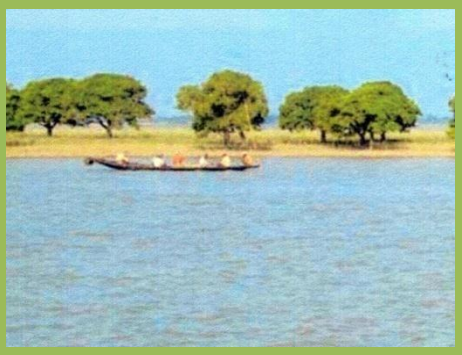
Government of the People's Republic of Bangladesh

Ministry of Water Resources

Bangladesh Haor and Wetland Development Board

Master Plan of Haor Area



Volume III

Project Portfolio

April 2012

CEGIS Center for Environmental and Geographic Information Services

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Master Plan of Haor Area

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Introduction

This report provides a detailed description of the individual investment projects that have been developed based on Development Area (DAs) identified under the Master Plan of Haor Area. Each project has been formulated to achieve the specific objectives of its relevant DA as well as the overall objectives of the Master Plan in an integrated way.

Summary of Project Portfolio

The responsibility for implementing these projects lies with the respective line agencies, local government institutions with assistance from special types of national institutions. Private agencies under the framework of the proposed investment project portfolio. The line agencies will implement the projects in compliance with existing government rules and procedures.

The Master Plan envisages 154 projects under 17 Development Area. Many of the projects will be linked operationally or conceptually or implemented in parallel with other projects. Implementation of the Plan will be carried out in three phases, beginning from the financial year 2012-2013 and reaching completion at the end of the financial year 2031-2032. The three phases of the Plan are:

- Short Term: 1-5 years (from FY 2012-13 to FY 2016-17)
- Medium Term: 6-10 years (from FY 2017-18 to FY 2021-22)
- Long Term: 11-20 years (from FY 2022-23 to FY 2031-32)

The estimated cost of the plan is shown in the following Table 1.

Table 1: Investment cost by Development Area (amount in lakh taka)

Development Area	Nos of Project	Short Term	Medium Term	Long Term	Total	Contribution
Transportation	15	171,143	299,556	45,578	516,277	18.41%
Fisheries	22	217,916	194,906	91,601	504,423	17.99%
Power and Energy	4	28,886	220,931	91,173	340,989	12.16%
Forest	6	66,130	100,690	79,683	246,504	8.79%
Mineral Resources	3	500	215,000		215,500	7.68%
Agriculture	20	94,555	108,109	1,233	203,897	7.27%
Water Resources	9	118,994	59,180	200	178,374	6.36%
Health	16	48,466	56,951	14,945	120,363	4.29%
Biodiversity and wetland	10	26,410	38,680	47,910	113,000	4.03%
Water Supply and Sanitation	2	58,800	36,750	9,450	105,000	3.74%
Livestock	10	19,643	26,903	30,148	76,694	2.73%
Industry	9	1,717	51,000	20,000	72,717	2.59%
Education	7	17,742	15,096	39,138	71,975	2.57%
Social Services	6	2,058	1,882	11,660	15,600	0.56%
Pearl Culture	1	2,000	4,300	3,700	10,000	0.36%
Housing and Settlement	1		9,100		9,100	0.32%
Tourism	13	1,104	1,617	1,171	3,892	0.14%
Grand Total	**154**	**876,063**	**1,440,652**	**487,590**	**2,804,305**	**100.00%**

Implementation Mechanism

Development projects are undertaken by the central government and are implemented by different line agencies, which receive specific fund allocations. Development activities at district and upazila levels are pursued by different agencies of the GoB. Usually, each agency has its own mandate which is mainly focused towards a particular sector sometimes without giving proper attention to the effect of such development activities on other sectors. Such uni-sectoral development activities are not fully effective and do not reflect the requirements of the target people. Locally mobilized funds by the local government institutions namely City Corporation, Paurashava, Zila Parishad, Upazila Parishad, Union Parishad may also be used to implement the portfolios suitable for the local Government institutions. Private sector may also find some of the portfolios suitable for implementation and accordingly funds may be mobilized for implementation. Table 2 gives the number of projects under different development area included in the Master Plan.

