Bangladesh Country Investment Plan

Annex 2

Synopsis Tables of 12 Proposed Programmes

14 June 2010

Programme P1

Integrated Research and Extension to Develop and Propagate Sustainable Responses to Climate Change

1	**Relevant Government policy and planning framework**	NSAPRII (Section 3.2.4); The Outline Perspective Plan 2010-2021 (Section 7.2); National Medium Term Priority Framework (Chapters 2 & 3); National Agricultural Technology Project 2008 (Chapter 1); NFP Plan of Action, Matrix 1.1; New Agriculture Extension Policy (1996); National IPM Policy 2002 (Chapter 2).
2	**On-going Investment operations**	Agricultural technology generation; Diversified sources of income, value addition and marketing; Livelihood adaptation to climate change; Development of hybrid maize research; Strengthening of toxicological laboratory and research for the detection and quantification of pesticide residue in agricultural produces; Establishment of analytical laboratory for analyzing residue in agricultural produces; Strengthening of pulses and oilseed research programmes; Agricultural technology transfer; Enhancement of agricultural production and rural employment through extension of agricultural engineering technologies; Strengthening agricultural extension services.
3	**Planned Investment Operations**	1. Enhance research to adapt to climate change 2. Develop Community Based Learning and Experimentation practices (expand the FFS programmes) 3. Promote Sustainable agriculture practices (conservation agriculture, integrated pest management or integrated crop management.
4	**Current Investment Levels:** **- from Budget** **- from DPs**	Annual Development Programme 2009-10 Tk. 2604.4 million (4.68% of FS Allocation) 47.57% 52.43%
5	**Current challenges, gaps to be covered and priorities of the Government**	**Challenges & Gaps**: - Degradation of natural resources for crop production: Declining water level for minor irrigation; deteriorating soil fertility and arsenic contamination of ground water - Climate change including rising temperature level, rising sea level, increasing salinity etc. affecting the ability of increasing crop production to feed additional mouths added everyday. **Government priorities:** - Bringing unfavourable agro-ecological zones under crop cultivation, including coastal zone, Sylhet region and Northern *Monga* affected char areas, - Increasing yields of all types of crop, - Expanding boro cultivation in the south by proper policy incentives and appropriate technology dissemination in the form of saline tolerant verities and surface water irrigation; - Arrest soil degradation- soil erosion, decline in soil fertility etc - Reduce post harvest losses; - Revamping technology generation system; - Overhaul the extension system - Modernize agricultural education and training system - Encourage Farmers' organizations.
6	**Proposed Key Activities (brief description)**	- Research productivity must be significantly improved through revamping the technology generation system by importing and adapting or developing varieties of rice and other crops (including biotechnology) suitable to local conditions (crop zoning) with: (i) shorter maturity; (ii) drought-resistant and salinity-prove rice varieties; (iii) resistance to arsenic uptake; (iv) flood resistant, (v) low input and

		minimum management dependent, vi) rice varities that require less water etc. In this view to increase productivity, it is important to take steps to reduce difference between yield gap and knowledge gap, and to reduce pre and post harvest losses. - Ensure dissemination of appropriate technology and providing support/sponsorship for mechanisation. This requires strengthening relation between researchers / extension workers / entrepreneurs / market institutions. - Research and extension efforts must be multiplied and materialised by reducing rice dominance and increasing crop diversification (considering agro-ecological impacts). - Maintaining soil health and diversification and specialisation of crop production should form an important activity of crop research and extension. - Conduct research to improve soil fertility. - Develop quality planting management. - Strengthen IPM and crop management in order to preserve ecological balance. - Information supply related to weather and climate change to assist in the adaptation process. - Develop quality of horticulture and other products. - Invest for increased Vegetables production in the south - Collect and preserve genetic resources. - A key area of proposed activities needing investment ought to be the implementation of NAEP and complement the activities of the NATP. - Also essential is research and development of agricultural practices and farming systems aiming to adapt to and mitigate climate change. The purpose is to develop and test adaptive measures in climate change affected areas by combining appropriate cultivars, cropping patterns and land and water management practices. Also, conservation agriculture and integrated pest management or integrated crop management which contribute to more sustainable and resilient farming practices would be promoted. For this purpose, FFS would also be instrumental. - The following investments are required: capacity building, field experimentations, specialized equipment, trainings and awareness campaigns, etc. The Government intends to develop agro-ecological databases including about farming systems, crop and price mapping. Improving education for agriculture, fisheries and livestock is an important priority for the Government. Efforts should be made to develop trained agriculture workforce, establish small farms with training centres at local levels and ensuring required incentives to retain skilled workforce in agriculture. Important efforts have to be made to also strengthen higher education institution and infrastructure. Therefore, few other specific components of the investment would be: • Strengthen Regional Agricultural station (analytical laboratories, improved services etc.) • Invest for developing/strengthening Sustained capacity of Agricultural scientists
7	**Institutions Involved and their mandate, capacities, track record,**	BARI & BRRI are the main institutions devoted to research on crops relevant for food security. BRRI's mandate is to research on developing and releasing new rice varieties suitable for different agro-ecological conditions, while BARI has the same mandate on all other crops. The track records of these institutes are good. BARI has released 244 varieties non-rice crops, while BRRI has released more than 50 rice

		varieties. Most noteworthy however is the fact that BR-47 has revolutionised rice production in Bangladesh and captured attention in other rice producing countries. Other institutions, which may be involved with the research and extension activities area: DAE BARC, BADC, ASPS, NATP, IFAD, FAO, DANIDA DFID, ADB.
8	**Implementation Challenges to be addressed during preparation**	It is ordinarily argued that agricultural research in Bangladesh is grossly under-funded, both for donors' policy priority changes and government's attitude and aptitude. This is generally true. However, merely increasing funds would not achieve the research goal being anticipated in the Food Security Forum. This is because these organisations suffer from country- ownership problems. On the one hand, political part of the government is often little interested in the efficiency of the research organisations; on the other hand, the bureaucratic part abuses its power and responsibilities. Dissatisfaction among scientists over promotion and ranks and mismanagement are common phenomena of these organisations. Naturally, the challenge in the implementation that must be addressed by the political government is to enforce its ownership on these organisations and hold the bureaucrats and scientists accountable for their jobs. In other words, capability building – both human and physical- shall be primary implementation challenge that has to be addressed adequately.
	Miscellaneous (of any)	Food security is a dynamic issue, as its nature changes with the change in socioeconomic conditions of the country. Therefore, sustainable funding for proper research and extension is extremely important for sustained achievement of food security. This point needs to be remembered both by donor agencies and the successive government.

Programme P2

Improved Water Management and Infrastructure for Irrigation Purposes

1	**Relevant Government policy and planning framework**	NSAPRII (Section 7.2) Outline Perspective Plan 2010-202 (Section 7.6); National Water Policy 1999 (Section 4.7); National Medium Term Priority Framework 2010 (Section 2.4.5); PoA Monitoring Report 2010 (Section V.2) and NFP Plan of Action Matrix 1.2.
2	**On-going Investment operations**	Greater Barisal-Patuakhali Integrated Agricultural Development Project; Pilot Project for Agricultural Production in Monga Prone Area through Modern Minor Irrigation Practices; Expansion of Irrigation through utilization of Surface Water by Double Lifting; Program for removing waterlogged area and increasing agricultural production in different districts; Program for increasing agricultural production and dewatering of waterlogged area in different districts; Program for forecasting of water quality, saline water intrusion and waterlogged area of southern part of Bangladesh.
3	**Planned Investment Operations**	- Improve Water management at farm level (capacity building for water users, rehabilitation of infrastructure); - Surface Irrigation in the South; reduce deep well pumping in the north; - Protection infrastructure rehabilitation against sea intrusion "Gorai River Restoration Project (Phase-II)" with a cost of Tk. 94214.55 lakh has been approved in November, 2009 by the present Government. Under this project, 2.97 km of the river (from the offtake of Gorai River) has been dredged from November, 2009 to till date. The dredged soil volume is 7.25 lakh m3. Another 0.61 km (dredged volume 1.30 lakh m3) river has also been dredged using dredger equipped with local technology. In addition to this, implementation of capital dredging is under process. So, sl. no. (vi) of page-9, paragraph 6.9 under Programme-2 (Improved Water Management and Infrastructure for Irrigation Purpose) is not correct and is requested to revise accordingly. Besides, in order to utilize the water of Ganges River in a comprehensive way for the poverty reduction, economical development and environmental conservation in south-west region, a study entitled as "Feasibility Study and Detailed Design of Ganges Barrage Project" is on progress. The CIP shall consider this for the investment plan in south-west region. The following projects are planned by the Government: (i) Ganges Barrage Project (ii) Teesta Barrage Project (Phase-II) (iii) Kurigram Irrigation Project (North Unit) (iv) Kurigram Irrigation Project (South Unit) (v) Chandpur-Comilla Integrated Flood Control, Drainage and Irrigation Project (vi) North Rajshahi Irrigation Project (vii) Pre-Monsoon Flood Protection and Drainage Improvement in Haor Areas
4	**Current Investment Levels:** **- from Budget** **- from DPs**	Annual Development Programme 2009-10 Tk.5817.6 Million (10.45% of FS Allocation)

