's rapid economic growth, and are helping to shape its future. They are highly educated and skilled in a variety of fields, including science, technology, engineering, and business. They have access to cutting-edge technology and are adept at using it to further the development of their nation. Moreover, they are eager to make a difference in their communities and the world, and are actively engaged in social and environmental initiatives. Their enthusiasm and determination are an inspiration to others, and their dedication to improving the lives of their fellow citizens is unparalleled. Last year, trained young people in Bangladesh made great strides in their professional and skill development. The government, non-governmental and private organizations all took part in offering training programs for young people. In 2021/22 about 300.2 thousand young people have got trained different training institutions. These programs focused on job readiness and career planning, knowledge of current job opportunities and the skills to help them land those jobs. Through these programs, participants gained access to resources and support networks to better their chances in the job market.

5.4.3.(b) Policy challenges and recommendations for further actions

Initiate Child Benefits Scheme

The Government is planning to launch a Child Benefit Scheme, and in 2018 established a Policy Guidance Unit under the Cabinet Division which will support its design and implementation. As an initial step, in the 8FYP the Government will start a cash transfer with 100% coverage for children 0 to 5 years old in Rangpur and Mymensingh divisions 60% coverage in Rajshahi and Khulna divisions, and 40% coverage in Dhaka, Chattogram, Sylhet and Barishal divisions. Coverage will be expanded, if feasible. Similar steps will be taken towards universalization of the NSSS's other core lifecycle cash transfer programmes.

Increase the use of G2P payments

The Government will increase the use of electronic G2P payments to beneficiaries. Pilots have been undertaken. Scale-up will be accelerated in the 8FYP. This action is connected to the 2020-24 National Financial Inclusion Strategy of Bangladesh, which aims to create a coordinated platform and leverage technology to include the excluded or vulnerable groups and sectors.

Enhance social protection programmes for nutritionally vulnerable women of reproductive age and children during the first 1000 days

Focusing on women of reproductive age and children during the first 1000 days (from pregnancy to their second birthday) is the most efficient way to break the inter-generational cycle of malnutrition and poverty by ensuring the adequate growth and mental development of children. Led by the MoHFW and the Ministry of Women and Children's Affairs, services and interventions should be expanded with supplementary nutritional food according to the dietary guidelines of Bangladesh. In addition, maternity allowances to poor pregnant women will be expanded to support access to nutritious food.

Expand the School Feeding Programmes in Poverty Prone Areas

The School Feeding Programme (SFP) in Poverty Prone Areas which began in 2013 provides school children in selected areas biscuits fortified with vitamins and minerals and hot meals using locally sourced vegetables, lentils and micronutrient-fortified rice and oil. At present the SFP coverage reaches over 3 million school children in 15,700 schools in 93 upazilas of 29 districts of Bangladesh. Students' attendance has grown in schools where cooked meals and biscuits are being served. The SFPs will be expanded and used as a medium to foster good food habits and healthy dietary practices among children. The National School Meal Policy 2019 has undertaken the universalization of the SFP through a phased approach by the fiscal year of 2023/24.

Gear-up productive social protection for women

The Government will gear-up productive social protection for women that is well-designed to address the gender barriers underlying women's low labour force engagement. Productive activities will promote and support women's multi-dimensional role in agriculture which is crucial for the food and nutrition security of their families. The NSSS plans to consolidate the Vulnerable Group Development (VGD) and the Widow, Deserted and Destitute Women Allowance into a Vulnerable Women's Benefit (VWB) that will be more tuned to income-generation – and when consolidating the programmes, attention will be paid to ensure that unconditional food and cash transfers will be maintained for vulnerable women who cannot work.

Adapt social protection programmes to young people

This action will design productive social protection programmes to better suit the needs and careers of young people. Apart from vocational training, poor and vulnerable youth need specially designed on-the-job experience and life-skills. Labour Force Surveys estimated youth not in education, employment or training (NEET) increased from 25% in 2013 to 30% in 2017. The National Youth Policy 2017 should guide interventions, but is not strongly implemented in productive social protection programmes. Initially interventions will involve promoting agribusiness and agri-entrepreneurship, especially given the changing characteristics in the agriculture sector in the coming decade, such as greater mechanisation and less access to land. The National Service Programme for young people with schooling, covering one lakh beneficiaries in 2020/21, will be improved, better linked to job-market opportunities, and scaled up.

5.5 Progress towards outputs for NFNSP-PoA objective-5 and CIP3 pillar-5

5.5.1 Strategy 5.1. Improve food safety, quality control and awareness of food safety and hygiene; this strategy consist of 3 Areas of Interventions- AoI 5.1.1. Ensure conformity and compliance of food safety policies (laws, standards and regulations); AoI 5.1.2. Develop, improve, and establish traceability, mechanisms and enforce regularity framework to control food hazards within the food supply chain. AoI 5.1.3. Develop and promote education and consumer awareness on food safety.

5.5.1. (a) Progress towards achievements

Table 28: Progress towards achievement of NFNSP Strategy 5.1

Strategy 5.1. Improve food safety, quality control and awareness of food safety and hygiene;							
NFNSP & CIP3 output proxy indicators	2019/20 Baseline	2020/21	2021/22	Target	Source		
National Food Safety Strategy Document Developed	-	National Food Safety Strategy developed in December 2021	-	Common food strategies across agencies and Ministries with clear roles	BFSA		
Number of Accredited food laboratories	10	10	10		BFSA		
Rules/ Regulations/Guidelines for Food Safety prepared/ coordinated by BFSA	3	3	3		BFSA		
Existence of National PoA on Food Safety/Food Safety Strategy, Guidelines & SOPs	-	No National PoA on Food Safety yet	-	National PoA on Food safety Developed	BFSA		
Identified Number of violations of Food Safety standard under FSA 2013 reported by BFSA (CIP2 indicators)	134	162	164	decreasing	BFSA		
Number of trainees on GAP, GAqP, GSP & GMP (CIP2 indicators)	-	146	8080	Increasing	BFSA		
Number of consumers awareness forums coordinated with BFSA	-	-	-	Increasing	BFSA		
Number of Safe Food campaigns	-	441	481	Increasing	BFSA		
Risk assessment unit established by BFSA	0	0	0	Risk assessment Unit Established	BFSA		

The colour indicator shows the progress achieved: target reached ● ; on track ● ; off track ●.

National Food Safety Strategy Document Developed

The National Food and Nutrition Security Policy 2020 dedicates a strategy (Strategy 5.1) to improving food safety, quality control, and awareness of food safety and hygiene. It emphasises the need to put in place operational standards and procedures to assure that food is free of contamination from sources such as chemicals, trace elements, heavy metals and bacteria. It plans to establish an adequate regulatory framework including surveillance for compliance and enforcement. The popularisation of Good Agricultural Practices, Good Aquaculture Practices and Good Husbandry Practices that ensure food safety is envisaged for primary producers as well as the scaling up of Good Manufacturing Practices, Good Hygienic Practices, including adherence to HACCP compliance for secondary and tertiary producers. Establishment of traceability in agricultural, animal and fish production are the components of the new policy as well as the enhancement of consumer awareness on food safety. The National Food Safety Strategy Document Developed with seven strategic objectives for the period of 2022-2026. The seven strategic objectives are (a) To establish BFSA as the single food safety authority of Bangladesh responsible for coordinating the overall food safety ecosystem, (b) To established science-based standards in compliance with the Food Safety Act, 2013 while respecting Bangladesh's international obligations, (c) To strengthen the regulatory compliance mechanism through an effective and transparent structure in Bangladesh, (d) To enhance the role of BFSA for food safety & nutrition and trade facilitation at the global level, (e) To enhance effectiveness in scientific/technical work in food safety areas on a long-term basis, (f) To build capacity of all stakeholders in relation to food safety and nutrition, and (g) To build consumer awareness to increase the demand for safe and nutritious food.

Number of Accredited Food Laboratories is stagnated

BFSA expands its activities; it still requires adequate appropriate training not only in districts but also at upazila level. More accredited testing laboratories are needed, equipped with state-of-the-art infrastructure to match international standards, including mobile laboratories, which can test products in kitchen markets. A directory published by BFSA listing food testing laboratories shows that most have limited facilities that do not allow them to test all parameters. It is estimated that only 50 laboratories can test foods, and only to a limited extent. They are mostly able to identify composite elements of food but are unable to detect the presence of any external elements.²⁰⁶ So far, only 10 public sectors food-testing laboratories have received accreditation from National and International Accreditation bodies and 123 parameters has designated. Accreditation must be sought separately for the laboratory infrastructure, the machinery used, their operators and each of the tests carried out. The facilities and capacities of food testing laboratories should be systematically assessed. Their jurisdiction also needs to be defined considering their analytical scope and expertise.

3 Rules/ Regulations/ Guidelines on Food Safety prepared/coordinated by BFSA

In 2021-22 financial year, BFSA finalized and introduced three food safety regulations, e.g (a) the control of Trans Fatty Acid in Foods, (b) Food Safety (Determination of microbial contaminants and control and (c) Withdrawal of poor quality, hazards and Toxic food from market to ensure safe foods.

²⁰⁶ Hossain, E. (2019) [Food testing labs test hardly any food in Bangladesh](#). New Age. 12 January.

Existence of National PoA on Food Safety/Food safety Strategy, Guidelines & SOPs

A National Food Safety Strategy on food safety will need to be elaborated and implemented and a National Plan of Action on food safety will need to develop. BFSA will need to prepare manuals, guidelines, and SOPs in consultation with different sectors that can be utilised by the grower, manufacturer, retailer, exporters and other involved relevant stakeholders. To build a robust food safety system, the authorities need to assess the hazards and suggest preventative actions. To develop a manual for GAP, GMP, GAqP and GHP, the authority needs to conduct a systematic review (hazard analysis) of the production environment and all inputs for the purpose of identifying any hazard that may present a potential risk for contamination of the food. Once the programmes such as GAP, GMP and GHP work effectively within a food operation, the HACCP can be applied. Legal frameworks should be sufficiently precise to clarify roles and responsibilities, and, at the same time, sufficiently flexible to enable adaptation to scientific development or new findings, or changing programme requirements.

The number of violations of food safety standards reported by BFSA increasing

The number of violations of food safety standards reported by BFSA in 2021/22, this figure is increasing to previous year, at 164. BFSA's market surveillance activities are supported by the operation of mobile courts that identify violation of food safety rules, regulations and directives. Sales of expired and rotten food has been treated seriously as a punishable offence under the Food Safety Act 2013. Seven years into the creation of the BFSA, the authority still faces operational challenges because of sufficient number of trained food inspectors and reliable testing facilities. Without recognised laboratory analysis, penalties for infringement of rule are not legitimate. Existing laboratory staff are inadequate and need to be trained in analytical methods and laboratory accreditation. To support this, FAO has been providing training support for laboratory staff focusing on pesticide and drug residue analysis and microbial contamination.

Training on GAP, GHP and GMP is not given but training given on different food safety issues

Training on good agricultural practices (GAP), good hygienic practices (GHP) and good manufacturing practices (GMP) is essential for the improvement of food safety. HACCP and personnel hygiene practices must be effectively implemented at all levels of food production and in all processing units. In order to control environmental contamination, street food handlers and distributors must be educated on appropriate practices. In 2021/22, 8080 persons taking training on different food safety issues. But in 2020/21, only 146 training courses delivered on GAP, GHP and GMP due to Covid 19 pandemic situation. The MoA, officials from the quarantine section who are in charge of checking compliance with the requirements of importing countries, and field services have set up cluster groups of farmers at the district level and upazila level to create traceability and GAP, testing pesticides, there is no facility of MRL testing but this is not enough, and exports continue to be limited due to lack of compliance.