Table 2: Portfolio projects under different Development Area

Development Area	No of Projects
Agriculture	20
Education	7
Fisheries	22
Forest	6
Health	16
Housing and Settlement	1
Industry	9
Livestock	10
Mineral Resources	3
Pearl Culture	1
Power and Energy	4
Tourism	13
Water Resources	9
Water Supply and Sanitation	2
Biodiversity and wetland	10
Agriculture	20
Education	7
Total	154

The project portfolios will assist the respective implementing agencies to prepare full-fledged project proposals according to the government approved format. However, a calculated and to-be-planned feasibility study for each project is required to be included under the Annual Development Programme of Bangladesh. This Master Plan is vulnerable to fluctuations of government investment programmes because of lengthy approval processes. Nevertheless, after it is approved, respective agencies will examine how the projects can fit into their existing investment programmes.

With the involvement of multiple agencies and their diverse activities, the objectives of the Plan are practically achievable, depending on successful implementation through timely initiation of activities. The implementation will be the responsibility of the line agencies concerned. The critical assumption is allocation and availability of government funds, channeled through line agencies in a timely fashion with overall coordination of the BHWDB. The implementing agencies will follow the existing rules and regulating and ensure good governance.

Apart from the Ministry of Water Resources, Fourteen other ministries will have an important role in implementing the Master Plan. At district and upazila levels, a District Steering Committee (DSC) headed by the Deputy Commissioners of the respective districts and the Upazila Nirbahi Officer will have a vital role in the proper implementation of the Plan. This could be the key instrumental platform, which will guide and monitor the implementation of the Plan at district as well as upazila level.

Prioritisation of the Projects

Three categories of priority of the projects have been recommended based on importance, interdependency, people's demand and sequence of integrated development. Three levels of priorities have been defined for the projects i.e. very high, high and medium priority.

Very High Priority: Very high priority projects are those which are overdue and cover the top five ranked issues identified at the upazila level consultation process. These projects are extremely significant for the economic uplift of the area. They are independent of other external actions in the region and could also be treated as an action plan for immediate implementation.

High Priority: These types of projects are required to be implemented as per government policy directives. They include initiatives proposed in the plans of different implementing agencies. These set of projects are dependent on external and internal actions to be taken in and outside the region. They are to be implemented in the medium term period conceived in the Master Plan.

Medium Priority: Apart from the very high and high types, the rest of the projects are considered as medium priority projects. These projects are highly dependent on other types of priority projects and cannot be implemented in isolation. It is required to identify their backward linkage with the other two types of priorities before implementing the projects. Moreover, this type of projects may be highly significant nationally but may not be that significant at the haor region level. The Table 3 shows the priority of the identified projects.

Table 3: Priority wise projects of Development Area (cost in lakh taka)

Development Area	Very High		High		Medium	
	No of Projects	Total Cost	No of Projects	Total Cost	No of Projects	Total Cost
Water Resources	5	94,263	4	84,111		
Agriculture	5	28,635	10	125,742	5	49,520
Fisheries	6	352,862	11	143,048	5	8,513
Pearl Culture			1	10,000		
Livestock	4	28,238	3	30,056	3	18,400
Forest	2	70,579	2	97,595	2	78,330
Biodiversity & Wetland	4	34,000	4	47,000	2	32,000
Transportation	8	472,330	5	35,697	2	8,250
Water Supply & Sanitation	2	105,000				
Housing and Settlement			1	9,100		
Education	2	20,071	3	18,560	2	33,344
Health	5	89,266	6	26,487	5	4,610
Tourism	5	1,260	6	2,240	2	392
Social Services	2	3,400	2	820	2	11,380
Industry	3	1,717	4	51,000	2	20,000
Power and Energy	1	255,320	1	84,600	2	1,069
Mineral Resources	1	500	2	215,000		
Total	55	1,557,441	65	981,056	34	265,809
% of Total Cost		55.54%		34.98%		9.48%