5	**Current challenges, gaps to be covered and priorities of the Government**	**Major Challenges**: The current challenges of water management for irrigation are not much different from those of research and extension. Three realities may be listed: (i) declining level as well as arsenic contamination of ground water for irrigation, (ii) climate change causing drainage congestion due to rise in sea level and river bed rise and (iii) necessity of developing surface water irrigation for bringing South-West coastal region under rice cultivation as well as reducing dependence on ground water irrigation in the favourable areas. **Government priority**: (i) Diminish dependency on ground water irrigation by addressing the issues of falling water level and arsenic contamination; (ii) Combat the challenges of climate change by tackling the problems of increased salinity, drainage congestion, frequent natural disaster and ecological imbalance, and (iii) Excavating an/or rehabilitating rivers, wetlands (hoar and boar) dikes etc. to increase their water-holding capacity during dry season and water flows during monsoon. This is indispensable for developing surface-water irrigation, dampening dependency on ground-water irrigation and decreasing the flood frequency. In last 50 years, only Bangladesh Water Development Board (BWDB) has implemented 721 projects (up to June 2009) spreading all over the country. Out of these schemes, the number of FCD/FCDI schemes is 506. Total length of flood management embankment is 10,224 km. Length of irrigation and drainage canal are 5173km and 4195km respectively. Through these projects 5.9 million ha of land has been brought under flood control, drainage facilities. Irrigation facilities are provided to 1.414 million ha of land. The FCD/FCDI schemes of BWDB play a significant role in poverty reduction and food security. Unfortunately, all these structure are earthen structure. Budget for Operation and Maintenance (O&M) is very insignificant. Sufficient cash flow is one of the preconditions for sustainable use of these schemes and continuation of the momentum of agricultural production.
6	**Proposed Key Activities (brief description)**	(i) Significantly improve water management efficiency in the existing irrigation areas, particularly in the North. This should include capacity building both at grass-root level and the system as a whole; reducing irrigation costs by developing more efficient water-saving technologies; (ii) Improve surface water system in the North by undertaking the following activities as they are particularly suitable for the development of viable surface water system: digging canals, excavating rivers and dredging rivers, which have lost their water-holding and water-flowing capacity; (iii) Bangladesh's food security is intimately aligned with combating climate change challenges. The key activities must include interrupting salinity intrusion and arsenic contamination- resulting basically from increased demand for irrigation during dry season and reduced supply of water upstream flows- likely effects of sea level rise, increased temperature and fluctuations in precipitation, drainage congestion and extreme natural disasters like floods, cyclones and drought. Fighting this situation would require undertaking massive water management activities, including dredging small and large rivers, particularly those which have Southern connection. (iv) Invest in submergible embankment construction and maintenance to control flash flooding in haor areas; (v) Ensure the best use of electricity/energy supply for irrigation
7	**Institutions Involved and their mandate, capacities, track record,**	MoA: BADC (irrigation wing), BRRI (Irrigation and Water Management Division), BARI (irrigation and engineering division). MoWR: BWDB (main activities include Flood Control and Drainage,

		Irrigation, River Bank and Town protection, Land Reclamation etc.) LGRDC: LGED (main activities include Construction of flood protection embankment; Conservation of water for irrigation and improvement irrigation systems; Construction of water control structures and Rubber Dams; Excavation and re-excavation of Canals)
8	**Implementation Challenges to be addressed during preparation**	-Water for irrigation comes from two main sources: (i) surface water pumped mechanically or manually and (ii) ground water lifted through hand pumps, shallow tube wells or deep tube wells. The point needs to be noted carefully is that the irrigation water is supplied by three organizations belonging to three ministries as noted above. This often creates problem in formulating efficient water management plan both for irrigation and flood control. Thus, the fundamental implementation challenge to be addressed during preparation stage is getting the three organisations into some kind meaningful producers' cooperative. The objective is to coordinate their policies and activities, and develop a unified water management policy for irrigation purpose. This is linked to the issue of governance of these institutions. - Another challenge will to work out the best technical options related to irrigation development depending on the specific areas, e.g. where is surface irrigation viable vs. other techniques - need to plan irrigation development in an integrated way at national level based on projected decreasing incoming water resources. Above partial investment proposals have to be integrated into a national comprehensive feasibility study to which DPs such as FAO, the Dutch cooperation, ADB, the World Bank and others could contribute;
	Miscellaneous (of any)	Bangladesh is blessed with the plentiful supply of sweet water that is suitable for both crop cultivation and fish culture. The Government is to profitably use this natural bounty. The government will consider utilising this CIP formulating opportunity for food security to harmonise its water management policy. The management of water resources will be viewed from four angles: (i) increasing the sustainable supply fish in the country, (ii) increasing efficiency in irrigation water utilisation in terms of both costs and unit use, (iii) efficient flood protection programme and (iv) generation of more hydro-electricity.

Programme P3

Supply and Sustainable Use of Agricultural Inputs

1	**Relevant Government policy and planning framework**	NSAPRII (Chapter 3, Section 3.2.4); The Outline Perspective Plan 2010-2021(Chapter 7, Section 2); National Medium Term Priority Framework (Chapters 2 & 3); National Agricultural Technology Project 2008 (Chapter 1); NFP Plan of Action, Matrix 1.3; Plan of Action Monitoring Report- 2008-2009 (Section V.3); National Seed Policy (Sections 1 and 2).
2	**On-going Investment operations**	Modernization and strengthening of facilities to increase supply of quality seed; Production of improved cereal seeds through S.M farm program; Production of improved seeds through contract growers program; Procurement, processing & distribution of improved seed program; National vegetable seed program; Buffer stock of seed and its management program; Production processing and preservation program for hybrid vegetable seeds. Seed quality control project (Agricultural Quality Control Centre).
3	**Planned Investment Operations**	- Partnerships (BADC. private sector) for improved /stress tolerant seed multiplication. - Building physical and human resources capacities for appropriate seed quality, testing and certification - More efficient and rational use of fertilizer in the farms and accurate quality control in the factories and distribution channel.
4	**Current Investment Levels:** **- from Budget** **- from DPs**	Annual Development Programme 2009-10 Tk. 2042.1 Million (3.62% of FS Allocation) [There are some subsidies in fertilizers, which do not approve, let alone share].
5	**Current challenges, gaps to be covered and priorities of the Government**	**Seed Sector**: Current challenges of seed sector include producing and supplying quality seeds for different crops at grower's level. Government is far away from this target; it currently produces only 20% of country's requirement. Naturally **Government priorities** must include (i) breeding, developing and maintaining improved crop varieties with special emphasis on high-input high-output agriculture; (ii) timely multiplication of sufficient quantities of seeds and distribute them among farmers, (iii) promoting seed technology by providing training and technical supports to agricultural scientists and professionals, farmers and workers, and private seed growers and traders, and (iv) monitor, control and regulate the production of quality and quantity seeds as well as development and commercialisation of the seed industry. **Fertiliser Supply**: Farmers use three kinds of chemical fertilizers- urea, TSP and MP- for growing HYV crops. A balanced use of these fertilizers is a precondition for obtaining optimal yields from HYV crops. While urea is mostly produced domestically, the other chemicals are mainly imported. The recent statistics show that all three are in short supply relative their estimated requirement. Therefore the current challenge concerning fertilizers is to ensure their supply on sustainable basis. Naturally, government, which is pledge-bound to achieve and maintain self-sufficiency, has underlined its priority on securing sufficient supply of chemical fertilizers. This objective can be better achieved by underlining sustainable use of these fertilizers as farmers often use them in imbalanced proportion for various reasons.
6	**Proposed Key Activities (brief description)**	**Seed Sector:** The prerequisite for implementing government priorities include enhancing the production of Breeder Seed (BS) and Foundation Seed (FS) in sufficient quantities. The key activities to be undertaken

		for this purpose involve strengthening institutional capacity of concerned research, multiplication and certification institutions. This institutional capacity enhancement includes both physical and human. The physical infrastructure of the seed development institutions must be modernized through enough investments on well-equipped seed laboratories and experimental farms, while human resource development of these institutions would require hiring and training well-motivated brilliant scientists. It is to ensure supply of high yielding, hybrid and other good quality seeds at affordable prices ad in good time as per demand/requirement. The effort of meeting quality seed challenge can be further strengthened by training farmers to produce their own seeds through proper processing and storage. **Fertilizer Supply:** Restoring soil fertility is a major priority by the Government. Maintaining sustainable sufficient supply of fertilizer seems a difficult job nowadays, particularly when importation constitutes a sizable proportion. On the one hand, international prices for fertilizer products often show high fluctuations, mainly due to speculative factors. On the other hand, vacillating petroleum prices make domestic production unstable. Given these constraints, one area of activity is creating 'fertilizer buffer stock' at regional, district and upazila level. To reduce dependence on foreign suppliers, government may also consider increasing domestic supply by establishing more fertilizer factories. The need is also to improve the distribution system and in particular, through the creation of adequate "buffer stock" and its management, and also provision of adequate storage facilities. Applied research and extension could also cover fertilizer use efficiency and balanced use of fertilizer, e.g. through propagation of fertilizer deep placement (FDP) at farmers' level to ensure balanced use of fertilizers;
7	**Institutions Involved and their mandate, capacities, track record,**	**Seed Sector**: BARI and BRRI are responsible for developing crop varieties. In this respect, they have good track record although their institutional capability needs further enlargement to face the current and coming challenges. The Seed Certification Agency (SCA) under MoA has the mandatory responsibility to examine all breeder and foundation seeds. Additionally, it has three wings- (i) Field Inspection wing (ii) Seed Testing wing and (iii) Variety Testing Wing- can inspect seeds at any condition, such spot check, field inspect and random sampling. The Seed Wing of BADC is entrusted with the task of multiplication, production and supply of high-yielding varieties of seeds. However, as noted above, their track reports are less than satisfactory. **Fertilizer Supply**: BADC, BCIC and private sector are the organizations involved with fertilizer supply. However, for many years, BADC's role in this respect has been marginalised.
8	**Implementation Challenges to be addressed during preparation**	**Seed Sector:** The critical implementation challenge to be addressed during the preparation stage concerns human resources development in the concerned institutions. Financing is merely a means for achieving the objective of an institution. However, the real drivers of performance are scientists and officers managing and operating the organisation. Strengthening institutional capacity might require both policy changes concerning inter-organizational relationship as well as changing recruitment, training and promotion policies.