Number of consumers' awareness forums coordinated with BFSA

Forums like CAB (Consumers Association of Bangladesh) and BFSN (Bangladesh Food Safety Network) which can serve as a platform to raise awareness and involve the general public towards food safety initiatives will be promoted and strengthened. This kind of forums may help establish a food safety culture and strengthen food safety advocacy among the community. BFSN needs to be rejuvenated as an advocacy group for food safety. At the sub-national level, a healthy market

place and healthy street food vending initiatives were supported various food safety projects. Khulna and Barishal districts had emerged as “safe food upazilas.” Such food safety initiatives as well as safe food clusters at the subnational levels will be reactivated in collaboration with BFSA and BFSN.

Safe food campaigns by BFSA is continued

Since its inception eight years ago, the National Food Safety Day has been observed on 2nd of February, to coincide with the establishment date of BFSA. The 2022 theme was “Safer Food, Better Health” নিরাপদ খাদ্য, উত্তম স্বাস্থ্য. Through this initiative, efforts to mainstream food safety in the public agenda and reduce the burden of foodborne diseases globally are pursued. The observation of these national food safety days helps increase the awareness of food safety by all stakeholders of the food system and particularly by consumers who are ultimately suffer the effects of the lack of food safety.²⁰⁷ Besides this food safety day, BFSA in 2021-22 fiscal year, they organized 54 seminar on food safety act, its related rules and regulations. They also conducted five workshops, 154 meetings with stakeholders and 140 Yard meeting for awareness building regarding food safety. BFSA distributed 349970 posters and 643919 leaflets among mass peoples for creating awareness on food safety.

Yet not Risk assessment unit established by BFSA

The quality and safety of food depends on responsible action by all involved at all stages in the food chain, including consumers. Consumers require access to adequate information about potential hazards and appropriate precautions to be taken in the final preparation and serving of food. A risk assessment of a food or ingredient includes hazard identification and characterisation, exposure assessment and risk characterisation. This leads up to a decision on whether any legal measures should be taken in order to prevent harm by this food or ingredient. There is no risk assessment unit established by BFSA till today. But, there is a division who currently deals food safety assessment activities in BFSA.

5.5.1.(b) Needs for further actions under this objectives and programme

Develop and strengthen the national food safety control system;

The National Food Safety Management Advisory Council will support BFSA to develop/strengthen the national food safety control system. In applying traceability across all or specified stages of the food chain, the code of best practices should be implemented across all movement points from production to distribution. A coding system of farms is needed, and the farms should be brought under a national registration system. The National Food Recall System will empower the authority to enforce and oversee the provisions associated with food recall and traceability. Zoning of shrimp farms, registration of horticulture zones, livestock identification and registration system as notable examples will be undertaken by the responsible sectors. It will also exercise legal action against producers, packers, traders, manufacturers, processors, retail stores

²⁰⁷ Indeed, according to ICDDR,B, 500 people visit a hospital because of diarrhoea every single day (Dhaka Tribune (2019) [National Food Safety Day: What the government is doing to ensure food safety](#). 2 February).

and food service operators, who are in violation of these provisions, and help increase accountability among the food business operators.

Blockchain will be explored as a means to ensuring traceability: blockchain is a decentralised, distributed and public digital ledger that is used to record transactions and does not allow any alterations without the agreement and active involvement of everyone in the network. Transactions can be viewed simultaneously and in real-time, with both greater security and transparency. Barriers and challenges across the system will need to be addressed, with regard to the availability of high-speed internet services across the value chain, capacity to use the technology and adherence to policies and regulatory frameworks.

Build an ecosystem of accredited independent certification and inspection agencies

An ecosystem of accredited independent certification and inspection agencies is recognized as an important element in food control and will need to be built. Having GAP certification facilities in Bangladesh is a prerequisite for the food safety system. BFSA could also coordinate with the private enterprises that are setting up GAP certification services, which will need to be accredited by BAB or other international accreditation bodies.

Accredited third party management system certification bodies are also relied on to conduct food safety audits and issue certificate of food facilities. However, there is an urgent need for BAB to provide guidelines and procedures on conformity assessment activities, such as testing, inspection and certification that can operate to international standards. The network of mobile courts should be scaled up across the country to continue identifying food safety violations as well as indiscriminate or illegal use of pesticides and antibiotics.

Strengthen linkages with INFOSAN

In order to bolster the country's capacity to manage food safety emergencies, BFSA should also strengthen its linkages with International Food Safety Authority Network (INFOSAN). Linkages must also be developed between Codex and INFOSAN focal points at national and global level (see NPAN2 Strategy 6.5.8). INFOSAN is an important platform for exchange of information in case of food safety crisis and for food sharing data on emerging or routine food safety issues. Through INFOSAN, WHO, in collaboration with FAO promotes cross sectoral collaborations and information sharing during food safety emergencies, as in the COVID -19 situation where a focus on new technologies and communications, and on handwashing and hygienic practices would be the key for the future of food safety.

The emergency focal point for INFOSAN serves as a critical link in sharing information with the INFOSAN Secretariat and other members on food safety issues that may be relevant at the international level, promoting partnership, collaborations and dissemination of relevant information and guidance within the national agencies and the country.

Strengthen product certification to ensure quality and safety

Although export-oriented large-scale food processing industries have quality and safety certification (GMP, GHP, HACCP, ISO 22000:2005, etc.), certified farms for primary producers (e.g. GAP and the Association of Southeast Asian Nations Good Aquaculture Practices (ASEAN GAqP) are almost absent in Bangladesh. Steps will thus be taken to bring primary producers and MSMEs under various certification schemes to assure product quality and safety for the domestic

and export markets. The Bangladesh Agricultural Certification Body established to provide Bangladesh GAP Certificate will need to be made functional.

Support and strengthen consumer forums

Forums like CAB and BFSN which can serve as a platform to raise awareness and involve the general public towards food safety initiatives will be promoted and strengthened. Such forums can help establish a food safety culture and strengthen food safety advocacy among the community. BFSN needs to be rejuvenated as an advocacy group for food safety. At the sub national levels, “healthy market place” and “healthy street food vending” initiatives were supported through various food safety projects. Khulna and Barisal districts had emerged as “safe food upazilas”. Such food safety initiatives as well as safe food clusters at the sub national levels will be reactivated in collaboration with BFSA and BFSN.

Carry out risk assessment and risk communication

The BFSA should form a Risk Assessment Unit that can carry out the function of risk assessment and risk communication. The committee can provide a framework which will collect, process and analyse food safety risks for products, processes and activities. The quality and safety of food depends on responsible action by all involved at all stages in the food chain, including consumers. Consumers require access to adequate information about potential hazards and appropriate precautions to be taken in the final preparation and serving of food.

5.5.2 Strategy 5.2 Reduce food loss and waste.

This strategy consists of 3 area of intervention (AoI) AoI 5.2.1. Minimise on-farm food losses, AoI 5.2.2. Reduce off-farm losses, AoI 5.2.3. Tackle food waste. Progress towards achievements

5.5.2 (a) Progress towards achievement

Table 29 - Progress towards achievement of NFNSP Strategy 5.2

NFNSP & CIP3 output proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
National Strategy on Food Loss and Waste formulated	-	No strategic document developed, but there is plan to develop it	-	MoFood, BBS
On-farm loss for main commodities	NA	NA	NA	MoFood, BBS
Number of farmers trained on FLW	13210	15,264	17,209	DAE
Off-farm losses for large and medium FVCs	NA	NA	NA	MoFood, BBS
Number of cold storages unites available (CIP2 indicators)	65	67	67	DAE, BBS Statistical Yearbook
% of Upazila & Union road network in good and fair condition (CIP2 indicators)	38%	67%	77.58%	LGED
Number of Domestic processed foods with nutrient labels	-	No strategic document developed, but there is plan to develop it	-	BSTI

The colour indicator shows the progress achieved.  target reached ;  on track ; off track .

National Strategy on food loss and waste (FLW) need to formulate

Food loss and waste (FLW) currently represent a pressing challenge in the design of sustainable food systems. FLW negatively impact food security and nutrition and significantly contribute to greenhouse gas (GHG) emissions, environmental pollution, degradation of natural ecosystems and biodiversity loss, and represents a waste of resources used in food production.

Tackling food loss and waste is a defined target- SDG target 12.3 - within the internationally agreed Sustainable Development Goals (SDGs). As custodians of this target, FAO and the United Nations Environment Programme (UNEP) measure and monitor progress on efforts to reduce food loss and waste against the Global Food Loss and Waste Index.

Food loss and waste can and must be drastically reduced and prevented. Investing in producing, harvesting, handling and distributing safe and nutritious food of good quality for human

consumption will contribute to the reduction of food losses and food waste. Reducing food losses has the potential to generate win-wins across all dimensions of the hunger targets-by improving food availability, food access and smallholder incomes (SDG2) and by upholding climatic action, life below water and life on land (respectively SDGs 13, 14 and 15).

Processes that raise awareness of the public and private sectors and civil society will facilitate target setting at local, national, regional and global levels, raise awareness, focus efforts, mobilize resources and guarantee the implementation of impactful action towards accomplishing the Agenda 2030.

On farm loss for main commodities

Adequate storage facility is needed to prevent on farm loss in all stage of main commodities. Existing storage conditions must be improved and modern food storage facility expanded to meet the demand for storage space and conditions. Low cost zero energy cool chambers that can store vegetables and fruits up to one week as well as irradiation facilities to reduce the cost of storage vegetables like potato and onion at 12-15°C for longer periods will be developed. A lack of storage facilities leads to sudden spikes of regional supplies and decreases prices to levels that are unprofitable for producers. It also limits the amounts of vegetables and non-rice commodities that can reach areas further from the market hubs, such as the North of the Country. Making storage and cold storage widely available and promoting its use can also encourage farmers to diversify their production by making alternative crops more attractive. The capacity of licensed warehousing will also be increased to help farmers store their produce safely and economically, and help the country manage its food security in times of disruption, e.g. natural disasters or foreign trade failures.

Number of farmers trained on FLW (Food Loss and Wastage) is increasing trend

FLW can take place at various stages of food supply chains, but the causes of FLW do not necessarily have to be at the same stage where the FLW occurs. Food supply chains link all the market players involved in the production, processing and distribution of food to consumers. Consumers, though not directly involved in the production, processing, or distribution of food, are also part of the food chain and the food system. Food reaches consumers either directly (direct purchases from farmers), or most commonly indirectly, via a number of intermediaries. Intermediate activities such as processing of raw agricultural commodities, checking consumer safety standards and packing add value to food before it is sold. Spoilage of fresh food products is a common reason for consumers to waste food; the reasons for relatively quick spoilage could have occurred as early as during harvesting.¹¹ Farmers are trained on FLW, then the loss may be minimized at production level. In 2020-21 fiscal year 15,264 farmers are trained on FLW and 2021-22 fiscal year. In 2021-22 fiscal year 17,209 farmers are trained on FLW, which 11.30% higher than the previous year.

Of farm losses for large and medium FVCs

In south Asia, food losses are mostly prevalent at production, handling and storage levels, and less at the consumption level. Losses during processing tend to be very high in developing regions because of inadequate local technologies for perishable products such as fruits and vegetables. The agro-food processing industry reportedly contributes near about 8% to manufacturing output and 1.7% of GDP. The engagement of private sector is thus paramount if this issue is to be tackled

successfully and for this, the right incentives need to be in place. In Bangladesh, perishable foods are at high risk given the environmental variability, climate and limited availability of cold chains. Inadequate processing facilities also elevated losses for produce such as milk. Transportation from the farm introduces a time gap between various stages of the food supply chain, from production to consumption, where food and nutrient losses can occur. This may be due to damage of the produce because of inadequate temperature, mishandling, or even contamination.