List of Project Portfolios

(Duration in Year and Cost in Lakh taka)

DA Code	Project Title	Duration	Short Term	Medium Term	Long Term	Total cost
	Water Resources					
WR-01***	Pre-Monsoon Flood Protection and Drainage Improvement in Haor Area	5	12,550	-	-	12,550
WR-02**	Flood Management of Haor Area	7	28,575	53,068	-	81,643
WR-03***	River Dredging and Development of Settlement	5	44,073	4,897	-	48,970
WR-04**	Development of Early Warning System for Flash Flood prone area in Haor and dissemination to Community Level	20	353	215	200	768
WR-05***	Village Protection against Wave Action of Haor Area	3	31,046	-	-	31,046
WR-06**	Monitoring of the Rivers in Haor Area	4	450	450	-	900
WR-07***	Impact study of the interventions of transboundary river system	5	1,350	150	-	1,500
WR-08**	Study of the Climate Change impact of Haor area	4	400	400	-	800
WR-09***	Strengthening and Capacity Development of BHWDB	2	197	-	-	197
	Total		118,994	59,180	200	178,374
	Agriculture					
AG-01***	Expansion of irrigation through utilization of surface water by double lifting in haor area	5	13,000	-	-	13,000
AG-02***	Minor Irrigation by low lift pumps project	6	9,500	500	-	10,000
AG-03**	Investigation and expansion of ground water irrigation	8	25,500	49,500	-	75,000
AG-04*	Promotion and plantation of Agar Plant	20	1,435	874	811	3,120
AG-05*	Automation of rice transplantation system by Auto Rice Transplanter	8	13,600	26,400	-	40,000
AG-06**	Mechanization of Agriculture through Combined Harvester	8	19,800	25,200	-	45,000
AG-07**	Improvement of Quality of Crop Grain through Dryer system	8	68	171	46	285
AG-08***	Intensive Cultivation of homestead vegetables and horticulture	5	135	-	-	135
AG-09**	Development of climate resilient High Yielding Varieties of rice and non-rice crops	16	490	280	230	1,000
AG-10**	Selection of Short Duration Boro Rice Cultivars/ Advanced Line	14	53	36	13	102
AG-11***	Changing Cropping Pattern to increase cropping intensity in haor area	9	1,005	495	-	1,500
AG-12*	Extension of Integrated Pest Management Training Project	13	392	245	63	700
AG-13**	Expansion of Integrated Crop Management Training	12	396	270	35	700
AG-14*	Extension of Jute cultivation project	12	396	270	35	700
AG-15**	Integrated Development of Applied Research for Improved Farming Systems	8	810	690	-	1,500
AG-16**	High Value-non-Rice-cum-Deep Water Rice Culture	10	660	840	-	1,500
AG-17***	Assistance to Landless, Marginal and Small Farmers to overcome soaring input, and food prices in impoverished Haor area	8	2,160	1,840	-	4,000
AG-18**	Application of GIS for farm productivity enhancement through land suitability assessment of major cropping pattern in Haor Region	3	450	-	-	450