		Fertilizer Supply: The major implementation challenges to be faced during the preparation stage include the issue of fertilizer subsidy; and increasing BADC's role in fertilizer procurement and distribution. While the proponents of trade liberalization and small government would try to resist both measures, political rationale behind food security justifies both.
	Miscellaneous (of any)	

Programme P4

Fisheries

1	**Relevant Government policy and planning framework**	PRSP I and II, Flood Action Plan, National Food Policy: Plan of Action , Bangladesh Perspective Plan (2021), New National Extension Policy, Fisheries Sector Road Map (2006), Fisheries Policy 1998 and National Fisheries Strategy 2006, National Disaster Management Plan (2007-2015), NMTPF (2010-15),BFRI. Perspective plan of DoF, 6th f ive year plan, vision 2021, and Public water body management policy 2009.
2	**On-going Investment operations**	The Department of Fisheries has been carrying out activities related to providing animal protein to the huge population of Bangladesh through production, conservation, proper management and planned development of fisheries resources; uplifting socio-economic condition of the fishermen, creating employment opportunity for the rural unemployed youth and landless people and widening avenue for earning more foreign currency by exporting fish and fisheries products. Under the revenue budget, DoF is involvement with fish and shrimp seed production, distribution, fish inspection, HAACP and quality control, training, extension and implementation of fish protection and conservation acts, policy formulation and implementation. BFRI is conducting R & D activities for management of improved breeds, management technologies and quality control.
3	**Current Investment Levels in million BDT (2009-10):** **- from Budget** **- from ADPs**	 - 306.1 - 2775.6
4	**Current challenges, gaps to be covered and priorities of the Government**	Low productivity of fisheries, wide yields gap**, i**ncreased environmental vulnerability and climate change impact, lack of organized market and low value addition, Management of degraded public water bodies and restoration of habitat, improving the productivity of brackish water shrimp and weak National Mainstream Extension Approach. There is lack of sufficient manpower for food safety measure both for domestic consumption and export. Restoration of habitat: due to degradation of natural habitats, productivity of the natural aquatic systems gradually declined to a great extent in the last decades. In this context, more attention and investment may be paid for the restoration of natural habitats to enhance the natural production as well as to regenerate the endangered indigenous fish species.
5	**Proposed Key Activities (brief description)**	**The key actions needed are:** **Community-based Co-Management: A Solution to Wetland Degradation in Bangladesh** There are some success reported by Flood Hazard Research Centre (fhrc), World Fish Centre and USAID/IPAC) on community based fisheries management (CBFM), MACH (Management of Aquatic Ecosystem through community Husbandry). These successes clearly demonstrate that wetland protection and restoration make good economic sense for Bangladesh. Scaling up of successful community based co-management arrangements that ensure sustainable wetlands, productive fisheries and meet the needs of resource users and other stakeholders is a challenge. Policy makers, donors and other external actors have a vital role to play in meeting this challenge. Future wetland resources management

		policies should be based on community participation and address wider watershed issues, by ensuring that lessons and best practices from previous experiences are widely adopted. Investment is needed in this area. This could also involve the development of Leasing systems which should be reformed from revenue oriented to biological management. **Use of genetics and biotechnological techniques to enhance aquaculture productivity** Globally, productions in the fisheries sector are growing faster than any other sector, and this sector is expected to make better contributions in terms of value addition and income generation. In view of the opportunities and potentials, Bangladesh can make revolution in fisheries and aquaculture productions through the use of biotechnology. Both classical and modern biotechnological techniques have wider implications for increasing overall productivity of these two sectors through improvement of breeds and nutrition, protection of health, conservation and management of genetic resources of fish and fish like animals. Like other developing countries, Bangladesh needs to build up its biotechnological capability following the "National Guidelines for Fish and Animal Biotechnology" in compliance with the National Biotechnological Policy and National Bio-safety Guidelines. Application of simple genetical tools in the hatchery viz. brood stock replacement and selective breeding technique(s) can minimize the inbreeding depression in hatchery stocks and ensure quality seed production of carps and other commercially important fish species of aquaculture. In that case proper implementation of National Breeding Plan (NBP) as already designed by DoF and BFRI and carp/shrimp hatchery law (recently approved by the Govt.) will ensure the quality seed production through genetic management of brood stock in the hatcheries and equitable dissemination of improved breeds to the target groups (i.e. farmers and entrepreneurs) for sustainable enhancement of aquaculture production in Bangladesh. Establishment of sanctuaries: establishment of fish sanctuary may be ensured through community mobilization in the suitable water bodies. **Improving productivity of brackish water shrimp** Since many of the farms produce several crops of shrimp each year, productivity per ha is very low compared to the several thousand kgs per ha per year obtained in major shrimp farming countries such as Thailand, China and Vietnam. Improved productivity can be achieved through improved technology and better scientific management. The industry should also move to the use of disease free seed from brood stock produced in a land based captive breeding program and halt the capture of mother shrimp so that wild stock may be protected. This would also be a key step to effective disease management in shrimp farming. Also, Development of infrastructure facilities for better water management in the saline prone area is required as well as the introduction of saline tolerant fish species in saline prone area **Investment to reverse the genetic degradation in carps and other farmed fish species** Today the most stumbling blocks to hinder the increasing trend of

		aquaculture production in Bangladesh are the genetic deterioration and occurrence of inbreeding depression in hatchery-produced seeds of various farmed fish species (viz. carps, catfishes, tilapias and perches). In fact, most of the hatcheries in the country function in genetic and reproductive isolation (i.e. no introductions or replenishment by new stocks) just to maximize the fixed target of seed production without considering the genetic quality of hatchery population (i.e. brood stock). As a result, in most cases deterioration of quality of hatchery produced seed has become a normal phenomenon. This is increasingly limiting the potential scope of aquaculture production vis-à-vis employment generation and poverty reduction. Many fish breeding experts suggest that brood stock replacement and selective breeding as the simplest, most promising and useful methods to improve desirable traits in a founder stock with high genetic variability. In this way, genetically superior individuals can be developed per generation, heritability and genetic variability of all traits can be increased to a maximum level and inbreeding depression can be kept to a minimum in carps and other farmed fish species. Other activities might include: (i) Expansion of floodplain aquaculture in suitable water areas; (ii) Conservation of hilsha fishery and AIG's for jatka fishers; (iii) develop low cost aquaculture technology; (iv) strengthening of training & extension facilities; (v) ensure quality aquaculture inputs
6	**Institution Involved and their mandate, capacities, track record,**	Department of Fisheries, Bangladesh Fisheries Research Institutes, Agricultural Universities, and MoF and private agencies, NGOs and CBOs are involved in the fisheries development program.
7	**Implementation Challenges to be addressed during preparation**	Reform and capacity strengthening of DOF, adequate target allocation and timely fund flow, strengthening BFRI, promote cooperation and coordination, timeliness of government actions, effective use of donor resources and their coordination, performance evaluation and research linkage with agricultural universities
8	**Miscellaneous (of any)**	The Govt. Budgetary allocation should be enhanced to large extent. The capacity of the public sector department should be built to use the resources. The HRD program for public and private sector agencies should continuously be carried out. Marine Fisheries plays an important role in Bangladesh. The following should be further investigated: -protection of marine fisheries resources as well as its peripheral boundary from illegal access of other countries fishing vessels -control of unspecified fishing gears (nets, boats etc.) -assessment of marine fisheries resources -study of marine fish biology for conservation of proper fishing time -stock assessment for appropriate fishing effort -steps should be taken for sustainable fish catch -ensure sea safety equipments for the marine fishers -ensure regular weather forecast emphasizing on fishers rather than boats to reduce their loss of lives during disaster
9	**Proposed Cost**	

Programme P5

Livestock

1	**Relevant Government policy and planning framework**	PRSP I and II, National Food Policy: Plan of Action, Bangladesh Perspective Plan (2021), Flood Action Plan, New National Extension Policy, National Disaster Management Plan (2007-2015), NMTPF (2010-15), Livestock Policy 2007, National Poultry Development Policy 2008.
2	**On-going Investment operations**	The DLS is carrying out Veterinary health services, improvement of animal nutrition and technology transfer activities. Implementing regional livestock development program, Avian influenza preparedness, Artificial insemination, Vaccine production, Indigenous sheep, goats and Buffalo development, smallholder poultry and dairy development, BLRI is conducting research on development of technology, breeds and improve management practices for livestock and poultry.
3	**Current Investment Levels in million BDT (2009-10):** **- from Budget** **- from ADPs**	 - 252 - 2598
4	**Current challenges, gaps to be covered and priorities of the Government**	Weak diagnostic Labs, epidemiological facilities, wide yields gap, lack of organized market and low value addition, Inadequate coverage of animal health services, lack of availability and quality of feeds, fodder and day old chicks and weak National Mainstream Extension Approach, no incentive credit program for small older and no safety net for vulnerable smallholder poultry, poor hygiene of food from animal origin. There is inadequate R&D on livestock contribution on food security
5	**Proposed Key Activities (brief description)**	**The key actions proposed are:** **Improving diagnostic capacity and veterinary clinical services** Disease diagnostic of capabilities of DLS is limited. The District Veterinary Hospitals (DVH), Regional Field Diseases Investigation Laboratories (R FDIL) and the Central Disease Investigation Laboratory (CDIL) of DLS and epidemiological unit are responsible for providing diagnostic and management services to the farmers. However, due to shortage of skilled manpower and non-availability of funds they cannot provide the desired services. There is no provision for residue analysis of drugs, heavy metals, hormones, pesticides and toxins in foods of animal origin. There are only few local veterinarians trained in clinical pathology to diagnose diseases properly. Therefore, it is important to support diagnostic capacity and veterinary clinical services of DLS. **Encouraging private Sector in diversified vaccine production and marketing** Only small amount of vaccine is produced in the country by the public sector and the present status of vaccine production and marketing in Bangladesh is inadequate. There is necessity to improve vaccine production and marketing system. But it needs huge investment which requires encouraging private sectors. . Existing lab facilities of the lab may be strengthened in respect to its capacity for quality control.