Number of Cold storage remained constant over the previous year

Cold storage capacity expanded over the reference period from 4,000 MMT at baseline to 7050 MMT in 2020/21. Bangladesh Cold Storage Association (BCSA) which is a platform of some 400 cold storage owners reported that during the 2018 harvesting season, farmers and cold storage owners together incurred a loss of BDT 125.15 billion due to low prices and unsold produce at the warehouses, and this could have been prevented by having more cold storage²³⁰. Therefore, through DAM, has taken a project to establish 500 zero-energy cool chambers (ZECC) on the household premises of 500 selected farmers in 31 districts over the next five years. Three thousand vegetable growers, 875 officers and 750 employees of DAM will also be trained in the usage of ZECC storages. Cold storage capacity expanded over the reference period from 4,000 MMT at baseline to 7050 MMT in 2020/21. Bangladesh Cold Storage Association (BCSA) which is a platform of some 400 cold storage owners reported that during the 2018 harvesting season, farmers and cold storage owners together incurred a loss of BDT 125.15 billion due to low prices and unsold produce at the warehouses, and this could have been prevented by having more cold storage²³⁰. Therefore, through DAM, has taken a project to establish 500 zero-energy cool chambers (ZECC) on the household premises of 500 selected farmers in 31 districts over the next five years. Three thousand vegetable growers, 875 officers and 750 employees of DAM will also be trained in the usage of ZECC storages.

The improvement of rural roads continued but still off target

Rural connectivity plays a fundamental role in generating both on and off-farm rural income, providing employment opportunities and in ensuring physical access to food thereby supporting improving nutritional outcomes. Upazila and union road networks in good and fair condition improved to 67%, up from last fiscal year as well as the reference period. As of 2021/22, LGED has upgraded 34,021 km of upazila roads, which is 92.68% out of total 36,708 km of upazila roads and 32,482 km of total 41,868 km of union roads as paved roads across the country through various development projects. This increasing trend shows that rural connectivity has improved which has accelerated transport connectivity in rural areas and facilitated the movement of people and goods in those areas (LGED Annual Report 2022). Besides, to strengthen rural connectivity between rural communities, productive agricultural areas and socioeconomic centres, LGED and ADB kick-started the 449 million USD Rural Connectivity Improvement Project July 2018- June 2024. The project's interventions aim at upgrading 2630 km of rural roads to all-weather standards in 34 districts located in five divisions; improving the capacity of infrastructure agencies; and financing the enhancements to the national rural road master plan.

5.5.2. (b) Needs for further actions under this objectives and programme;

Formulate a National Strategy on Food Loss and Waste

As per the recommendations of the 8FYP, a National Strategy on Food Loss and Waste will be formulated based on detailed study of food loss and waste both in crop and non-crop sector.

Promote mechanisation and affordable loss-reducing technologies

Expanded usage of combine harvesters and other agricultural harvesting and cultivation equipment will support food loss reduction, mitigate nutrient losses, increase efficiency, save time and reduce harvesting and cultivation costs, and fostering better returns and livelihoods for farmers. On-site farm waste processing technologies will be developed to convert it into animal feed, for bioenergy purposes or soil improvement. In particular, using the recyclable waste from the fishers, quality feed may be produced, alternatively these feeds could provide rich content of protein and nutrient value to the yields. Moreover, intelligent decision-making tools, sensor technologies, and new processing technologies should be used to recover and make use of edible portions of food and retain the nutrients within that would be otherwise lost. GAP and GAqP will be strengthened. In Bangladesh, GAP are being developed, where BARC is the Scheme Owner, DAE the certification body and BAB the accreditation body although they are yet to issue certificates.

Post-harvest treatments will also be encouraged at farm level: indeed, crops that need to be stored are highly perishable or need to be transported over long distances can benefit from special treatments to slow deterioration and minimize losses²⁰⁸. These may include actions such as hot water treatment for disinfection, techniques to inhibit sprouting of items such as potatoes or onions, fungicide application. These methods need to be promoted and new ones that are adapted to different types of farmers developed through R&D, in collaboration with the private sector. In fishery supply chain a solid basement and/or control zones development near catching points can significantly decrease losses and spoilage of fish products. The adoption of these loss-reducing technologies assumes that certain prerequisites are in place. This is the case for example, or access to finance to be able to invest in these technologies and stable provision of electricity and water.

Improve and develop on-farm storage

Existing storage conditions must be improved and modern food storage facilities expanded to meet the demand for storage space and conditions, especially for perishable produce. The NAP PoA 2020 proposes to construct community storage of grains in each Union. Low cost zero energy cool chambers that can store vegetables and fruits up to one week as well as irradiation facilities to reduce the cost of storage of vegetables like potato and onion at 12-15°C for longer periods will be developed. This will also enable the safety and nutritional quality of the vegetables such as preventing the undesirable sprouting of potatoes and onions and conserving vitamin losses.

A lack of storage facilities leads to sudden spikes of regional supplies and decreases prices to levels that are unprofitable for producers. It also limits the amounts of vegetables and non-rice commodities that can reach areas further from the market hubs, such as the North of the country. Making storage and cold storage widely available and promoting its use can also encourage farmers to diversify their production by making alternative crops more attractive. Cold storage units are beyond the investment scale of most individual farmers and finance must be provided to smallholders to help them access refrigerated units. The capacity of licensed warehousing will also

²⁰⁸ FAO. 1989. [Prevention of post-harvest food losses fruits, vegetables and root crops a training manual](#)

be increased to help farmers store their produce safely and economically, and help the country manage its food security in times of disruption such as natural disasters or foreign trade failures. The development of specific types of storage for certain commodities should be promoted. For example, fresh fish storage in improved fish containers such as Styrofoam boxes is estimated to enable reduction in quality loss.

Involve and sensitise all value chain stakeholders to develop solutions, including women

Sustainable solutions to reducing farm level food losses will be developed through the creation of multi-stakeholder networks that will engage scientific organizations, the private sector, farmers' associations, and civil society. Importantly, effective network and linkages among growers, processors and other VC actors should be part of these actions. This may include, inter alia, expansion of joint projects and training activities with universities and research institutes.

Such networks will not be limited to looking at farm level value chains but will look at issues relating to transport, processing and safe storage. International connections will also be made to learn from other countries' experience. Training and field demonstration programmes will help sensitise producers to the issue of losses. Studies will help national and sub national level agriculturists, post-harvest processors and farmers in planning their activities across the supply chain structure. It will also enable them to identify the critical loss points, their causes and the likely solutions to address the causes.

Improve data available on on-farm food losses

FLW data collection and production, as well as in international guidance on conceptual approaches and methodologies adopted are fast evolving. For example, the methodology on SDG 12.3.1 has recently been approved and endorsed. Adoption, piloting, and effective application of this methodology requires capacity development that need to be incorporated in the national strategic priorities and actions. Achieving SDG 12.3.1 requires an improved and harmonised data ecosystem enabling production and computation of relevant indicators along with proper monitoring and reporting mechanisms in place.

The main strategic goals defined in the Bangladesh Strategic Plan of Agricultural Statistics (2016-2030) will ensure that agriculture and rural statistics -including information on food losses- are coherent, reliable, and internationally comparable. This will require strengthening statistical capacity to produce food loss and waste related data. The private sector will also need to be involved in monitoring their food losses and waste. Both quantitative (or physical) FLW and qualitative (nutritional and well as economic) FLW will need to be researched for adequate interventions to be devised on different commodity value chains, including livestock, poultry and fish.

5.5.3 Strategy 5.3. Improve data, information and analysis for evidenced based planning, monitoring, evaluation, and update of policies and programs through wider partnerships;

This Strategy consists of 4 Area of Interventions **AoI 5.3.1.** Produce/generate, disseminate and ensure access to reliable and timely FNS data and information by setting up an inter-agency FNS data sharing mechanism, **AoI 5.3.2.** Develop and implement a big data analytics ecosystem for the food system, **AoI 5.3.3.** Operationalise the implementation of the NFNSP, its Plan of Action and Country Investment Plan for FNS through an effective M&E system; **AoI 5.3.4.** Ensure the cross-sectoral integration of the NFNSP, PoA and its investment plan with other FNS-related initiatives and its coherence with national socio-economic development efforts.

This **Strategy also** run by under two programmes of the country investment plan 3 (CIP3) **Programme V.1.** Generation, dissemination and access to reliable and timely FNS data and information including Big Data Programme; **Programme V.2.** Operationalisation of the implementation of the NFNSP, its Plan of Action and Country Investment Plan and integration with other FNS development efforts;

5.5.3.(a) Progress towards achievements

Table 30- Progress towards achievement of NFNSP Strategy 5.3 and CIP3 program (V.1-V.2)

NFNSP & CIP3 output proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
n. of protocols for FNS data generation/exchange approved by BBS	-	None	-	BBS
Frameworks governing data access and use for all government institutions that collect and/or storing agricultural/ FNS data in place	-	None	-	BBS, BNNC
Existence and monitoring of Hand-in-Hand (HiH) benchmark indicators	0	0	0	FAO
The new CIP produced and operationalised	-	-	CIP3 Produced	FPMU

The colour indicator shows the progress achieved: target reached  ; on track  ; off track .

Number of protocols for FNS data generation/exchange approved by BBS

A variety of government and non-government FNS surveys and surveillance systems continue to inform policy analysts and policymakers thus contributing to shaping nutrition-sensitive policies and programmes and providing updates on coverage and effectiveness of nutrition-specific interventions. BDHS is the main reference to track progress on maternal, child health status, child nutrition and feeding practices at the country level. BDHS 2017-18 collected data between October

2017 and March 2018 and its key indicator report was published in November 2019.²⁰⁹ In addition, the Household Income Expenditure Survey (HIES) which last took place in 2016 is a national representative survey measuring monetary poverty, the standard of living and nutritional status up to district level. The Bangladesh Integrated Household Survey (BIHS), conducted by IFPRI in 2011/12, 2015 and 2018/19, is the only nationally representative survey of rural Bangladesh to collect data on dietary intake of individual household members and anthropometric measurement and women's empowerment through the Women's Empowerment Index (WEAI). The Health Facility Survey (BHFS, 2017) implemented by the National Institute of Population Research and Training (NIPORT) includes reporting on health care service, facilities and nutrition services. The Nutrition Information and Planning Unit (NIPU), established in IPHN, tracks the implementation of NNS services at the district level. It brings together local-level nutrition data collected from different sources such as Community Clinics, Upazila Health Complexes through the DHIS2 portal. In April 2019, the National Information Platform for Nutrition (NIPN) was officially launched by the MoFood and the European Union. It provides support to the country's strategic decisions by strengthening nutrition-related information systems and improving data analysis.

Framework governing data access and use for all government institutions that collect and/or storing agricultural/FNS data in place

The data being produced, used, and circulated in the government and the entire public sector as a whole is critical and imperative for each organization to function with utmost efficiency. The ability to access and manage this data should be a vital part of the sector's mission. For this reason, a good amount of focus and understanding should be given to the system data management.

Data collected is increasing by the numbers everyday especially now that we are cruising through the age of digitization. And as data continues to grow, state and the local governments are taking steps towards working for proper data storage, back-ups, and allocation. They are also making an effort to make each of the data available, accessible, and useful to the public.