DA Code	Project Title	Duration	Short Term	Medium Term	Long Term	Total cost
AG-19*	Improvement of Storage Facilities and Agricultural Marketing System in Haor Area	5	4,500	500	-	5,000
AG-20**	Introduction of Innovative Agriculture through Vegetables cultivation on Floating Bed	5	205	-	-	205
	Total		94,555	108,109	1,233	203,897
	Fisheries					
FI-01***	Development and Establishment of Fish Sanctuaries	15	3,361	2,675	823	6,860
FI-02***	Habitat Restoration for Fish Diversity	15	141,040	114,800	72,160	328,000
FI-03***	Beel Nursery Programme for Increasing Fish Fingerling Recruitment	18	3,063	1,875	1,313	6,250
FI-04*	Good Fisheries Management Practices following the Mohanganj Experience	18	829	507	355	1,691
FI-05**	Floodplain Aquaculture under the Community Enterprise Approach	15	1,075	875	550	2,500
FI-06**	Community and Household-based Net-pen Fish Culture in the Haors/Floodplain	15	12,250	9,750	3,000	25,000
FI-07***	Fish Fingerling Stocking and Raising Programme	18	251	154	108	512
FI-08**	Capacity Development and Alternate Income Generating Activities (AIGAS) for Fisher Community	11	6,935	6,791	722	14,448
FI-09***	Renovation of Hatcheries for Conserving Quality Brood Stock and Production of Fish Seeds	5	5,000	-	-	5,000
FI-10**	Study on Review of Policies, Regulations and Lease System for Sustaining Fisheries Resources	3	500	-	-	500
FI-11***	Restoration of River Duars (Deep Pools) for Protecting Brood/Mother Fish	10	2,246	3,682	312	6,240
FI-12**	Renovation of Fish Ponds and Dissemination of Improved Aquaculture Technology to Fish Farmers	10	1,620	2,655	225	4,500
FI-13**	Development and Construction of Innovative Fish Pass/Fish Friendly Structures	10	7,000	15,500	2,500	25,000
FI-14*	Establishment of Fisheries Information Service Center	5	1,170	130	-	1,300
FI-15**	Introduction of Deep Water Rice-cum-Fish Culture	10	280	620	100	1,000
FI-16**	Establishment and Rehabilitation of Fish Landing Centers	10	4,088	9,052	1,460	14,600
FI-17**	Establishment of Fish Drying and Fermentation Center	10	742	1,643	265	2,650
FI-18**	Study on Impact of Climate Change and Interventions on Fisheries Resources	15	24,500	19,500	6,000	50,000
FI-19*	Development and Establishment of Cold Storage and Ice Plants	6	-	761	761	1,522
FI-20*	Research on Fish Stock Improvement through Gene Pool Preservation and In-breeding Depression	16	240	705	555	1,500
FI-21*	Rehabilitation of Existing Fish Processing Units and Establishment of a New Fish Processing Industry	10	700	1,550	250	2,500
FI-22**	Community and Household-based Cage Fish Culture	10	1,026	1,682	143	2,850
	Total		217,916	194,906	91,601	504,423