		Other proposals include: Establish small hospital facilities for livestock services (semen, breeding, health care etc); Develop diagnostic facilities for poultry and livestock. **Promoting smallholder poultry and dairy development** Promoting small holder poultry and dairy development is essential for poverty reduction, food and nutrition security, empowerment of women and employment generation. It needs support for (i) improved nutrition of animals for higher yields, (ii) promoting fodder production, (iii) promotion of producer institutions for smallholder inclusion, (iv) processing and value addition, (v) community based animal health services delivery including vaccination programs, (vi) quality feeds and chicks at affordable price, (vii) strengthening of capacity at DLS and other relevant public institutions, (,viii) farmer training in husbandry and feeding practices, and (ix) overall policy development with a long term vision. Other proposals include: Developing marketing chain for poultry and livestock products; Establish Model government farm (livestock/poultry) for demonstration; Simple investment for pasteurized milk in rural areas. **Preparing for highly pathogenic Avian Influenza** Recently highly pathogenic avian influenza has seriously affected poultry farmers whenever and wherever it has appeared in Bangladesh. It has severely affected the poultry industry. The virus has been present in Bangladesh since 2007. The vested interest is to minimize the spread of this virus. This requires increased investment in understanding the key drivers of disease spread and to improve preparedness for highly pathogenic avian influenza and its detection. **Promote hygiene in animal food production and processing** Hygiene measures should be promoted in production, processing and marketing of livestock and fish products in order to minimize risk of food-born disease, with greater emphasis on prevention and control. Application of HACCP principles and SPS conditions are essential elements. In this regards increased investment would be required for capacity and infrastructure development. Meat has traditionally been viewed as a vehicle for a significant proportion of human food-borne diseases. Such disease could be minimized by changing production and processing system. A contemporary risk-based approach to meet hygiene requires that measures should be applied at those points in the food-chain where they will be of great value in reducing food-borne risks to consumers. In this context investment in slaughter house development is very important in Bangladesh. Livestock and fishery products are perishable and needs processing. Processing of milk, meat and fish can generate employment, income and can add value. Increased support for milk, meat and fish processing in different locations of the country can enhance productivity and ensure fair product prices and can minimize post harvest losses. **Incentive credit program and insurance** It is pity that the investment in these sectors is 0.63% of the national budget and the investment is in declining trend from 2005. These sectors can employ more than 40 million people in next five years if enhanced investment is made and the policy barriers discussed are removed. No financial institutions are providing credit or any other

		financial incentive to the small holder farmers. The Govt. should launch Nation wide interest free loan for all sorts of dairy and poultry small holders and different entrepreneurs working for value chain management. The community based fishers should also receive interest free loan in order to sustain productivity and support livelihoods. Since the livestock sector is very vulnerable to diseases, climate change threats and other external stress, it is imperative that small holder livestock and fishers required risk coverage. For this insurance program should be launched. Govt. may consider creating new financial institutions to render this service. It may require that the Govt. should create an endowment fund and donor may favour investing. **Creating safety net for vulnerable small holders and community based fishers** Because of high risk of farming and fishing due to climate threats, outbreak of diseases and market failure, often the producers suffer severe loss threatening their livelihood. In some areas the Govt. restrict fishing for particular periods favouring breeding seasons. For such period of ban on fishing the fishers should be provided with livelihood supports. Considering these the Govt. should establish effective safety net program. Especially for small holder goat, sheep, buffalo, poultry and community based fishers and the fishers those are bared fishing in particular seasons. **Support the development of feed and forage production** The price of feed and also imported raw materials is continuously increasing. It is reducing competitiveness of livestock and fish production and making the industries unsustainable. Based on experiences of many neighbouring countries the production of feeds and forage require technical support and participation of the private sector must be strengthened further for revamping growth.
6	**Institution Involved and their mandate, capacities, track record,**	Department of Livestock Services (DLS), Bangladesh Livestock Research Institute (BLRI), Agricultural Universities, MOFL, public and private agencies, NGOs and CBOs.
7	**Implementation Challenges to be addressed during preparation**	Reformation of DLS, adequate target allocation and timely fund flow, strengthening BLRI and its regional infrastructural R&D capacity for addressing regional problems and potentials of farm animals and poultry., promote cooperation and coordination, timeliness of government actions, effective use of donor resources and their coordination, performance evaluation and research linkage with agricultural universities
8	**Miscellaneous (of any)**	This sector should receive highest priority for allocation since it employs a large number of rural populations and has the potential to make substantial impact on reducing malnutrition. Training program on animal husbandry and entrepreneurship development should be a continuous drive.
9	**Proposed Cost**	

Programme P6

Access to markets, improved agricultural value added, increased non farm incomes

1	**Relevant Government policy and planning framework**	NSAPRII (Section 3.2.4); The Outline Perspective Plan 2010-2021(Section 7.7.6); National Medium Term Priority Framework (Matrix 1); NFP Plan of Action, Matrix 1.6; PoA Monitoring Report-2008-2009 (Section V.7).
2	**On-going Investment operations**	Agribusiness development project; e-governance application at the Department of Agricultural Marketing; Market Infrastructure Development Project in Char land Regions; Village Roads & Hat/Bazaar Infrastructure Development Project in Priority Basis; Greater Barisal District Rural Communication and Hat-Bazaar infrastructure Development Project; Rural Development Project : (Development of Road, Bridges/ Culverts, GC/Bazaars, etc;
3	**Planned Investment Operations**	- Improvement of rural roads and markets - Group marketing and training at community level - Private Storage, value chain facilitation, information provision
4	**Current Investment Levels:** **- from Budget** **- from DPs**	Annual Development Programme 2009-10 Tk. 22306.3 Million (39.5% of FS Allocation)
5	**Current challenges, gaps to be covered and priorities of the Government**	The achievement of Government's goal of improving food security is critically conditional upon establishing efficient and effective connectivity between production centres and consumption locations. This phenomenon needs to be understood clearly if government's goal is to be materialised. First, an overwhelming proportion of production is carried out on subsistence basis in the rural areas by marginal and small farmers. Thus, connectivity is of little consequence for these farmers. Yet, in spite of limited farm sizes, these peasants are increasingly leaning towards commercial production; they grow more profitable crops and buy foods necessary for living. Second, the process of urbanization is progressing quite quickly, meaning the urban consumption centres are becoming increasingly important in terms of food security. Third, enhanced urbanization means increased incomes of city dwellers, a fact that has great implications for the nature of food demanded and involvement of market intermediaries. Finally, the nature of marketing differs significantly between perishable and non-perishable crops- a point that needs careful and conscious consideration in analysing connectivity issue mentioned above. While the marketing of non-perishable crops like cereals, oilseeds, pulses etc. needs more storage facilities, the perishable crops like, potatoes, other vegetables and fruits need more processing and grading facilities and good transportation. Given the government's clear commitment for promoting sustainable cereal self-sufficiency and diversified diet, the fundamental challenge in P6 is to establish and improve the connectivity between small and dispersed production centres in the rural areas and rapidly growing consumption points in urban, semi-urban and metropolitan areas. **Government Priority:** Government's first priority in establishing this connectivity is to modernise physical infrastructure in rural areas by