While the process is already being implemented, there are still some areas in which they can effectively improve in terms of managing a huge chunk of data.

Inter-department data accessibility is one. Most government institutions have their own data. In providing services and in order to help the public save time, it is helpful to have internal sharing of public records like basic information. Here, an individual won't have to fill up the same fields multiple times for various institutions.

A good recovery system is also very important. There are certain data that need to be accessed easily in case there is an extreme need for it. Data in private matters, like health records, should be heavily protected to avoid fraud, and stored safely, but still accessible to the right users.

Another is improvement in the area of training and development. When professionals working for the government know the value and efficiency of proper data handling, no data will be breached or compromised. With proper knowledge and with a proper system, even fraud can be avoided. Data management is effective in a sense that it can work greatly for the advantage of the sector. It will work to serve the sector's mission and at the same time, the public relying heavily on it. Remember that when data is inaccurate, it can greatly affect the whole process of the sector. Bad data means inaccurate reporting and when it does happen, the reputation of an individual, agency, or organization can be tainted.

²⁰⁹ GoB (2019) [Bangladesh Demographic and Health Survey 2017-18 – Key Indicators](#). Ministry of Health and Family Welfare.

Existence and Monitoring of Hand-in-Hand (HiH) benchmark indicators

The Hand-in-Hand (HIH) Initiative supports the implementation of nationally led, ambitious programmes to accelerate agrifood systems transformations by eradicating poverty (SDG1), ending hunger and malnutrition (SDG2), and reducing inequalities (SDG10). It uses advanced geospatial modeling and analytics, as well as a robust partnership-building approach to accelerate the market-based transformation of agrifood systems-to raise incomes, improve the nutritional status and well-being of poor and vulnerable populations, and strengthen resilience to climate change. The Initiative prioritizes countries and territories where poverty and hunger are highest, national capacities are limited, or operational difficulties are greatest due to natural or man-made crises. Areas of intervention have included developing value chains for priority commodities, building agro-industries and efficient water management systems, introducing digital services and precision agriculture, reducing food losses and waste, and addressing climate challenges and weather risks. The Hand-in-Hand Initiative, launched in 2019, is a flagship of FAO and one of its core priority programme areas.

The new CIP produced and operationalized

Achieving the goal and objectives of the NFNSP 2020, its PoA and those of the 8FYP and the 2030 Sustainable Development Goals (SDGs) requires well-targeted financial resources. Finance is one the means of implementation of the SDGs which in addition to technology development and transfer, capacity-building, inclusive and equitable globalization and trade, regional integration, as well as the creation of a national enabling environment is required to implement the sustainable development agenda. Thus, SDG 17 endeavours to ‘strengthen the means of implementation and revitalize the global partnership for sustainable development’ which the CIP3 contributes to.

The CIP3 is a powerful tool that can help mobilise and orient funds towards sustainable, nutrition sensitive and resilient investments. Its yearly monitoring gauges the ongoing and planned efforts towards reaching the outcome of each programme. This enables the government and DPs to direct financing where priorities lie and to identify gaps in a coordinated manner across sectors, ministries, GoB and DPs in order to avoid duplications and leverage synergies. This is in keeping with the ‘whole of society approach’ adopted by the GoB for the SDGs implementation, which seeks to include all segments of society in planning and implementing the SDGs.

5.5.3 (b) Need for further actions under this objectives and programme;

Develop, invest and apply appropriate technologies

Public warehouses will be modernized and the expansion of private storage and cold storage in particular encouraged. Simple innovations such as replacing sacks by plastic crates which can reduce damage and losses in tomatoes and perishable vegetables during transport will be disseminated for uptake. Alternative packaging techniques such as vacuum packing, nitrogen flushing will also be encouraged to preserve the freshness and nutritional quality of food for longer periods. Some innovations have already taken place along the agri-food value chain in Bangladesh with for example the rapid uptake of plastic crates in place of woven baskets and jute sacks to handle high-value, nutritious products such as mango²¹⁰. Domestic abattoirs, live bird and fish markets will need to be modernized with periodic surveillance conducted. For perishable horticultural commodities, controlled atmosphere storage, modified atmosphere storage, heat treatments (hot water, hot air, irradiation), use of ethylene scrubbers and ethylene inhibiting compounds, postharvest fungicides, sanitizers such as electrolyzed oxidizing water, biotechnological tools will be expanded in order to prolong storage life and reduce losses. Other countries' experiences will be drawn upon.

Enhance food processing capacity

Food processing involves the transformation of products originating from agriculture, forestry and fisheries and this plays an important role in tackling FLW by allowing foods to be preserved, conserving micronutrients and enhancing shelf life of the products. For example, crops, grains, fish, horticulture and dairy can be preserved by drying, mechanical dehydration, pasteurization, ultra-heat treatment and freezing, as notable methods. This includes minimal processing as well as secondary (the conversion of ingredients into edible products) and tertiary processing (the production of prepared convenience foods). In Bangladesh, women have an important role in food processing and need to be trained to use appropriate and novel techniques.

Improve transport infrastructure

Transportation infrastructure from the production site further down the supply chain requires improvement with for example, the development of transport with refrigerated, cooling and ventilation systems (and more generally integrated cold chains). In Bangladesh, agricultural freight is handled mostly by road transport and intermodal connections and efficient networks need to be developed. Other means of transport, notably inland water transport must be developed. The number of fish landing centres will be enhanced in coastal areas which should help reduce loss and improve the quality of fish products and seafood.

Involve all value chain stakeholders to develop solutions and sensitise them to the issue of food losses

As suggested for farm level losses, efforts will be made to create multi-stakeholder involvement in order to devise solutions and draw from existing experiences both nationally and abroad. Communities should document their best practices and be engaged in planning and implementation through a participatory and consultative process. Initiatives will be taken to sensitise all actors of the value chain to the problem of food losses and training imparted on how they can contribute to

²¹⁰ World Bank. 2020. Promoting Agri-Food Sector Transformation in Bangladesh

minimise it. Such measures will target farmers/truck drivers and workers involved in loading, delivery and logistics operations for example as well as women given their important role in post-harvest activities.

Raise awareness on food waste issues and implement prevention and mitigation measures

While campaigns already exist to educate the population on the importance of safe and nutritious food, emphasis will be placed on the problem of food waste and on the measures that individuals, households, schools and communities can take to tackle the problem. Awareness will be raised on portion or serving sizes and standardized food preparation quantities both in homes and in institutional food service. Women will be targeted for their key role in ensuring FNS within the household. “Plate” waste in hospitals, canteens, school cafeterias, restaurants and hotels also require attention. Restaurants and events’ organisers will also need to be targeted by awareness campaigns with clear guidance on the actions they may take to reduce waste. Training and outreach programmes on how to appropriately conserve and preserve food will be conducted using different platforms such as television cookery programmes, virtual learning modules and community-based activities. Public campaigns and advocacy such as the UN’s International Awareness Day on FLW or FAO’s and Messe Düsseldorf’s Save Food Global Initiative will be promoted. Innovative initiatives around the globe will be examined and their relevance to Bangladesh gauged for possible adoption. Among them: the Love Food, Hate Waste campaign, which has resulted in significant changes in reducing household waste by bringing together government agencies, community organisations, chefs, businesses, trade bodies and local authorities and individuals can be suitably adapted.

Introduce innovative/modern solutions for waste reduction through mobile applications and networking

Learning from other country experiences, mobile applications to maximise the sale or donation of food will be developed for Bangladesh in collaboration with the private sector. [Feeding India](#) for example, collects excess food from restaurants and caterers and delivers it to undernourished people through a network of volunteers. [Too Good To Go](#) is an application currently present in 12 European countries that enables food outlets to sell the food that will otherwise go to waste at reduced prices.

5.5.4 Strategy 5.4- Strengthen regulatory management, climate resilience and gender roles;

This strategy consist of three area of interventions (**AoI**) **AoI 5.4.1.** Develop and implement effective regulatory instruments and guidelines for priority issues, **AoI 5.4.2.** Strengthen gender mainstreaming for food and nutrition security; **AoI 5.4.3.** Develop and promote climate-resilient food systems. **Strategy 5.4** run by under one programme of the country investment plan 3 (**CIP3**); **Programme V.3** Effective regulatory instruments and guidelines;

5.5.4 (a) Progress towards achievements

Table 31 - Progress towards achievement of NFNSP Strategy 5.4 and CIP3 program V.3

NFNSP & CIP3 output proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
Number of courses delivered on GAP	469	515	669	DAE
% of Mortality attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease a) heart attack and heart disease b) liver cancer c) diabetes d) respiratory disease e) kidney disease	-	a) 25.8% b) 3.4% c) 2.9% d) 12.3% e) 3.2%	a) 28.2% b) 3.3% c) 3.9% d) 21.9% e) 1.9%	SVRS, BBS
Women's share in Agriculture employment	55%	59%	60.4%	DAE
Mangrove area a) Natural mangrove b) Costal mangrove (paraben)	601,700 Ha 196,000 Ha	601,700 Ha 196,000 Ha	601,700 Ha 196,000 Ha	MoEFC&C
n. of gov officers in BFSa, BNNC and FPMU a) BFSa b) BNNC c) FPMU	a) 97 b) 11 c) 21	a) 97 b) 11 c) 21	a) 104 b) 10 c) 20	FPMU
n. of training/workshop/seminar provided to BFSa, BNNC and FPMU by projects	BFSa-06 BNNC-10 FPMU-12	BFSa-06 BNNC-12 FPMU-15	BFSa-22 BNNC-20 FPMU-12	FPMU
Capacity assessment of FNS governance system and annual capacity monitoring reports produced	-	Capacity assessment not yet done	-	FPMU
n. of different organisations in the Local Consultative Groups (LCGs) on Agriculture, Rural Development and Food Security (ARDFS), Disaster Emergency Response (DER) and Health a) ARDFS b) DER c) Health	a) ARDFS- Govt.-25 DPs- 46 b) DER- Govt.-17 DPs-18 c) Health- Govt.-13 DPs - 14	a) ARDFS- Govt.-25 DPs- 46 b) DER- Govt.-17 DPs- 18 c) Health- Govt.- 13 DPs - 14	a) ARDFS- Govt.-25 DPs- 46 b) DER- Govt.-17 DPs-18 C) Health- Govt.- 13 DPs - 14	FPMU
Mapping and n. of subnational FNS activities (including activities by local govt., non-state actors and consumer associations)	-	No visible initiatives taken. Mapping not yet planned.	-	
n. of collaborative platforms between local actors	-	Coordination via DNCC and UNCC, no other formal collaborative platforms exist	-	BNNC

Delivery of training on GAP trend is increasing

Training on good agricultural practices (GAP), good hygienic practices (GHP) and good manufacturing practices (GMP) is essential for the improvement of food safety. HACCP and personnel hygiene practices must be effectively implemented at all levels of food production and in all processing units. In order to control environmental contamination, street food handlers and distributors must be educated on appropriate practices. In 2021/22, 669 courses deliver on good agricultural practices, while 515 courses delivered in 2020/21. The MoA, officials from the quarantine section who are in charge of checking compliance with the requirements of importing countries, and field services have set up cluster groups of farmers at the district level and upazila level to create traceability and GAP, testing pesticides, there is no facility of MRL testing but this is not enough, and exports continue to be limited due to lack of compliance.