DA Code	Project Title	Duration	Short Term	Medium Term	Long Term	Total cost
	Pearl Culture					
PC-01**	Development and Dissemination of pearl culture technology in Haor Area	17	2,000	4,300	3,700	10,000
	Total		2,000	4,300	3,700	10,000
	Livestock					
LS-01***	Improvement of fodder availability for livestock development	9	5,911	2,912	-	8,823
LS-02**	Integration of livestock in traditional farming system	10	-	3,501	4,455	7,956
LS-03*	Farmers training programs for capacity building	4	-	-	2,400	2,400
LS-04*	Establishment of pilot breeding program for cattle development	8	-	-	3,600	3,600
LS-05**	Promotion of small and mini dairy farms	9	-	3,920	1,931	5,850
LS-06***	Promotion of conventional and alternative feed resources for livestock feeding	9	1,089	536	-	1,625
LS-07**	Extension of Livestock Services through establishment of Union Livestock Service Center (ULSC)	9	-	10,888	5,363	16,250
LS-08*	Development of Livestock Products through involvement of Community Organization	9	-	-	12,400	12,400
LS-09***	Development of Community Animal Health Workers for Livestock Healthcare	5	6,600	-	-	6,600
LS-10***	Promotion of Small and Mini Poultry and Duck Farms	8	6,043	5,147	-	11,190
	Total		19,643	26,903	30,148	76,694
	Forest					
FR-01**	Establishment of One Forest Nurseries in each of the 57 Upazilas of the Haor Area	17	7,690	16,533	14,226	38,449
FR-02***	Afforestation through involvement of local Community in Haor Area	17	15,729	12,234	6,991	34,954
FR-03***	Afforestation of Roads, Embankments, Homesteads and Institutions	17	16,031	12,469	7,125	35,625
FR-04*	Reclamation of Izmali land for promotion of Social Forestry	17	14,308	30,761	26,469	71,538
FR-05**	Increase the Capacity of Community for forest conservation and Improvement	17	11,829	25,433	21,884	59,146
FR-06*	Research Programmes on Haor Area	16	543	3,260	2,988	6,792
	Total		66,130	100,690	79,683	246,504
	Biodiversity and wetland					
BW-01***	Eco- management zoning of Haor wetlands for biodiversity protection	3	5,000	-	-	5,000
BW-02***	Restoration of important wetlands	4	6,000	-	-	6,000
BW-03**	Development and implementation of important wetlands for global significance.	7	-	2,950	2,050	5,000
BW-04*	Establishment of global wetlands center	7	-	-	30,000	30,000
BW-05*	Review of policy for biodiversity management	3	-	-	2,000	2,000
BW-06***	Habitat preservation program for plants, wildlife, fisheries and migratory birds	9	10,050	4,950	-	15,000
BW-07**	Research and education program on Haor wetlands biodiversity conservation and management	9	-	10,050	4,950	15,000
BW-08**	Management of commercially important Haor wetland biodiversity	9	-	13,400	6,600	20,000
BW-09 **	Pollution control and prevention from agriculture, industry and urban settlement	9	-	4,690	2,310	7,000
BW-10***	Adaption and Mitigation to Climate Disaster	9	5,360	2,640	-	8,000

DA Code	Project Title	Duration	Short Term	Medium Term	Long Term	Total cost
	Risks in Haor Basin					
	Total		26,410	38,680	47,910	113,000
	Transportation					
TR-1***	Upgradation of Rural Roads	10	60,375	133,688	21,563	215,625
TR-2***	Submersible rural road construction	10	41,727	92,396	14,903	149,025
TR-3***	Submersible District road construction (Sulla to Ajmiriganj)	8	1,326	2,574	-	3,900
TR-4***	Submersible District road construction (Khaliajuri to Ajmiriganj)	8	2,402	3,058	-	5,460
TR-5***	Submersible District road construction (Itna to Ajmiriganj)	8	1,238	2,402	-	3,640
TR-6***	Submersible District road construction (Austagram to Lakhai)	8	2,059	2,621	-	4,680
TR-7***	Submersible District road construction (Derai to Jagannathpur)	3	5,200	-	-	5,200
TR-8**	Construction of Regional Highway	2	-	12,800	-	12,800
TR-9*	Construction of Surma Bridge at Chatham	5	-	-	6,000	6,000
TR-10***	Development of inland navigation by dredging in nine river routes	9	56,816	27,984	-	84,800
TR-11**	Development of 150 landing facilities in the rural area	6	-	14,250	750	15,000
TR-12**	Installation of navigational aids along the river routes	4	-	5,560	-	5,560
TR-13**	Hydrographic survey in the nine major river routes	3	-	87	-	87
TR-14**	Construction of terminal buildings at 15 major passenger stations	6	-	2,138	113	2,250
TR-15*	Development of parking yards, storage facilities and security walls at 13 stations	5	-	-	2,250	2,250
	Total		171,143	299,556	45,578	516,277
	Water Supply and Sanitation					
WS-01***	Establishment Sustainable and Community based Haor friendly Water Supply Technologies	13	28,000	17,500	4,500	50,000
WS-02***	Introduce the Sustainable and Community based Flood Proof Hygienic Sanitation System in Haor area	13	30,800	19,250	4,950	55,000
	Total		58,800	36,750	9,450	105,000
	Housing and Settlement					
ST-01**	Eco Village Platform Development for mitigate future Housing and settlement demand	3	-	9,100	-	9,100
	Total		-	9,100	-	9,100
	Education					
ED-01***	Establishment of Community based Multigrade Learning Centers	8	2,735	2,329	-	5,064
ED-02**	Community based School Feeding Programme	5	-	2,365	-	2,365
ED-03***	Establishment of Primary Schools	3	15,007	-	-	15,007
ED-04**	School Boat Facilities for Inaccessible Area	8	-	6,801	5,794	12,595
ED-05*	Awareness Generation Programmes on Gender Discrimination	3	-	-	94	94
ED-06**	Introduce skill based training programmes	5	-	3,600	-	3,600
ED-07*	Establishment of High Schools, Colleges and Madrasa	8	-	-	33,250	33,250
	Total		17,742	15,096	39,138	71,975