		constructing and maintaining rural roads, and linking them with major highways, towns and cities. Construct or rehabilitate rural markets on commercially convenient locations and equip them with water supply, drainage system and storage facilities. Develop institutional/commercial agriculture marketing system, in particular with a view to Help create marketing intermediaries and/or producers' marketing cooperatives and connect them with supermarket system, which is developing rapidly all over the country. This also suggests that the development of a modern agribusiness sector- equipped with assembling, processing and packaging facilities, technical know-how and necessary food-processing technologies- is an urgent requirement for achieving food security and food safety. The government also highlight the importance of developing specialized markets for the producers and ICT based marketing system, establishing agro-processing industries under public and private initiatives and managing the impact of globalization in agriculture.
6	**Proposed Key Activities (brief description)**	First, Investments must be multiplied on rural infrastructure development for connecting all villages and then connecting these villages with rural growth centres, administration locations in rural areas, finally with major towns and cities. This would involve constructing Upazila and Union roads, bridges and culverts there, constructing jetty and boat landing etc. In doing this, two issues must be taken into consideration- (i) developing and consolidating technical specifications and manuals for rural infrastructure construction and (ii) developing and updating rural road master plan, infrastructure database and digital maps. Second, city consumers, being more health conscious and high income earners, demand more fruits and vegetables. Thus, crop diversification has to be an active ingredient of food security and food availability programmes. Third, this crop diversification in turn needs the development of modern agribusiness sector. Fourth, the Department of Agricultural Marketing (DAM) demands revamping its existing structures and functioning. DAM must take leadership in providing advice and information on prices, processing, handling, and storage and transportation services. It must promote an innovative marketing system that will serve goals food security and food availability in Bangladesh. Finally, building a modern rural transport system, to be connected with major cities, will necessarily collide with the jurisdictions of other departments, such Roads and Highways, and Railways, the Ministry of Communication. This means coordination is needed among concerned authorities in developing viable rural market system. The programme also foresees the support to the development of off farm activities and rural business as means to increase rural incomes. This would include assisting the development, access to advice, credit and market of small scale processing enterprises particularly suitable to rural women. This would also include business, technical and managerial advice, business planning for non farm activities. . Moreover, a special focus on ensuring the better use of fallow/unused land, flood plains, barind land, haor (wetland), hilly and coastal lands is important.
7	**Institutions Involved and their mandate, capacities, track record,**	The major institutions to be involved with program are the Department of Agricultural Marketing, under MoA and Local Government Engineering Department (LGED), under Ministry of LGRD & C. Two mandates of LGED are directly related to crop sector agriculture- rural infrastructure development program and small scale water resources

		development program. DAM, on the other hand, has the sole responsibility of managing and modernising agricultural marketing in the country. While the track of LGED is appreciable, DAM seems to go a long way to facilitate agri-marketing.
8	**Implementation Challenges to be addressed during preparation**	This programme seems to have serious implementation challenges. First, constructing rural infrastructure is a prerequisite for establishing connectivity between rural production locations and urban consumption centres. LGED has to play more role in this regard.. Second, the involvement of Ministry of Communication is also very important for developing good transportation systems for non-cereal crops. Thus, the development of efficient agricultural marketing and agribusiness system is much more complicated than is usually assumed. It needs cordial cooperation and coordination among concerned ministries. Besides government agencies, IFAD, DANIDA, ADB, IDB
	Miscellaneous (of any)	To make P6 more effective and efficient, two ideas deserve consideration. First, LGED is already developing some rural areas, which it calls Economic Growth Centre (EGC). In other words, LGED has already identified locations in rural areas, which can be used as centres for economic activities. The development of agricultural markets being considered under CIP may be coordinated with EGC. This will help closer cooperation among different ministries. Second, modern cities have resolved their food supply challenges by developing food chains called supermarkets. A number of private firms have already established grocery chains that operate in several locations in the same city as well as different cities. To meet the challenges of quality food, food safety and unwanted problems current retail grocery, the development of supermarket may be taken an important investment project.

Programme P7

Capacity Building of Food Security Policy and CIP formulation, implementation and monitoring

1	**Relevant government policy and planning framework**	**i.** SP II Policy Matrix 11: Strategic Goal 4: Creating an Enabling Framework for Food Security.
2	**On-going investment operations**	**i. National Food Policy Capacity Strengthening Programme (NFPCSP)** has the objective of enhancing Bangladesh capacity to implement the National food Policy. focuses on --strengthening institutional and technical capacity of FPMU to monitor the NFP Plan of Action implementation and to deliver policy analysis and advice to policy makers - enhance contribution of partner ministries to FPMU activities - promote research in civil society in support of FPMU work - promote dialogues on food security issue between government and stakeholders
3	**Planned investment operations**	
4	**Current investment levels:** **- from GoB:** **- from DPs:**	Tk.734.4 million Tk. 9.0 million Tk. 725.4 million
5	**Current challenges, gaps, and priorities of the government**	After a period of low and relatively stable food prices Bangladesh has faced a sudden increase in food grain prices followed by price volatility that together with the frequent natural disasters have deteriorated access to food and resulted increase in the incidence of poverty. Government's capacity to ensure long term food security to a growing population and avoid sudden food insecurity in the short term requires, among others, capacity of the concerned government institutions to undertake informed policy decisions on the issues having impact on food security needs to be improved. The current challenge to achieving food security lies in implementing the Plan of Action while the future challenge also lies in preparing an updated National Food Policy and Plan of Action beyond 2015. Presently the National Food Policy Capacity Strengthening Programme (NFPCSP) addresses the major aspects of capacity strengthening for food policy making. A new programme will be needed after the completion of this programme to carry forward the activities in a sustainable manner. Two areas currently partly covered by NFPCSP need stronger focus: early warning system and production, collation and dissemination of information among all stakeholders. Moreover, the capacity to implementation and monitoring of the implementation of the Country Investment Plan and to Formulate and Monitor the implementation of investment programs needs to be developed. A major challenge relies in the need to ensure adequate coordination among the multiple government institutions involved in food policy implementation.
6	**Proposed key**	The proposed programme will be an expansion and continuation of

	activities (brief description)	the NFP Capacity Strengthening Project. The key activities will include: (i) domestic and foreign training of officials on food policy formulation, food policy implementation, food policy evaluation, evaluation of impacts of policies on food security, (ii) reinforcement of early warning system (iii) strengthening generation, collection, collation and dissemination of good quality data on prices, quantities. marketing, interventions related to food security; (iv) reinforcement of the capacity to collaborate with government and non-government partners, (v) promotion and valorisation of research in support of food security policy making. In particular capacities to coordinate the formulation and implementation of the CIP should be built. This could consist of a mix of formal training, of mentoring of key staff to be identified, possible study tours to their places to share relevant experiences, on-the job training while developing proposals. Capacity building would be destined to the FPMU, then Directorate of Food and the Food Division and other staff of the MoFDM in charge of the NFP and who would play a role in overseeing, implementing, coordinating and monitoring the CIP; the planning units in the various concerned ministries who will probably be involved in further development of further investment proposals; some more technical staff in the various ministries and important NGOs knowledgeable about specific technical themes covered by the CIP (e.g. seed sector, water management) but who would need skills in developing investment operations; BIDS as an important think tank for studies, etc. The efficiency of manpower working in the organization of the Ministry of Agriculture is also to be increased. This institutional/organizational development requires the establishment/development of relation among research, extension, farmer and market. Moreover, it is to increase institutional capacity for applying agricultural rules and regulations and implement the land use policy/regulations. Finally, it is to be developed skill/efficiency to foster public/private partnership
7	**Relevant institutions and their capacities**	Food Division, Food Planning and Monitoring Unit (FPMU) and Directorate of Food (DGoF)
8	**Implementation challenges to be addressed during preparation**	i. Coordination with concerned ministries. ii. Number and stability of staffs.
9	**Miscellaneous**	

Programme P8

Improving the Institutional and Physical Capacities of the Public Food Management System

1	**Relevant government policy and planning framework**	**i. PRSP II Policy Matrix 11:** - Strategic Goal 5: Assuring low cost food supply. - Strategic Goal 6: Ensuring food security of the poor and the vulnerable. - Strategic Goal 7: Smoothening fluctuation in food consumption. **ii. NFP Plan of Action (2008-15):** - Area of Intervention#1.11: Public Stock Management/Price Stabilization. - Area of Intervention #2.2: Emergency Distribution from Public Stock.
2	**On-going investment operations**	**i.** Improving Public Storage Facilities: Construction of Food Godowns, Rehabilitation of Dilapidated Godowns, and Construction of Concrete Silo in Mongla (from JDCF) **ii.** Construction of New Food Godowns with Ancillary Facilities in the Northern Region of the Country (2009-11).
3	**Planned investment operations**	
4	**Current investment levels:** **- from GoB:** **- from DPs:**	Tk.4634 million Tk. 224.30 million Tk. 4410 million
5	**Current challenges, gaps, and priorities of the government**	Public food management involves building food stock through domestic procurement as well as imports comprising commercial imports and food aid as well as movement and handling, inspection, and technical services and distribution of food grains. Domestic procurement in the immediate post harvest period is undertaken to ensure an incentive price to farmers. Public food stock serves three purposes: ensuring adequate supply for distribution under PFDS, stabilizing/reducing prices for poor consumers and ensuring emergency relief. In view of the new international context, the Government will need to maintain a higher food stock in the future in order to achieve the purposes of food stock management. Also Public food distribution will also increase to support an expanding safety net programme. Sudden sharp increase in food prices along with normal seasonal upward movement of prices will also require larger public intervention to have an effect on the expanding market. Further, increased frequency of natural disasters with greater damage to the economy requires higher emergency food operation. The size of the stock will depend on the size of the PFDS and other factors including anticipated food grain situation in the domestic and international markets and trade polices of exporting countries. Management of a larger food stock also represents a challenge in terms of determining the size of stock (which involves an opportunity cost of resources), quality storage, release of stock and monitoring. The government's priority as revealed in PRSP II is to continue modernization of food stock management to support targeted food

		operations, price stabilization, price support, open market sales, selected rationing and speedy distribution/release in times of need.
6	**Proposed key activities (brief description)**	**i.** Institutional capacity building of Ministry of Food and Disaster management and Directorate of Food to handle public food distribution systems through (a) local and foreign training of officials on management and operations of food stock and in effective responses to emergencies; (b) improving supervisory and monitoring activities through logistic support, and; (c) speedy computerization of food stock, storage and distribution management system from national to Upazila level (establish e-governance and develop agri-database and ensure ICT application). **ii.** Expansion of physical capacities through repair of unused warehouses and building modern storage facilities to be better equipped to resist external shocks, with focus on spatial distribution. iii. Enhancing quality control, e.g. establishing labs down to district level, laboratory equipments, develop systems and guidelines, develop the manpower structure, setting standards of products under operation and developing grading system. **iv**. DG Food needs a sustainable capacity to professionally carry forward the responsibilities. For this, the Training Directorate of DG Food may be transformed to a Training Institute with required fund for planned modules of training in accordance with the needs of the officials and staffs. DG Food also requires developing the capacity for food operation and management research. That means a specialized unit may be established in DG Food who will work on food operational management research including (a) optimal stock of food grains, (b) impact of Open Market Operations of Food grains on price stabilization, and (c) Spatial distribution of existing storage centres and their adequacy and quality vi-a-vis government targets of food stock in the medium term efficiently.
7	**Relevant institutions and their capacities**	**i.** Food Division, Ministry of Food and Disaster Management, **ii.** Directorate of Food iii. Disaster Management and Relief Division
8	**Implementation challenges to be addressed during preparation**	**i.** Coordination of development partners and government of Bangladesh. **ii.** Lack of adequate manpower
9	**Miscellaneous**	