Heart related diseases, respiratory disease and diabetes are increased in 2021

The SVRS (Sample Viral Registration Survey 2020, 2021, BBS) lists 15 major causes of deaths elderly persons (60 years and over) by residence. Heart related diseases are responsible for 25.8 percent of the totals. Other causes of at old ages respiratory diseases (12.3%), liver cancer (3.4%), kidney disease (3.2%) and diabetes (2.9%). In 2021 SVRS Heart related diseases are responsible for 28.2 percent of the totals. Other causes of at old ages respiratory diseases (21.9%), liver cancer (3.9%), kidney disease (1.9%) and diabetes (3.9%). Heart related diseases, respiratory disease and diabetes are increase in comparison of 2020.

Women's share in Agriculture Employment is increasing

Agriculture is still the main driving force in the economy of rural Bangladesh. Food security of a vast segment of the country's population is dependent on headways in the agricultural sector. Agricultural development is linked to poverty alleviation, living standard of the people, employment generation, agro-based industrial growth etc. Its contribution to Gross Domestic Product (GDP) currently stands at 14.10 per cent, while it provides employment to 40.6 per cent of the labour force. The rural economy in the country has become more diverse and dynamic over the past few decades due to its sustained growth. Corporate presence including contract-based production is now clearly visible in the sector. Agro-based industrialization is bringing dynamism to the country's rural milieu. Against this backdrop, the contribution of womenfolk to the agriculture sector carries much significance.

The involvement of women in agricultural jobs was incorporated for the first time in in the labour force survey of 1995-96. Tasks like cattle, rearing, poultry farming, paddy husking, boiling and drying, processing and preservation of food were included in its as economic activities. These tasks are mostly carried out by women in the villages. In 2019-20 fiscal year, 55 % women are engaged in agriculture sector. They mostly engaged in cattle rearing, poultry farming, paddy husking, boiling and drying, processing and preservation of food. The employment opportunities in agriculture increasing in 59% in fiscal year 2020-21 and 2021-22, further increasing in trend that is 60.4% that mean that more women are engaged in agriculture sector and contribute the economic development of Bangladesh.

Vegetable production has increased five-folds during the previous few decades due to proliferation of its cultivation mostly by women. They playing a crucial role in the expansion of horticulture and gardening in the country. They are also environment-friendly and play a supportive role in activities like tree plantation, forestation. Land conservation, preservation of biodiversity.

Natural Mangrove and Coastal afforestation Area is stagnant

Bangladesh has a coastline of 580 km across 19 coastal districts. With two-thirds of landmass less than five meters above sea level and 30% of its arable land in coastal areas, the country is highly vulnerable to sea level rise, cyclones, storms, and storm induced tidal flooding. It has been demonstrated internationally that mangroves act as effective bio-shield against coastal surges.

The Sundarbans is a mangrove area in the delta formed by the confluence of the Ganges, Brahmaputra and Meghna Rivers in the Bay of Bengal. Four protected areas in the Sundarbans are enlisted as UNESCO World Heritage Sites, viz. Sundarbans National Park, Sundarbans West, Sundarbans South and Sundarbans East Wildlife Sanctuaries. Despite these protections, the Indian Sundarbans were considered endangered in a 2020 assessment under the IUNCN Red List of Ecosystems framework. The Sundarbans mangrove forest covers an area of about 601,700 Hectare of which forests in Khulna, Baherhat and Satkhira district. The most abundant tree species are sundari (*Heritiera fomes*) and gewa (*Excoecaria agallocha*). The forests provide habitat to 453 faunal wildlife, including 290 bird, 120 fish, 42 mammal, 35 reptile and eight amphibian species.

Coastal plantations prevent coastal erosion and trap sediment by slowing down current. These reduce potential loss and damage of lives and properties during natural disasters, like cyclones and storm surges, by reducing wind speed and velocity of water. Thus, coastal afforestation is considered as an effective adaptive measure against extreme weather events expected to increase under climate change.

Coastal afforestation with mangrove and non-mangrove species provides variety of useful ecological and bio-physical functions, like increasing forest cover of the country, alleviating environmental degradation, acting as highly efficient carbon sink, offering habitat and breeding ground for wildlife and fisheries, and improving recreational value of coastal area. Coastal afforestation also offers socio-economic benefits to the coastal community from harvesting non-timber forest products or other benefits as per the agreed benefit-sharing mechanisms of a particular initiative.

Coastal afforestation occurred in Noakhali, Lakshipur, Bhola, Patuakhali, Borguna, Pirojpur, Chattogram and Cox'sbazar coastal area. Coastal afforestation (locally known as Paraban) area is nearly 196,000 Hectare, which is 1.36% of total area of Bangladesh.

Number of Govt. Officers in BFSA, BNNC and FPMU is increasing

Bangladesh Food Safety Authority (BFSA) is an autonomous national food safety regulatory agency which works as a statutory organization. The authority was formed in February 2015, under the Food Safety Act 2013. The authority works under the Ministry of Food. The authority was modelled on the American Food and Drug Administration. It is governed by a five-member decision making body. The agency has its own mobile court that can fine and sentence people for food adulteration.

Bangladesh National Nutrition Council (BNNC) under the Ministry of Health and Family Welfare. The objectives of the BNNC are the formulation and updating of the National Food and Nutrition Policy; approval of nutrition programmes for different ministries and institutes; and monitoring

and evaluation of nutrition research programmes. Other functions include- establishment of a nutrition information and documentation centre, preparation of a national plan for nutrition, organising national and international conferences and training courses; publishing and disseminating technical and general information on nutrition; and providing financial support for nutrition related research projects.

Food Planning and Monitoring Unit (FPMU) is a wing of the Ministry of Food, act as the lead office on food and nutrition security issues in Bangladesh. **FPMU** is also responsible for enhancing inter-ministerial collaboration for the implementation of the National Food Policy and monitoring its Plan of Action. The agency also has a pivotal role in coordinating, monitoring and evaluating interventions under the Country Investment Plan. The total Officers of BFSA, BNNC and FPMU is 129 in 2020-21, which is slightly increased (129 to 134) in 2021-22. The strength of this organizations may be contributed food security, nutrition and food safety issues of Bangladesh.

Training/Workshop/Seminar provided to BFSA, BNNC and FPMU by projects is increasings

Comprehensive analyst training programmes are required along with the introduction of standardized methods of analysis is needed for effective capacity development. Capacity enhancement activities needed for building synergistic conditions to work with cross-sectoral and sectoral partners in joint implementations of FNS initiatives will be implemented. Workshops, seminars and training programmes, including exchange visits, fellowships and human resource time sharing will be organized. In baseline year 2019-20, the number of training/workshop/seminar conducted by projects in BFSA, BNNC and FPMU are 06, 10 and 12. And the number of training, workshop/seminar has increased in 2021-22 (BFSA-22, BNNC-20 and FPMU-12).

Capacity assessment of FNS governance system strengthened and monitoring Reports Produced

BFSA, BNNC and FPMU need specialised capacity strengthening for their specialised technical roles, there is also a need to ensure “the parts add up to the desired whole” of a strengthening FNS governance system. This is needed, to ensure that separate capacity strengthening efforts do not sustain institutional silos, but rather reinforce linkages between each other, and beyond to other organizations working in FNS. In order to do this, a baseline measurement/assessment of existing capacity of the whole FNS governance system will be done, followed by annual or regular monitoring of capacity gains in key organizations (BFSA, BNNC and FPMU) and actors across the whole FNS system. An independent and technical approach is needed, with the purpose of sustained and system-wide capacity strengthening.

Number of different organizations in the Local Consultative Groups (LCGs) on Agriculture, Rural Development, Food Security (ARDFS), Disaster Emergency Response (DER) and Health

The LCGs exist to foster coordination between Development Partners (DPs) and the Government. To ensure a stronger and wider participation in the LCG on ARDFS, the LCG on DER, and the Health and Nutrition Consortium which is a health related LCG. Wider and more active participation in the LCGs by the civil society and private sector will be sought. It is important to ensure that nutrition related issues are more often brought up for discussions along with funding considerations and investments. There are 25 govt. organizations and 46 Development Partners are in LCGs on ARDFS and 17 govt. organizations and 18 Development Partners are in LCGs on DER, and 13 govt. organizations and 14 developments partners are in LCGs on Health.

Mapping and Number of Sub-national FNS activities (including activities by local govt. non state actors and consumer associations)

The achievement of the CIP3 goal and SDG 2 requires contributions from all the food system's stakeholders – from Civil Society Organisations (CSOs) to Academia/Researchers and the private sector- and for this, an enabling environment needs to be created. Dialogue between these entities and the Government needs to be encouraged, and their participation in the development of regulations, national strategies and policies promoted, so that different perspectives, needs and constraints are taken into account. Coordination among the different actors will also help avoid duplications, help share resources including information and expertise, and exploit potential synergies. Creating an environment that enables the participation of all food system actors is required which also includes building capacities of those actors based on their profile and actual needs.

Number of collaborative platform at local level

An approach to nutrition planning and programming in which different departments coordinate and collaborate to address both direct and underlying causes of malnutrition

Nutrition action is a multi-sector, multi-stakeholder and multi-level (national, subnational, urban, rural) issue. Effective multi-sectoral coordination along with collaborative planning, programming and monitoring across sectors at national, regional, and local levels are necessary to accelerate and sustain nutrition improvements.

Strong partnership among the government, development partners and other stakeholders bring together the necessary sectors to effectively improve nutrition in targeted areas. Expanding linkages and joint planning between humanitarian assistance and development programs to build resilience, reduce the negative impacts of periodic or recurrent shocks, and improve economic and social opportunities for sustainable nutritional outcomes.

Bangladesh National Nutrition Council (BNNC) headed by the Honourable Prime Minister, is working to supervise and monitor the nutrition programs across the country to achieve the goals of the Bangladesh National Plan of Action for Nutrition (NPAN-2). The government has formed District Nutrition Coordination Committees (DNCC) and Upazila Nutrition Coordination Committees (UNCC) are dedicated to developing and implementing District and Upazila level nutrition plans

Coordination and leveraging private and public sector resources to strengthen all parts of the food system, from small processors, agribusiness, food and beverage companies, to wholesale and retail sellers is essential. Promoting positive partnerships with businesses small and large can increase the creation, availability, and access to safe and nutritious foods. It is the role of governments to provide Nutrition is both a maker and a marker of development. Improved nutrition is the platform for progress in health, education, employment, empowerment of women and the reduction of poverty and inequality, and can lay the foundation for peaceful, secure and stable societies.” Ban Ki-moon, United Nations 8th Secretary General 52 adequate information and technical assistance to the food industry to foster their compliance with national regulations and WHO and FAO standards, especially the Codex Alimentarius (CODEX), to protect health of consumers, and to engage in public-private sector dialogue to ensure ethical marketing practices, including adherence to the Code of Marketing of Breast Milk Substitutes.

BNNC continued its efforts to improve the nutrition governance both at national and sub-national level during the reporting period by improving horizontal (inter-sectoral coordination with various line ministries, platform meetings, executive committee and standing technical committee, SUN Networks, etc.) and vertical coordination (with DNCCs and UNCCs); advocacy for resource mobilisation (internal and external), developing monitoring system to monitor the functionality of sub-national committees and advocacy plan for high visibility for nutrition, etc.