DA Code	Project Title	Duration	Short Term	Medium Term	Long Term	Total cost
	Health					
HE-01***	Upgradation of Upazila Health Complex (UHC) and Construction of Upazila Health & Family Welfare Center (UHFWC)	8	28,917	24,633	-	53,550
HE-02***	Maternal and Reproductive Health Development Programme	3	571	-	-	571
HE-03***	Child Mortality Reduction Programme	8	9,032	7,694	-	16,725
HE-04**	Promotion of nutrition status of the haor people	3	-	105	-	105
HE-05**	Improve the quality of hospital service	8	-	12,002	10,224	22,226
HE-06*	Capacity Development of Non-government, Non-profit Health Care Agencies using Private-Public-Partnership (PPP)	3	-	-	400	400
HE-07*	Expansion of Alternative Medical Care (Unani, Ayurvedic & Homeopathic system of medicine)	3	-	-	1,200	1,200
HE-08*	Strengthening of supervision and monitoring system	3	-	-	1,650	1,650
HE-09***	Community health care: Establishment of Community clinics (CC)	8	2,171	1,849	-	4,020
HE-10***	Community health care: Mobile clinic and emergency medical team	8	7,776	6,624	-	14,400
HE-11**	Establishment of e-Health Services and Facilities up to Community Level	8	-	82	70	152
HE-12**	Strengthening referral system from CC to UHFWC; UHFWC to UHC; UHC to District Hospitals	8	-	49	41	90
HE-13**	Environmental Health Programme	3	-	3,664	-	3,664
HE-14**	Capacity development of health personnel	3	-	250	-	250
HE-15*	Medical Waste Management in District Hospital and Upazila Health Complex	8	-	-	1,065	1,065
HE-16*	GIS mapping of health facilities and disease pattern	3	-	-	295	295
	Total		48,466	56,951	14,945	120,363
	Tourism					
TS-01***	Development of Mega Eco-parks	8	108	92	-	200
TS-02**	Establishment of War Museums	1	-	60	-	60
TS-03**	Establishment of Amusement Parks	8	-	540	460	1,000
TS-04**	Development of Tourist/Picnic Spots	8	-	32	28	60
TS-05***	Construction of Bird Watching Tower	8	32	28	-	60
TS-06*	Renovation of Zamindar Palaces	3	-	-	72	72
TS-07***	Dolphin Sighting Tour Programme	18	176	108	76	360
TS-08***	Hakaluki Haor Sightseeing Tour Programme	18	265	162	113	540
TS-09**	Development of Fish Park	1	-	20	-	20
TS-10***	Establishment of Wildlife Sanctuary	2	100	-	-	100
TS-11**	Promotional Programmes on Haor for Electronic and Print Media	1	-	100	-	100
TS-12**	Construction of Tourism Infrastructures	18	320	360	320	1,000
TS-13*	Training programmes in Hotel Management and Food Catering	18	102	115	102	320
	Total		1,104	1,617	1,171	3,892
	Social Services					
SS-01**	Construction of Growth centers/Rural markets	18	222	250	222	694
SS-02*	Construction of Food Godowns	8	-	-	10,000	10,000
SS-03***	Upgradation/construction of religious prayer house, graveyards and cremation grounds	8	1,620	1,380	-	3,000
SS-04**	Awareness Generation Programme for the Spiritual Leaders	8	-	68	58	126