Programme P9

Development of an integrated multi year safety net programme

1	**Relevant government policy and planning framework**	**i.** PRSPII Policy Matrix 11: - Strategic Goal 2: Extending Coverage of Safety Net Programmes - Strategic Goal 5: Assuring low cost food supply - Strategic Goal 6:Ensuring food security of the poor and the vulnerable **ii.** NFP PoA Objective 2: Increased Purchasing Power and Access to Food of the People AoI #2.4. Effectiveness of targeted food security programmes and other safety nets
2	**On-going investment operations**	**i.** GoB Projects: Improving coverage of vulnerable and disadvantaged people and areas; Enhancing adequacy to vulnerable people's nutritional needs 1. Strengthening of Co-op Dev. Tr. Courses in different Vocations—1000 persons 2. Training for Informal Employment in Non-traditional Areas & Apprentice Scheme—18432 persons 3. Creation of Livelihood & Entrepreneurial Fund 4. Economic Empowerment to help people to lift themselves out of extreme poverty and achieve sustainable livelihood---1.0 million
3	**Planned investment operations**	
4	**Current investment levels:** **- from GoB:** **- from DPs:**	Tk.6329.9 million Tk. 3544.7 million Tk. 2785.2 million
5	**Current challenges, gaps, and priorities of the government**	Bangladesh has an elaborate system of social safety nets operated by 13 different ministries and some NGOs covering various target groups. Some of these programmes are food based, some are cash based, and some are both food and cash based. Some of the major SSNs are food based and are provided to offer food security to the target groups. An important problem that beset this programmes is mis-targeting, i.e., exclusion of eligible ones and inclusion of non-eligible ones. It is reported (World Bank 2009) that 22 percent of households in the lowest consumption quintile receive benefits from safety nets. However, 36 percent of the VGF beneficiaries belong to first quintile. Given the fact that none of these programmes covers the entire target group in the country mistargeting reduces their impacts further. There are serious gaps in coverage with some of the vulnerable groups insufficiently covered or not covered at all, for example, the elderly and the urban poor. Resources are spread too thin; some core safety nets provide only the equivalent of 20-30 kcal per day. Transfer levels do not match the fluctuations in prices at local level. Though the existing safety net programmes have moved away from the relief approach to development approach, there is still scope for enhancing the development impact of SSNs. The priorities of the government are to (i) increase coverage of SSNPs, (ii) achieve protection of all types of poor people and the prevention of chronic poverty and transient poverty, and (iii) increase effectiveness of the programmes.

		In this context it is important to undertake institutional capacity building activities to improve the targeting and effectiveness of SSNPs and broaden SSNPs into a social protection system to support all categories of vulnerable groups, especially the chronic food insecure people. Targeting effectiveness needs to be improved to ensure that the benefits of the programmes reach the poorest of the poor The institution capacity building activities should be carefully designed based on a comprehensive study of the current coverage, operation modalities, targeting and effectiveness of existing SSNPs.. The study will focus on targeting and other pertinent issues related to SSNs like scaling up of effective programmes, sustainability of programme benefits, and monitoring and evaluations of the programmes to ensure that the benefits reach the largest proportion of food insecure in the country.
6	**Proposed key activities (brief description)**	**develop an ambitious multi-year programme in the view to improve the targeting performance of SSNs, reach the most food secure in the country and streamline and coordinate the current safety net activities.** This programme should also involve partnership with NGOs who are heavily involved in safety net. Attempts should also be undertaken to improve synergies between safety net programmes with productive infrastructure (food or cash for work) such as for irrigation, rural transport and markets. The programme would also finance capacity building at various levels to improve the management of these safety net programmes. This strategic work could be undertaken in collaboration with international partners such as WFP, DFID or others. The specific focus and priorities areas of the programme will include (i) improving targeting efficiency of SSNPs focusing on training in selection of food insecure people, development of selection criteria, development of beneficiaries' lists verification modality and baseline surveys of selected as well as excluded families; (ii) geographical targeting focusing on systematic development/use of community based poverty/vulnerability maps for targeting; (iii) designing SSNPs focusing on groups with little or no safety net coverage like the elderly, the handicapped and the urban slums dwellers, linking safety nets to agricultural development through infrastructure building/rehabilitation and agricultural education; iv) introduce pilots for testing the designed programmes/modalities of targeting and implementation (v) review of NGO safety nets to learn from these programmes. The institutional and human capacities of the Disaster Management and Relief Division (which currently implements 80% of all safety net programmes) should be strengthened.
7	**Relevant institutions and their capacities**	Disaster and Relief Division, DG DRR, Food Planning Monitoring Unit, and Directorate of Food shall be the partners for the activities. The institutional capacity building intervention should target all government organizations involved in the operation of SSNPs, including the relevant departments of the Ministry of Food and Disaster Management, other Ministries and organizations, and all relevant branches of the local administration.
8	**Implementation challenges to be addressed during preparation**	**i.** Coordination within government and between government, development partners and non government organizations. **ii.** Lack of skilled manpower, frequent transfer of relevant Government officials, multiplicity of agencies and stakeholders to be involved.
9	**Miscellaneous**	

Programme P10

Development of Community-Based Nutrition Activities through Livelihood Approaches

1	Relevant Government Policy and Planning Framework	NSAPR II (Revised): Section 3.4.2 and 3.5.2; Perspective Plan of Bangladesh 2010-2021: Section 3.5, 7.3 and 7.4; NFP Plan of Action: objective no. 3.1 - 3.5 and 3.8; National Food and Nutrition Policy: Section 4.1 - 4.6 & 5.0, and strategies under section 6.0; NPAN: Section 4 under objective and target 3 and Strategic section 4.3; NMTPF: sections 3.1, 3.3, 3.17, 3.19, and thrust areas 1 and 2; National Health Policy: 4th goal.
2	On-going Investment operations	National Nutrition Programme (NNP) covers one-fourth of the country providing a package of basic nutrition and health services to 42 million population, targeting mothers, adolescents and children. Major NGOs and INGOs, BRAC, VOSD, BBF, TMSS, Helen Keller International, Save the Children (USA & UK), Concern, and CARE (SOUHARDO) and UN agencies are also working on food security and nutrition related programmes in the community.
3	Planned Investment Operations	NNP is working in 36 districts; Nation-wide Vitamin-A supplementation and de-worming programme; Iron and folic acid supplementation; Training activities related to the plans and operations; Nutritional activities under HNPSP upto June 2011;
4	Current Investment Levels: from Budget from DPs	Not available
5	Current challenges, gaps to be covered and priorities of the Government	Persistently high levels of low birth weight (33%), underweight (41%) and stunting (43%) and wasting (17%) among children under five years, anaemia among infants, young children, adolescent girls and pregnant women and poor diet diversification. Faulty infant and young child feeding in the community and inadequate community services for management of severely acute malnutrition and maternal malnutrition are of serious concern. Inadequate consumption of pulses and animal foods due to high price limits availability of protein required for growth and development of the children and pregnant and lactating women. A focus will be required on nutrition improvement of infants and young children and women, but with a life cycle approach being adopted. Enhanced extension services and technical assistance through DAE for establishing food and nutrition security activities like integrated home gardening, horticulture, raising small animals, community fish ponds, developing local nutritious recipes and value added processed products, group and community savings are areas of priority. Dietary diversification through increased production of fruits, vegetables and animal products and enhancing their consumption are priorities of the government. Collaborative and strengthening links with health based areas of MoHFW should be established. Another challenges is to link short term challenges (e.g. acute malnutrition) with the need to develop long term solutions, hence the need to link health based interventions with agricultural ones.