5.5.4.(b) Need for further actions under this objectives and programme;

Set up a FNS data strategy for a comprehensive network of FNS information systems

FNS data encompasses a continuum between agricultural production, market access and food utilization data which implies that data collection processes and their related institutional frameworks need to be organized in a comprehensive way. The [Bangladesh Strategic Plan for Agriculture and Rural Statistics \(SPARS, 2016-2030\)](#), for instance, aims to strengthening and development of well-coordinated and integrated agriculture and rural statistical system. With the goal of strengthening the capacity to monitor progress towards reducing undernutrition and to direct funding to more cost-effective and evidence-based programmes, the NIPN, 2018-2021 recognises as main challenge data generation methods, data frequency and validation processes. Improved coordination between the agriculture-specific, nutrition and FNS data collection and institutional frameworks will require a FNS data strategy under the leadership of BBS. To this end, enhancing the role of BBS as a central repository and data provision and validation unit will be essential. To ensure no overlap, reliable and timely data and filling of data gaps, a comprehensive FNS data assessment will need to be performed with an emphasis on disaggregated and location specific data. Based on that, agreements and protocols for data exchange among the various institutions will be established.

Strengthen capacity and budget allocation of all FNS data collecting agencies through an RBM approach

All public data collecting agencies, including BBS, need to be strengthened through technical capacity development and training to address the vital concern of providing timely and more accurate FNS related data and information. An RBM approach will be systematically applied to assess institutional needs and gauge activity planning of different agencies involved. Data and information collection especially at subnational level, dissemination and online access will be given priority to improve transparency. To this end, the M&E function within data collecting agencies, including BBS, will be also strengthened including at local level, emphasising data quality, timeliness and access. In line with the 8FYP, independent evaluations and assessments will be implemented to ensure that expected goals are met.

Develop human resources to harness the opportunities offered by big data analytics

In order to fully harness the opportunity offered by Big data analytics, human resources will continue to be developed, leveraging on the national education system and ICT curriculum, and the large pool of online workers²¹¹. This will include a training need assessment of FNS related institutions and the delivery of ICT training of public workers in those key FNS institutions.

²¹¹ ICT Division. 2019. [E-Government Master Plan for Digital Bangladesh \(2019\)](#). Government of Bangladesh

Develop a big data governance framework

This action is closely aligned with Strategy 5.5 aimed at strengthening FNS governance, policy coherence, capacity strengthening and leadership across stakeholders. BBS, MoF, MoC, MoInd, MoEFC, and all other government institutions collecting and/or storing agricultural and FNS-related data will have to work with data providers and data users to establish clear frameworks governing data access and use in line with the e-Government Master Plan for Digital Bangladesh (2019) and the PP2041. The regulatory and governance framework will have to be adjusted and private data protection ensured, in particular in reference to the provision of private sector data for public use and agro-food related research (including food safety).

Strengthen the monitoring framework leveraging on existing initiatives and synergizing with the private sector

The monitoring framework will require an in-depth review to make it more relevant for the various stakeholders. Engaging them in the process will ensure that the outputs produced meet expectations. To this end, a survey of the various stakeholders (including the private actors) will be carried out to understand the usefulness of the monitoring products. This will, in turn, increase the commitment and active participation by the various actors to the process thereby also contributing to a strengthened policy uptake. The monitoring framework will be adjusted based on the required monitoring. These adjustments will be leveraged based on available human and financial resources. The monitoring products may be used by MoF to account for FNS investment volumes, to align DPs' technical and financial support to country investment's needs and gaps, to feed into the United Nations Sustainable Development Cooperation Framework Programme for Bangladesh as well as the SDG progress report. They may also find a role for the private sector and investors within the framework of the Federation of Bangladesh Chambers of Commerce and Industry (FBCCI). In addition, synergies with AIMS, HiH and the SUN networks at various levels will be exploited. An early engagement of all stakeholders is required to tailor the monitoring process and outcomes to their needs.

5.5.5 Strategy 5.5 Strengthen FNS governance, policy coherence, capacity strengthening and leadership across stakeholders; This strategy consist of 4 area of interventions AoI 5.5.1. Strengthen policy uptake, nutrition leadership and institutional capacity of relevant secretariats and public institutions; **AoI 5.5.2** Strengthen the capacities at subnational level including local government, non-state actors and consumer associations by facilitating knowledge exchange and partnerships; **AoI 5.5.3.** Strengthen private sector capacity by promoting the transfer of technologies and knowledge; **AoI 5.5.4.** Establish frameworks for national and subnational FNS stakeholder partnerships to ensure mutual accountability, transparency and effectiveness and operationalise an umbrella organization for the active engagement of stakeholders, especially youth. **It also covers 2 programme pillar 5 under CIP-3 Strategy 5.5** run by under two programmes of the country investment plan 3 (CIP3); **Programme V.4** Strengthened policy uptake, nutrition leadership and institutional capacity at national and subnational level of government; **Programme V.5** Strengthened FNS governance through enhanced participation of private sector and other non-State actors.

5.5.5.(a) Progress towards achievements

Table 32 - - Progress towards achievement of NFNSP Strategy 5.5 and CIP3 program (V.4-V.5)

NFNSP & CIP3 output proxy indicators	2019/20 Baseline	2020/21	2021/22	Source
Annual Monitoring Report	1	1	1	FPMU
Number of different organisations in the LCGs on ARDFS and DER	a. ARDFS-Govt.-25 DPs- 46 b. DER-Govt.-17 DPs-18 c. Health-Govt.- DPs -	a. ARDFS-Govt.-25 DPs- 46 b. DER-Govt.-17 DPs-18 c. Health-Govt.- DPs -	a. ARDFS-Govt.-25 DPs- 46 b. DER-Govt.-17 DPs-18 c. Health-Govt.- DPs	FPMU
Numbers of functional sub national FNS activates including state, non-state and consumers associations	-	-	-	BNNC
Changes in policies	-	-	-	FPMU
Number of members in FNS umbrella organization	-	-	-	FPMU, BNNC
Policies adopted to transfer technologies and knowledge to private sector in FNS sectors	-	New technology are being developed, technology transfer to the service provider and beneficiary are going on	-	FPMU
n. of accredited food testing laboratory facility in private sector	4	4	4	BAB

Annual Monitoring Report produced

The annual Monitoring Reports (MR) of the FNS-CIP will be better used identify new projects, and thereby help align the Government's investments closely to NFNSP goals. The MRs annually track both FNS results and projects investments. Gaps identified in the MR of FNS-CIP will be consolidated with the MR of the NPAN2, with coordination between FPMU and BNNC, and this will lead to proposals for annual adjustments to the FNS investments portfolio, which will be channelled to the FPMC for approval. The MR of the FNS-CIP is published around June each year, reporting investment data up to the end of the previous fiscal year.

Number of different organization in the LCGs on ARDFS and DER

The LCGs exist to foster coordination between Development Partners (DPs) and the Government. To ensure a stronger and wider participation in the LCG on ARDFS, the LCG on DER, and the Health and Nutrition Consortium which is a health related LCG. Wider and more active participation in the LCGs by the civil society and private sector will be sought. It is important to ensure that nutrition related issues are more often brought up for discussions along with funding considerations and investments. There are 25 govt. organizations and 46 Development Partners are in LCGs on ARDFS and 17 govt. organization and 18 Development Partners are in LCGs on DER.

Number of collaborative platforms between local actors

Local institutions contributing to FNS need to map and their FNS-relevant activities recorded. The service delivery capacity of different actors will be looked into with the identification of their current/potential engagement. An effort will be made to gauge bottlenecks in their local level operation and management, and their dependence on external state and non-state actors estimated. The role of public offices and local government authorities and their capacity constraints in supervisory, regulatory and FNS promotional activities will be examined. A clear division capacity of responsibilities, both horizontally and vertically, will be proposed and agreed with key actors.

Changing in Policies

The policy environment also plays a role in creating conditions that are more conducive to knowledge transfers and a comprehensive policy review is therefore needed. The National Science and Technology Policy 2011 and other relevant policy instruments may require updating and that may also affect this area and need review.

Number of members in FNS umbrella organizations

The current FNS governance structure consists of the top level "Food Planning and Monitoring Committee (FPMC)" which is chaired by the Minister for Food and comprised of 19 members including the ministers and Secretaries of the FNS-related ministries. The mandate of the committee includes advising the government to take up necessary measures for ensuring food and nutrition security and food safety. The committee is responsible for providing an overall leadership and oversight in planning, coordination and monitoring in all aspects of food and nutrition security. NFNSP will promote active participation of local governments, civil society, and the private sector at sub-national levels (grass roots, sub-district and district) to improve monitoring and coordination at the local level

Strengthening the capacity to effectively participate and collaborate in the implementation of NFNSP is another formidable challenge which needs to be dealt-with by formulating an appropriate coordination strategy. Policy coherence is key to multi-sectoral program development and implementation to 18 tackle food and nutrition insecurity. NFNSP will develop a framework for ensuring policy coherence across sectors.

Policies adopted to transfer technologies and knowledge to private sectors in FNS sectors

The private sector is often referred to as the ‘silver bullet’ to finance Agenda 2030. The private sector handles all trade of agricultural commodities and food -except for the government’s Public Food Distribution System (PFDS) - as well as the majority of its processing and marketing. Despite increasing recognition of the benefits of a more diverse diet for nutrition, the approach for private sector investments largely emphasizes the availability of food aspect of food security, putting less emphasis on improving people’s access to a diverse diet. The government needs to use the instruments it has on hands, such as incentives and regulations, to guide and mobilise them toward responsible investments for improving diets and nutrition of the poor. This needs to happen within a strong and well-regulated public policy framework that can warranty clear development added value and ensure that investments are in line with development objectives. The operationalisation of a private umbrella that can bring together the multitude of private actors is also needed, hence the importance of associations such as the Federation of Bangladesh Chambers of Commerce and Industries, the Metropolitan Chamber of Commerce & Industry, Dhaka, and the Dhaka Chamber of Commerce and Industry.

Number of accredited food testing laboratories facility in private sector is stagnant

Accreditation is an international practice in which certification of competency, authority or credibility is presented. Organizations that issue credentials of certify third parties are themselves formally accredited by accreditation bodies. The testing labs accredited to do to the job are thus entrusted to ensure compliance with established technical requirements involving physical, chemical, forensic, quality and security standards.

Laboratory accreditation is a procedure by which an authoritative body gives formal recognition of technical competence for specific tests/ measurements, based on third party assessment and following international standard and if any, national standards.

Accredited laboratories can objectively state conformance of product or service to specified requirements. It is important for the purchaser, regulator, government, and the public to be able to identify accredited testing and calibration laboratories. Laboratory accreditation plays an important role in social sectors such as Medical, Food, Environmental and Forensic Science testing laboratories and in export sectors where products and goods are necessitated to test prior to exporting. The private sector has only four accredited food testing laboratories facility in Bangladesh. The four laboratories are as follows, Nestle Sreepur QA Laboratory, Nestle Bangladesh, PRAN Quality Control Laboratory, PRAN Group, Narsingdi, SGS Food & Agricultural Testing Laboratory, Dhaka and Wafen Research Laboratory, Dhaka, Bangladesh.

5.5.5 (b) Need for further actions under this objectives and programme;

Enact a Right to Safe Food Act

Bangladesh has a number of policies on food and food related issues, which require a structured policy framework for enforcement. The Bangladesh Law Commission has recommended enactment of a Right to Food Act and constitution of a Food Commission to oversee its implementation. It has also observed that sensitisation of policy makers is required to see the relevance and need for such a measure²¹². Keeping in mind the importance of food safety, steps will accordingly be taken to enact a Right to Food Act.