6	Proposed Key Activities (brief description)	• Establishment of community based institutional arrangements with responsibility and leadership devolved to the local government is required with supportive leadership from upazila and district levels. • Redesigning of NNP for scaling up throughout the country, removing implementation bottlenecks and incorporating relevant effective health sector activities with NNP's basic package of services for nutritional improvement of women and children; scaling up of NNP should also include urban slums; build on and complement the NNP in establishing linkage of agriculture, health, water-sanitation, and education sectors to strongly address nutrition and for scaling up on a nationwide basis. Activities on capacity building for delivery of package and programme management need to be strengthened. • Strengthening service delivery of a holistic package of food based nutrition that is integrated with agricultural extension services and linking it to a community based mechanism. The food based nutrition package will be initiated targeting the existing NNP areas and gradually cover the whole country. • Selecting '**food security women mobilizers**' through a sociogram process and building a critical mass of human resources in the community is required. Capacity building and training of 1.5 million 'food security women mobilizers' to equip them to mobilize rural communities in establishing their own nutrition and livelihood related activities are needed. A menu of activities notably integrated home gardening to include growing vegetables and fruits (rich source of micronutrients, fibre and antioxidants), raising small animals, such as, poultry, goat and milk producing cows, developing community fish ponds, notably, local small species and undertaking nutrition behavioural change communication (BCC) strategies should be promoted. • Investment in agriculture sector to reduce post harvest losses, improve shelf-life, enhance availability of nutrients, contribute to money and resources and livelihoods is needed, Local food preparation, processing and preservation technologies and training facilities for nutrition and value addition with partnerships of private sector, local women producers and cooperatives for income generation should be established. • Investment to increase consumption of pulses, oils and fish at the household level is required. Establishment of a "Pulse and Oilseed Research Institute" to undertake research and technology development for increasing production and consumption of pulses and oils is needed. • Establishing community based centres and units for household food production and appropriate food processing to promote sustained dietary improvement (especially micronutrient dense foods) and dietary diversification with a special focus on nutrient dense complementary foods is required. • 'Community food banks' to provide food grains, pulses, oils and sugar to the poorest of households should be set up and delivery of well targeted subsidized nutritious food items for mothers and children under five years should be ensured. • Implementation of national infant and young child feeding (IYCF) strategy including awareness creation on initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for first 6 months of life and promotion and support of age specific complementary feeding after 180 days with continued breastfeeding up to 2 years including micronutrient interventions and promoting homemade nutritious foods; and improving adolescent and maternal nutrition through implementation of a holistic ANC package (dietary improvement, micronutrients, food supplements, etc.) and follow up to successful breastfeeding is required. • Develop appropriate and adequate interventions for severely acute

		malnutrition among children through food based approach or locally made ready to use food. These severely acute malnourished children should also have access to appropriate and effective treatment through strengthened health facilities and systems. • Scaling up of collaborative health based activities like hygiene and sanitation interventions including personal hygiene, deworming and appropriate child care is required. • Investment in targeted interventions to address women's empowerment and status for better child and maternal nutrition, including secondary education and adolescent programmes. • Strengthen family planning services to promote delay of first time child birth and ensure child spacing and encourage small family norms through creation of awareness and linkage with relevant services. • Establish a nutrition coordination structure including a Nutrition Focal Point in MoA, MoFDM, MoLGRD&C and MoHFW. • 18000 community clinics are proposed to be set up across the country which shall be linked up with nutritional activities • The on-going nutritional programmes shall be made more useful through mainstreaming these with health sector programmes in a comprehensive manner • Formulate and implement programmes covering incentive packages for population control such as pension for household heads, free education, and free medical facilities for familes having one child; • Capacity strengthening of GOB to implement food based nutrition interventions, especially within the agriculture sector and for better coordination across the line Ministries, namely MoHFW, MoLGRD&C, MoFDM, MoE, and MoWCA.
7	Relevant Institutions Involved and their capacities	NNP, IPHN and BNNC (MoHFW), Bangladesh Applied Nutrition and Human Resource Development Board (BAN–HRDB) and DAE (MoA), DoF, Directorate of Food, and FPMU (Food Division), DPHE(MoLGRD&C), Departments of Fisheries and Livestock Extension Services (MoFL) and relevant NGOs have been involved; Capacities range from training, planning, policy analysis and monitoring and implementation of nutrition activities through extension services and school gardening programme.
8	Implementation Challenges to be addressed during preparation	Management and coordination, Commitment of the implementers, Availability of logistics in time, Regular fund flow from DPs and Government to the implementing NGOs, Training of management and implementing personnel, and Frequent transfer of project personnel.
9	Miscellaneous (of any)	Support for implementing priority nutrition actions under the NFP PoA and establishing complementarities with NNP and other plans and policies. Strengthening of Bangladesh National Nutrition Council under the administrative control of MOHFW and chaired by the Honourable Prime Minister to serve as a focal point for collaboration and co-ordination with other concerned sectors.

Programme P11

Informing and Orienting Food and Nutrition Policies and Programmes through Capacity Strengthening and Research

1	Relevant Government Policy and Planning Framework	NSAPR II (Revised): Section 3.4.2 and Section 3.5.2; Perspective Plan of Bangladesh 2010-2021: Section 3.5; NFP Plan of Action: objective no. 3.1 - 3.5 and 3.8; National Food and Nutrition Policy: section 5.1, 5.6 and 5.7 and 6.2 strategies 'A'; NPAN: Objective and target 3.2 in section 4 and Strategy section 4.3; NMTPF: Section 3.1, 3.2, 3.3 and 3.20, thrust area 2; National Health Policy: 4th goal.
2	On-going Investment operations	A National Nutrition Survey (NNS) was conducted in 1995-96. An update is long overdue. Helen Keller International (HKI) in collaboration with BRAC University and BBS with support from EU is conducting a food security and nutrition surveillance programme. The REACH initiative of 4 UN partners provides documentation of initial nutrition situation analysis, stakeholder mapping, identifying needs and opportunities for scaling up nutrition interventions and strengthening coordination and collaboration for maximizing nutrition impact. Food composition tables (FCT) previously developed by INFS using some local and mostly borrowed data from NIN, India were published by HKI, USAID and WFP in 1988.
3	Planned Investment Operations	
4	Current Investment Levels: from Budget from DPs	For Nutrition Education only. ADP (2009-2010): Allocation Tk.1730million (GOB: Tk.130million and DP: Tk.1600million)
5	Current challenges, gaps to be covered and priorities of the Government	Lack of up-to-date and reliable food consumption data, updated National Nutrition Survey (NNS), involvement of key stakeholders (INFS, ICDDRB, IPHN, BNNC, HKI) and lack of up-to-date information on Bangladesh FCT including scientific documentation and nutrient composition of indigenous foods from CHT region. Updating and establishing national FCT is required to : serve as a nutrition planning tool in agriculture, food, health and trade sectors; agriculture and nutrition research, nutritional assessment, formulation of national and institutional diets, nutrition education and training, epidemiological research on relationship between diet and disease, nutrition labelling, food standards and safety regulations . A national nutrition survey and 'total diet' studies that can inform and influence food and nutrition policy, programme design and using the results to stimulate a demand for judicious food choices, help establish a desirable dietary pattern, and demonstrate the impact of agriculture based nutrition interventions.
6	Proposed Key Activities (brief description)	• Investment for strengthening capacities at national level for policy formulation, implementation through training, education and extension. Investment to undertake evidence-based policy research for validating nutrition improvement outcomes is required. • Investment in national nutrition survey including food consumption, dietary assessment and 'total diet studies'; and developing innovative and consistent BCC messages and capacity building in food based nutrition at national, sub national and community levels. • Update/construct Food Composition Tables (FCT) that will include all seasonal and regional foods in Bangladesh, including indigenous foods, for use as a tool in determining standard dietary intake, knowing the foods being produced and consumed, in food and agriculture planning and in developing quantitative dietary guidelines. • Update and establish food composition database on micronutrient and phytonutrient

		content of foods as well as 'functional foods'. • Establishing national nutrient norms and a "desirable" dietary pattern to meet energy and nutrient needs and in formulation of agricultural policies and programmes. • Establishing the associations between dietary diversity and nutrient adequacy, and between dietary diversity and household food security among vulnerable groups for effective intervention. • Investment in social protection, agricultural and price policies to improve supply of, and access to, foods containing high nutrient values. 'Price fluctuations' are much larger for non-cereal crops, like, fruits and vegetables create risks in production. • Investment in agricultural research to improve productivity of non-staple foods that are high value added and high nutrition value added for ensuring improved diet quality. • Mass training of farmers, agricultural extension workers, and consumers on food based nutrition, complementary feeding, diet during pregnancy and lactation, food hygiene and sanitation and participatory field monitoring and evaluation. • • Studies on social marketing and strengthening behavioural change communication (BCC) for improving nutrition status, especially women and children. • Invest in solid monitoring and evaluation framework and processes, closely linked to the monitoring and evaluation framework of the health, food, agriculture and other relevant sectors. • Strengthen national coordinating mechanism for policy analysis, decisions, research, monitoring and evaluation in the country.
7	Relevant Institutions Involved and their capacities	Capacity strengthening on policy and research on nutrition needs involvement of agriculture, food, health and other relevant sector's support. The INFS has the experience and capacity on conducting nutrition surveys including food consumption surveys and also developing FCT. Besides, ICDDR,B, BNNC, IPHN, and HKI also have experience in conducting different nutrition surveys and surveillance programmes. FPMU of Food Division, MoFDM, DAE and BANHRDB of Ministry of Agriculture, NNP, BNNC and IPHN of the Ministry of Health and Family Welfare and Ministry of Women and Children Affairs will be engaged in dietary diversification programmes given their involvement in this area.
8	Implementation challenges to be addressed	Management and coordination, implementers' commitment, timely logistics, regular fund flow to the implementing institution, management and implementing personnel training, frequent personnel transfer.
9	Miscellaneous (of any)	Research to validate the bioavailability of local and indigenous foods for micronutrients. Research and field studies on the development and acceptability of nutrient-dense food combinations and food-to-food enrichment strategies. .