Develop new regulations with guidelines for enforcement, to prevent and control NCDs

Following up on the 4th Health, Population and Nutrition Sector Programme (4th HPNSP) Operational Plan (OP) Non-Communicable Disease Control (2017), a national STEPS survey²¹³ in 2018 concluded that targeted interventions are required to combat the rising burden of NCDs²¹⁴. Implementation of the multi-sectoral action plan for prevention and control of NCDs (2018-2025) with a three-year operational plan, will be accelerated with focus on the action areas of advocacy, leadership and partnerships; health promotion and risk reduction; health systems strengthening for early detection and management of NCDs and their risk factors; and surveillance, monitoring and evaluation, and research. An operational PoA with regulations and guidelines for enforcement will be developed for the remaining period 2021 to 2025, including nutrition labelling, reformulation of food standards limiting high sugar, salt and fat, and banning industrial trans fats; restriction of food advertising particularly marketing of unhealthy foods to children and imposing tax on sugar sweetened drinks and ultra-processed junk foods. Mass awareness will be generated through print and electronic media campaigns giving nutrition advice and education on NCDs.

Strengthen the capacity of BBS to disaggregate data by gender and social groups

The role of data for a proper understanding of the ground situation of FNS by social group and gender to enable targeted policy making especially for poor and vulnerable women is crucial. While numerous laws, policies and plans endeavour to address gender equality and women's empowerment, the data and statistics needed for monitoring and reporting are not available for many areas, are uneven and/or are not updated²¹⁵. Steps will be taken to improve gender disaggregated data production by strengthening the capacity of BBS on gender statistics, including through data collection on priority data needs such as time-use, violence against women, and sex-disaggregated population statistics, to enable gender mainstreaming in food systems

Integrate gender dimension into food loss assessment and prevention strategies

The NFNSP recognises the importance of reducing FLW along the value chain with Strategy 5.2. dedicated to this issue. Women play a major role especially in the postharvest phase of food

²¹² Bangladesh Law Commission. 2015. [A Study on Ground Situation of Right to Food in Bangladesh](#)

²¹³ STEP-wise Surveillance for NCD risk factors (STEPS) is a WHO-developed, standardized framework for monitoring the magnitude of NCD risk factors in a country. It comprises of 3 steps: STEP 1 determines behavioural risk factors by questionnaire assessment, STEP 2 figures out physical risk factors by physical measurements and STEP 3 finds out biochemical risk factors by biochemical measurements.

²¹⁴ NIPSOM, GoB & WHO. 2018. [Bangladesh NCD Risk Factor Survey 2018](#)

²¹⁵ UN Women website. [How are we making women count in Bangladesh?](#)

processing and value addition and factors inhibiting their access to inputs, technology and other resources influence FLW. The gender dimension will be integrated in the FLW assessment exercise and prevention strategies developed using tools like FAO's four-step approach for gender-responsive food loss reduction.

Establish National Environment Management Council (NEMC)

In line with the recommendation in the PP2041, a National Environment Management Council (NEMC), chaired by the Prime Minister will be established. It will have representatives from the ministries of finance, planning, environment and forestry, land, agriculture, water, fisheries and livestock, law, energy and power, industry and transport as members, and the department of environment will provide the secretariat service. The main function of the NEMC will be to ensure the proper integration of environmental concerns in the development agenda and monitor implementation progress in different sectors including increasing resilience of crop and livestock production systems in a sustainable manner.

Restore mangroves in coastal areas

Bangladesh has a coastline of 580 km across 19 coastal districts. With two-thirds of landmass less than five meters above sea level and 30% of its arable land in coastal areas, the country is highly vulnerable to sea level rise, cyclones, storms, and storm-induced tidal flooding. It has been demonstrated internationally that mangroves act as an effective bio-shield against coastal surges. Mangrove forest restoration was a key intervention under the Integrating Community-based Adaptation into Afforestation and Reforestation (ICBA-AR) project (2016-20) implemented by the MoEFCC in collaboration with United Nations Development Programme (UNDP)-Global Environmental Facility in eight upazilas across five districts, to increase resilience of the coastal community to climate change and enhance their food security. The project promoted coastal livelihoods through development of floating fruit and vegetable gardens and fish ²¹⁶. Based on the evaluation report of the project, steps will be taken to expand projects of this type over a wider area.

Examine and learn from green growth strategies for food and agriculture

The 8FYP is committed to reduction in overuse of chemicals in agriculture, reduce GHG emission, follow GAP and put in place a Green Growth Strategy. As stated in the Plan, Bangladesh will study and learn from UNDP's Green Commodities Program, and the example of other countries (e.g., Rwanda's Green Growth and Climate Resilience National Strategy for Climate Change and Development to establish a low carbon and climate resilient economy by 2050, Chile's National Green Growth Strategy), to support its agenda for green growth. Currently, the country has set targets to reduce GHG emissions in the power, transport and industry sectors. Agriculture is reported to be a leading contributor accounting for 39% of total emissions²¹⁷. The BCCSAP includes actions to reduce emissions in the agriculture sector (through energy efficiency and water and fertiliser management), and scaling up afforestation and reforestation. The updated Nationally

²¹⁶ Bangladesh Forest Department. 2018. Integrating Community-based Adaptation into Afforestation and Reforestation (ICBA-AR) Programme in Bangladesh: Co-management and benefit sharing from coastal afforestation

²¹⁷ USAID. 2016. [Greenhouse Gas Emissions in Bangladesh](#). April.

Determined Contribution (2020) under preparation will include a target for reduction in GHG from agriculture, which is currently absent.

Review and assess the role of local institutions in achieving FNS

Local institutions contributing to FNS need to be mapped and their FNS-relevant activities recorded and categorised according to NFNSP-PoA strategies and initiatives, in collaboration with the umbrella organisation planned under AoI 5.5.4. This will help streamline current efforts, avoid duplication of efforts and exploit synergies through partnerships. The service delivery capacity of different actors will be looked into with the identification of their current/potential engagement. An effort will be made to gauge bottlenecks in their local level operation and management, and their dependence on external state and non-state actors estimated. The role of public offices and local government authorities' and their capacity constraints in supervisory, regulatory and FNS promotional activities will be examined. A clear division of responsibilities both horizontally and vertically will be proposed and agreed with key actors.

Conduct a policy review

The policy environment also plays a role in creating conditions that are more conducive to knowledge transfers and a comprehensive policy review is therefore needed. The National Science and Technology Policy dates from 2011 and may require updating. Other relevant policy instruments may also affect this area and conflict with each other.

Improve the investment climate

By creating an environment that is conducive to investment in the agri-food sector, including foreign investment, knowledge transfers are likely to increase either directly or through spill overs that will benefit the food system. Bangladesh's ranking in the World Economic Forum's 2019 Global Competitiveness Index is 105th out of 141 countries, leaving much scope for improvement in most of the components of this index (for example on ICT adoption, skills, business dynamism and innovation capacity). This may involve changes in law and regulations. It may also involve public investments such as infrastructure (roads, markets) which will create an environment that is appealing to investors.

Establish and operationalise an umbrella organization

An umbrella organisation that can bring together multitude of actors or groups into cohesive entities is required to streamline the diverse efforts taking place in the country to try and tackle the causes and underlying factors of food and nutrition insecurity. This involves all the ministries working on FNS, NGOs, academia, research institutions, other CSOs, and the private sector, both at subnational, national and international levels. This will require careful thinking and consensus on the best setup in terms of purpose and role, size, location, structure, role and governance arrangement of this organization. While choices will need to be made with regards to the scope of the work of this institution given the breadth the issue of FNS, one of its important roles will be to actively engage stakeholders such as associations, clubs, foundations, platforms and other institutions, especially youth. The role and engagement of the FBCCI will be key for instance which need to be strengthened. Resources will be allocated for the setup of this institution and its operationalisation. Mechanisms to ensure regular and durable funding will need to be put in place to ensure it is able to commit to long-term endeavours.

Annex-1: CIP3 Programmes and correspondence PoA Strategies and Areas of Intervention

NFNSP PoA			CIP3	
OBJECTIVE 1			PILLAR I: Availability of safe and nutritious food for healthy diets	PoA AoI covered
Strategy 1.1 Increase productivity while ensuring sustainable production of cereals and nutritious foods including horticulture, fisheries and livestock	1	AoI 1.1.1. Develop improved climate-smart technologies for productivity gains, agricultural diversification, sustainable intensification, and enhancement of nutrient-content	Programme I.1. R&D and improved technology for more productive nutrient-rich and sustainable agriculture in rural and urban areas	1.1.1.; 1.2.2; 1.2.3
	2	AoI 1.1.2. Disseminate improved technologies and practices at farmer and farm level through effective and participatory extension services	Programme I.2. Gender, climate and nutrition sensitive extension services	1.1.2
	3	AoI 1.1.3. Expand and promote the use of water-efficient and environmentally friendly alternative irrigation technologies, including surface irrigation	Programme I.3. Efficient and environmentally friendly irrigation technology	1.1.3
	4	AoI 1.1.4. Improve timely access to credit including micro-credit, to small-scale producers through suitable institutional reforms	Programme I.4. Improved efficiency of agricultural inputs	1.1.4; 1.1.5; 1.1.6; 1.1.8
	5	AoI 1.1.5. Improve input use efficiency for productivity gains, sustainability, and health and environmental protection	Programme I.5. Enhanced role of POs and cooperatives	1.1.9
	6	AoI 1.1.6. Promote the production of quality feed and fodder through appropriate support to feed and fodder industries for fisheries and livestock		
	7	AoI 1.1.7. Stimulate the blue economy by promoting the sustainable development of marine fisheries and aquaculture in coordination with other non-		

		agricultural uses and the private sector
	8	AoI 1.1.8. Develop and promote eco-friendly and responsible practices for animal health along the principles of “One Health”
	9	AoI 1.1.9. Strengthen the role of POs and cooperatives to reduce the cost of production, improve market access, and increasing the prices received by producers
Strategy 1.2 Scale up nutrition-sensitive diversification of food production	10	AoI 1.2.1 Promote diversification into horticulture, fisheries, livestock, poultry and dairy products with high nutrient and micronutrient content including regional and ethnic foods
	11	AoI 1.2.2. Increase funding and improve efficiency of R&D for sustainable agriculture
	12	AoI 1.2.3. Improve the availability of safe nutritious food through innovation and expansion of appropriate methods of urban-based food production
OBJECTIVE 2: To ensure access to safe and nutritious food at an affordable price		
Strategy 2.1 Improve market access and stabilize food markets	13	AoI 2.1.1. Promote the establishment, improvement and management of post-harvest marketing infrastructure and processing facilities for horticultural products, pulses and legumes, livestock and fisheries
	14	AoI 2.1.2. Set up financial intermediation services with improved access to credit for agro-

Programme I.6. Promotion of agricultural diversification into commodities with high nutrient and micronutrient content and market value including regional and ethnic foods	1.2.1.
Programme I.7. Developed Blue economy	1.1.7

PILLAR II: Access to safe and nutritious food at an affordable price	PoA AoI covered
Programme II.1. Efficient FVCs through transport infrastructure	2.1.1.
Programme II.2. Efficient FVCs through innovation and improvements in post-harvest	2.1.1.; 2.2.1

		processors along with other complementary services	processing and marketing, improved infrastructure, reduced FLW and enhanced cooperation among agents	
	15	AoI 2.1.3. Maintain an orderly market management by securing property rights, regulating competition and stabilizing prices	Programme II.3. Orderly market management by securing property rights, regulating competition and stabilizing prices	2.1.3
	16	AoI 2.1.4. Ensure trade liberalisation and facilitation to support the supply of quality food at all times	Programme II.4. Trade liberalisation and facilitation to support the supply of quality food at all times	2.1.4
Strategy 2.2 Improve value chain and marketing systems	17	AoI 2.2.1. Stimulate innovation-led efficiency gains in FVC by shortening the chain, improving cooperation among agents and by reducing food losses and waste	Programme II.5. Availability of financial intermediation, ICT market information systems and other complementary services for agroprocessors including for the most vulnerable sections of the population	2.1.2; 2.2.2; 2.2.5; 2.4.2
	18	AoI 2.2.2. Encourage and support the establishment and growth of financially viable MSMEs	Programme II.6. Enabling environment to enhance infrastructure, processing, value addition, marketing and eliminate business barriers	2.2.3, 2.3.3
	19	AoI 2.2.3. Create an enabling environment to attract private investment in infrastructure, processing, value addition, marketing and eliminate business barriers	Programme II.7. Promotion of inclusive cooperative/group-based processing and marketing	2.2.4
	20	AoI 2.2.4. Promote inclusive cooperative/group-based processing and marketing		
	21	AoI 2.2.5. Strengthen ICT-based market information system to provide real time support to farmers		
Strategy 2.3 Preserve and enhance	22	AoI 2.3.1. Preserve and promote food safety and nutrients along the value chain including during transportation, processing,	Programme II.8. Preservation and promotion of food safety and nutrients along the value chain including through fortification	2.3.1; 2.3.2; 2.3.4

		packaging, storage, wholesale and retail
	23	AoI 2.3.2. Promote the fortification and nutrition enhancement of relevant foods where desirable and efficient
	24	AoI 2.3.3. Promote innovation and development of appropriate technologies to preserve nutritional value, in local and export processing zones (EPZ), including under Public-Private Partnership (PPP)
	25	AoI 2.3.4. Build the capacity of the private sector to test food and communicate results to and engage with value chain actors for adequate remedial actions, and establish food traceability mechanisms
Strategy 2.4 Raise incomes of the poor and food insecure	26	AoI 2.4.1. Expand and promote agriculture-driven, off-farm employment and other employment along the food chain by expanding vocational training opportunities particularly for rural youth, women and disabled people
	27	AoI 2.4.2. Provide adequate credit, technology, information, training and other related services for the growth of agro-based industries and the broader rural non-farm economy, with special emphasis on the most vulnerable sections of the population
OBJECTIVE 3: To enhance the consumption and utilization of healthy and diversified diets for achieving nutrition improvements		
Strategy 3.1 Develop a long-term national plan	28	AoI 3.1.1. Develop a national-level food production, supply and consumption plan based on a nutrient gap analysis considering energy and nutrient demand for a healthy and active life

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Programme II.9. Promotion of agriculture-driven, off-farm employment and other employment along the food chain particularly for rural youth, women and disabled people	2.4.1
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PILLAR III: Consumption and utilization of healthy and diversified diets for achieving nutrition improvements	PoA AoI covered
Programme III.1. Development of a national-level food production, supply and consumption plan based on a nutrient gap analysis	3.1.1.

	29	AoI 3.1.2. Support the implementation of DDP plans for a healthy and sustainable food system	Programme III.2. Operationalization of healthy diets for nutrition outcomes	3.1.2
	30	AoI 3.1.3. Expand human resources and strengthen institutional arrangements to improve performance of nutrition services with special emphasis on field level	Programme III.3. Expanded human resources and strengthened institutional arrangements to improve performance of nutrition services with special emphasis on enhancing child nutrition outcomes at sub national levels	3.1.3
Strategy 3.2. Enhance nutrition knowledge, promote good dietary practices and encourage consumption	31	AoI 3.2.1 Develop and promote local foods, healthy cooking and food combinations, safe storage including knowledge on nutrient labelling	Programme III.4. Enhanced nutrition knowledge, good dietary practices and consumption of safe and nutritious diets for the prevention and control of malnutrition and NCDs	3.2.1; 3.2.2
	32	AoI 3.2.2. Scale-up integrated nutrition education strategies to enhance consumption of healthy, diets, increase awareness of the nutrient composition of local foods as well as to prevent and control malnutrition (undernutrition and overnutrition)		
Strategy 3.3. Optimise food utilization through provision of safe water, healthy diets and improved food hygiene and sanitation	33	AoI 3.3.1. Expand programs for immunization, control of ARI, prevention of cholera and diarrhoeal diseases	Programme III.5. Expansion of programmes for immunization, control of ARI, prevention of cholera and diarrhoeal diseases	3.3.1
	34	AoI 3.3.2. Strengthen the implementation of NNS delivery integrated with community clinics targeting children and women suffering from persistent weakness and micronutrient deficiencies	Programme III.6. NNS delivery and early childcare practices to promote maternal and child nutrition	3.3.2
	35	AoI 3.3.3. Scale up the supply of safe water for consumption and domestic use	Programme III.7. Supply of safe water for consumption and domestic use enhanced, improved sanitary facilities and hygiene practices to better impact food utilization and nutrition outcomes	3.3.3, 3.3.4
	36	AoI 3.3.4. Improve sanitary facilities and hygiene practices, including the prevention of animal to human transmission of disease and		

		prevention and control of food and water- borne illness
OBJECTIVE 4: To increase access to nutrition-sensitive social protection and safety nets across life cycle with a focus on vulnerable groups and regions		
Strategy 4.1 Improve management of the public food stock and distribution system	37	AoI 4.1.1. Inform decision-making and improve planning for price support to farmers, market stabilization and public food distribution
	38	AoI 4.1.2. Enhance the management of procurement, public food stocks and prices stabilization activities and implement a nutrition sensitive PFDS
	39	AoI 4.1.3. Ensure adequate storage of food grain maintaining quality and prevent deterioration of stored foodstuffs in the PFDS
Strategy 4.2. Improve disaster preparedness, responses, rehabilitation and mitigation	40	AoI 4.2.1. Increase the resilience of agriculture systems through various mechanisms notably climate-smart technologies, adoption of stress-tolerant crop varieties and implementation of good agriculture, animal husbandry and fisheries practices for the production of healthy foods
	41	AoI 4.2.2. Increase the disaster-coping ability of poor farming families, support home-based farming especially through “Amar Bari Amar Khamar” (My Home My Farm), and protect poultry, livestock and other assets
	42	AoI 4.2.3. Ensure operation of emergency shelters with nutritious and safe food, safe drinking water, sanitation and healthcare for disaster-affected people, especially

PILLAR IV: Access to nutrition-sensitive social protection and safety nets across life cycle with a focus on vulnerable groups and regions	PoA AoI covered
Programme IV.1. Improved management of the public food stock and distribution system	4.1.1; 4.1.2; 4.1.3
Programme IV.2. Increased resilience of agriculture systems	4.2.1
Programme IV.3. Disaster-coping ability of vulnerable families	4.2.2; 4.2.3

		for women, elderly, disabled and children		
	43	AoI 4.2.4. Facilitate and coordinate disaster response, mitigation and rehabilitation through timely and strategic storage of public food stock, rapid distribution to disaster-affected people, and effective mobilization through various modalities including public-private partnerships	Programme IV.4. Facilitation and coordination of disaster response, mitigation and rehabilitation	4.2.4
Strategy 4.3. Strengthen social protection for poor and vulnerable groups, including disabled and displaced	44	AoI 4.3.1. Strengthen social protection in disadvantaged areas and for disadvantaged groups	Programme IV.5. Strengthened social protection in disadvantaged areas and for disadvantaged groups with particular attention to nutrition sensitivity	4.3.1; 4.3.3
	45	AoI 4.3.2. Ensure safety nets for the poorest and nutritionally vulnerable, especially female-headed households, during periods of seasonal crises and food shortages	Programme IV.6. Safety nets in place during periods of seasonal crises and food shortages	4.3.2
	46	AoI 4.3.3. Develop and implement nutrition-sensitive social protection programs, including food fortification, nutrition education, and behaviour change communications		
	47	AoI 4.3.4. Ensure proper coordination and co-operation to integrate social protection with agricultural development, income generation, and micro-entrepreneurship development	Programme IV.7. Coordination and co-operation to integrate social protection with agricultural development, income generation, and micro-entrepreneurship development	4.3.4
OBJECTIVE 5: To strengthen cross-sectoral food and nutrition security governance, coordination, capacity building and partnership for effective policy implementation			PILLAR V: Cross-sectoral issues	PoA AoI covered
Strategy 5.1. Improve	48	<i>AoI 5.1.1. Ensure conformity and compliance of food safety policies (laws, standards and regulations)</i>	<i>Food safety marker: Improved food safety, quality control, and</i>	<i>5.1.1; 5.1.2; 5.1.3</i>

	49	<i>AoI 5.1.2. Develop, improve, and establish traceability mechanisms and enforce regulatory frameworks to control food hazards within the food supply chain</i>	awareness of food safety and hygiene	
	50	<i>AoI 5.1.3. Develop and promote education and consumer awareness on food safety</i>		
Strategy 5.2. Reduce food losses and waste	51	<i>AoI 5.2.1. Minimise on-farm food losses</i>	FLW marker: Minimised on-farm and off-farm food losses, and waste	5.2.1; 5.2.2.; 5.2.3
	52	<i>AoI 5.2.2. Reduce off-farm losses</i>		
	53	<i>AoI 5.2.3. Tackle food waste</i>		
Strategy 5.3. Improve data, information and analysis for evidence-based planning, monitoring, evaluation, and update of policies and programs through wider partnerships	54	AoI 5.3.1. Produce/generate, disseminate and ensure access to reliable and timely FNS data and information by setting up an inter-agency FNS data sharing mechanism	Programme V.1. Generation, dissemination and access to reliable and timely FNS data and information including Big Data	5.3.1; 5.3.2
	55	AoI 5.3.2. Develop and implement a big data analytics ecosystem for the food system		
	56	AoI 5.3.3. Operationalise the implementation of the NFNSP, its Plan of Action and Country Investment Plan for FNS through an effective M&E system	Programme V.2. Operationalisation of the implementation of the NFNSP, its Plan of Action and Country Investment Plan and integration with other FNS development efforts	5.3.3.; 5.3.4
	57	AoI 5.3.4. Ensure the cross-sectoral integration of the NFNSP, PoA and its investment plan with other FNS-related initiatives and its coherence with national socio-economic development efforts		
Strategy 5.4 Strengthen regulatory	58	AoI 5.4.1. Develop and implement effective regulatory instruments and guidelines for priority issues	Programme V.3. Effective regulatory instruments and guidelines	5.4.1
	59	AoI 5.4.2 Strengthen gender mainstreaming for food and nutrition security	Gender marker: Gender mainstreamed for food and nutrition security	5.4.2

	60	AoI 5.4.3. Develop and promote climate-resilient food systems	Climate resilience marker: 5.4.3 Climate-resilient food system
Strategy 5.5. Strengthen FNS governance, policy coherence, capacity strengthening and leadership across stakeholders	61	AoI 5.5.1 Strengthen policy uptake, nutrition leadership and institutional capacity of relevant secretariats and public institutions	Programme V.4 Strengthened policy uptake, nutrition leadership and institutional capacity at national and subnational level of government
	62	AoI 5.5.2. Strengthen the capacities at subnational level including local government, non-state actors and consumer associations by facilitating knowledge exchange and partnerships	
	63	AoI 5.5.3. Strengthen private sector capacity by promoting the transfer of technologies and knowledge	Programme V.5. Strengthened FNS governance through enhanced participation of private sector and other non-State actors
	64	AoI 5.5.4. Establish frameworks for national and subnational FNS stakeholder partnerships to ensure mutual accountability, transparency and effectiveness and operationalise an umbrella organization for the active engagement of stakeholders, especially youth	