Programme P12

Improving Food Safety and Quality Improvement for Consumer Health and Nutrition

1	Relevant Government Policy and Planning Framework	NSAPR II (Revised): Section 3.4.2 and 3.5.2; NFP Plan of Action: Objective No. 3.6; National Food and Nutrition Policy: section 5.5, strategies A8, and B12; NPAN: Objective and target 3.2 in section 4 and Strategy section 4.3; NMTBF: Thrust area no. 7; National Agriculture Policy: Section 16.1, National Fisheries Policy: Section 7.16 - 7.19,9.1.1, 9.1.3, 9.2.1-9.2.8, 9.3.1 – 9.3.3; National Livestock Policy: Section 4.1- 4.2 and 4.7-4.8.
2	On-going Investment operations	Food safety and its impact on public health have attracted only limited interest and investment in the past, despite its significant impact on morbidity and mortality. On-going actions include: ▪ Implementation of the Bangladesh Pure Food (Amendment) Act, 2005, and developing of regulations and standards. ▪ Enactment of the Consumers' Rights Protection Act, 2009. ▪ Sporadic implementation of food control activities by BSTI and IPH with a focus predominantly on identity and quality aspects of foodstuffs. ▪ Periodic conduct of Mobile Courts to control sale of adulterated food. Re activation of the National Food Safety Advisory Council (NFSAC) and adopting a strategic approach to food safety. Implementing the **Bangladesh Pure Food (Amendment) Act, 2005**, and putting in place regulations and standards to ensure food to address key food safety issues. Enactment of the Consumers' Rights Protection Act 2009. Sporadic implementation of food control activities undertaken by BSTI and IPH with a focus predominantly on identity and quality aspects of foodstuffs. BSTI with support from the Ministry of Establishment and Ministry of Home Affairs occasionally conducts anti-adulteration drives for enforcement of existing laws. Implementation of a project entitled ***Improving Food Safety, Quality and Food Control in Bangladesh***" by the MoHFW with technical support from FAO and WHO and funded by EU. The project is scheduled for completion in June 2012, but for sustainable long-term achievements, further extension and support is necessary. Activities being undertaken by the project include re-activation of the National Food Safety Advisory Council (NFSAC), development of a National Food Safety and Quality Policy, and adopting a strategic approach to the way food safety is managed in Bangladesh.
3	Planned Investment Operations	
4	Current Investment Levels: from Budget from DPs	The current project is funded to €7.1 million by the EU and will finish in mid 2012. ADP (2009-2010): Allocation Tk.1420million (GOB: Tk.280million and DP: Tk.1140million)
5	Current challenges, gaps to be covered and priorities of the Government	Food safety and quality is critical to nutrition security and to ensure access of all citizens to food that is safe, nutritious and of adequate quality. The Llack of a National Food Safety and Quality Policy and Action Plan, supported by an effective system of food inspection and monitoring is constraining improvements. As the current Food Safety Project moves to address this gap, it will include The policy formulation that addresses the development and creation of should include a regulatory framework designed to improve food safety and quality. ,Such a framework will be through-chain, risk-based and founded upon the implementation of best practices along the entire food chain. This will address the current lack of coordination and governance of food safety and quality along the food supply chain. The food safety policy and plan of action when developed will require

		implementation support to monitor and evaluate the plan of action. The current Pure Food (Amendment)Consumer Protection Act 20059 and the various Food Rules 1967 and Regulations are outdated and need to be revised and up-dated. While the Food Safety project will commence action to address this need, sustainable improvements will require long term inputs and ongoing updating to meet current and future challenges. Included in this is the need to develop risk analysis capability among technical experts involved in the development of food standards and regulations. The food safety policy and plan of action when developed will require implementation support to monitor and evaluate the plan of action. There is need to generate reliable data on food handling and consumption practices, food intakes and exposures, and the burden of food-borne illness. The ongoing monitoring of foodstuffs for microbiological and chemical hazards is also essential – without such evidence it is impractical to design interventions to improve food safety. Adjuncts to this need are advice and extension materials for food handlers and food producers about hygienic food handling, disease risk surveillance, safe use of pesticides and chemicals, avoidance of detection and assessment of food adulteration and the identification of high risk foods and nutrition behaviour. Sanitary and Phytosanitary measures on food safety, animal and plant health are serious concern of the country. The Plant Quarantine Units of the DAE in different ports are not adequately equipped with competent personnel and equipment. There is lack of governance in maintaining food safety and quality throughout the food supply chain. Lack of Certification Authority having accreditation from appropriate certification body. Need to establish regulations and a regulatory framework equivalent to that existing in export markets. Lack of investment in infrastructure and research for the overall food system development. Poor institutionalization of the street food sector and lack of regulation and protection of street food vendors and systems. Inadequate capacity building of the Government officials to act effectively in trade and export; implementing Acts, Laws, Rules and Regulations.
6	Proposed Key Activities (brief description)	• Establishment of fully functional food control authority, by empowering the NFSAC with a permanent, /full-time secretariat, with logistical staff and adequate financial support. • Build upon the current system of surveillance for food borne illnesses by establishing more pilot or sentinel sites for food borne illness surveillance, creating an enhanced investigation capability, and improving the reporting of outbreaks. • Build upon the current system of monitoring food for contamination and adulteration. Ongoing training and skill development of food analysts, provision of consumables and equipment upgrades, and provision of resources to undertake regular (annual) surveys of a market basket of food commodities for contaminants. Develop a food safety database to track evaluation of food borne illnesses. • Establish surveillance systems for food based illnesses, food contamination and food adulteration. Orient extension workers on importance of nutritional value, safety and quality aspects of food products. The trained workers will provide training to the producers/ consumers disseminating important messages on food safety, hygiene and quality issues. • Revision and enhancing the Pure Food Acts, Rules, Regulations and Standards addressing food safety, including labelling and nutrition and health related claims with due consideration to the CODEX guidelines and standards. • Conduct training for skill development in risk assessment, risk management and risk communication is necessary. • Support the Eestablishment of a Central Food Testing Laboratory with independent certification to ISO 17025. Explore the future need for regional satellite laboratories for authority acceptable to most of the accreditation bodies and food testing and laboratory proficiency testing activities. facilities at least at divisional and district levels. Strengthening of governance in maintaining food safety and quality for better nutrition throughout the

		food supply chain. • Strengthen existing food testing laboratories with sophisticated equipment, chemicals and reagents, and skilled personnel as per international standards. • Undertake sStudies to assess and validate the safety, quality and technologies of home based complementary foods for better nutrition and child health. • Institutionalize home and community-based production of 'safe and nutritious complementary foods for nutrition improvement and health of young children, • Activate and implement the standard international regulations on commercial breast-milk substitutes (BMS code). • Institutionalization of safe and hygienic street food vending systems and all food establishments in urban areas. • Establishment of packaging and safe storage facilities for grains, horticulture produce and relevant foods. • Roll out the Establish healthy food markets concept to a wide range of urban and rural food markets, with a focus on perishable and high-risk foods such as horticultural products, poultry, with meat, fish, vegetables and fruits in cities and towns. • Appropriate central and district level slaughtering houses for cattle and poultry. • Strengthen Capacity building of Government officials to implement and act more effectively in trade and export; implementing Policies and Action Plans, Acts, Laws, Rules and Regulations addressing food safety and quality. • Ongoing development and educational and training materials for food producers, food processors, food handlers and preparers, and for consumers. Providing focus on improving education of school children on concepts of nutritious safe foods, personal and food hygiene. • Raise consumer awareness programmes on safe food in relation to avian influenza and food adulteration (poultry, fish, vegetables, fruits, spices, etc). • Establish a national system of food inspection, ensuring mechanism for food safety collaboration /and coordination among different concerned Ministries and agencies and strengthen training and capacity building on food safety/quality at national, district and upazila levels. • Examine the rapid methods by Sanitary Inspectors for monitoring agricultural products and foods for contamination. • Investment to implement food safety and quality operations at all stages of food production, processing and service (from farm to table) using GHP, GMP and HACCP operations in phases, including arsenic contamination. • Research and development of practical testing kits to identify use of chemicals, pesticides, insecticides, additives, preservatives and toxic elements at the production, processing, distribution and consumption level is essential. The kits should be made available to sanitary inspectors, law enforcing agencies, food processors, and consumers.
7	Relevant Institutions Involved and their capacities	Ministry of Health and Family Welfare; Ministry of LGRDC; Directorate of Food and FPMU of Ministry of Food and Disaster Management; Ministry of Agriculture; Ministry of Fisheries and Livestock; Ministry of Industries; Ministry of Establishment; Ministry of Commerce; Ministry of Environment and Forest; and Ministry of Finance. Plus BSTI, IFST (BCSIR), BARC and IFRB (BAEC). Engagement with Technical Agencies with skills and expertise in food safety and quality e.g. FAO, WHO, ICDDR'B, etc.
8	Implementation challenges to be addressed during preparation	Provision of authority to a lead Ministry for overall food safety control, management and coordination; Commitment of the implementers; provision of a functional approval process so funds may flow to the stakeholders; establishing consumer's right to safe food; and awareness creation among consumers.
9	Miscellaneous	▪ Strengthening the consumer movement in Bangladesh so it may serve as a focal point for advocacy on food safety and quality matters for consumers. ▪ Facilitation of Bangladesh involvement in Codex processes, including attendance at specific Codex Committee meetings and involvement in Technical Working GroupsStrengthening Consumers Association of Bangladesh and promote mass awareness and education of consumers on food safety, quality and personal hygiene.