DA Code	Project Title	Duration	Short Term	Medium Term	Long Term	Total cost
SS-05*	Construction of Playground and Supply of Sports materials	8	-	-	1,380	1,380
SS-06***	Upgradation and Construction of Police Stations	8	216	184	-	400
	Total		2,058	1,882	11,660	15,600
	Industry					
IN-01**	Can food Industry	5	-	10,000	-	10,000
IN-02**	Beverage Industry	3	-	1,000	-	1,000
IN-03***	Small and Cottage Industries Development program for destitute women's in haor area	1	1,500	-	-	1,500
IN-04*	Swamp Water Processing Industry	2	-	-	10,000	10,000
IN-05**	Tea processing Industry	3	-	10,000	-	10,000
IN-06**	Gas cylinder Industry	4	-	30,000	-	30,000
IN-07*	Industrial Park	4	-	-	10,000	10,000
IN-08***	Establishment of Charcoal Industry	2	200	-	-	200
IN-09***	Boat Manufacturing Industry	2	17	-	-	17
	Total		1,717	51,000	20,000	72,717
	Power and Energy					
PW-01***	Expansion of electric distribution systems in Haor districts	12	20,426	174,894	60,000	255,320
PW-02**	Expansion of solar power generation systems	8	8,460	45,684	30,456	84,600
PW-03*	Pre-feasibility Study on Renewable Energy Potentials and Power Generation Possibilities in Haor Area	10	-	-	89	89
PW-04*	Development of mini-hydropower schemes	10	-	353	627	980
	Total		28,886	220,931	91,173	340,989
	Mineral Resources					
MR-01**	Seismic survey, exploration drilling in the Haor districts to explore new gas field	5	-	200,000	-	200,000
MR-02**	Development of Mines for gravel, white clay, glass sand, coal and peat extraction from Haor districts	5	-	15,000	-	15,000
MR-03***	Strengthening capacity of miner and mining labor in Haor districts	1	500	-	-	500
	Total		500	215,000	-	215,500
	Grand Total (154 Projects)		**876,063**	**1,440,652**	**487,590**	**2,804,305**

Note: *** Very High Priority, ** High Priority, * Medium Priority

Proposed Implementation Lead Agencies

DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
Water Resources					
WR-01***	Pre-Monsoon Flood Protection and Drainage Improvement in Haor Areas	Water Resources	BWDB	BHWDB, CEGIS, IWM	GoB and DP
WR-02**	Flood Management of Haor Areas	Water Resources	BWDB	BHWDB, CEGIS, IWM	GoB and DP
WR-03***	River Dredging and Development of Settlement	Water Resources	BWDB	BHWDB, CEGIS	GoB and DP
WR-04**	Development of Early Warning System for Flash Flood prone areas in Haor and dissemination to Community Level	Water Resources	BWDB	BHWDB, CEGIS	GoB and DP
WR-05***	Village Protection against Wave Action of Haor Area	Water Resources	BWDB	BHWDB, CEGIS	GoB and DP
WR-06**	Monitoring of the Rivers in Haor Area	Water Resources	BWDB	BHWDB, CEGIS	GoB and DP
WR-07***	Impact study of the interventions of transboundary river system	Water Resources	JRC,b	BHWDB, CEGIS	GoB and DP
WR-08**	Study of the Climate Change impact of Haor areas	Water Resources	BHWDB	CEGIS	GoB and DP
WR-09***	Strengthening and Capacity Development of BHWDB	Water Resources	BHWDB	CEGIS	GoB and DP
Agriculture					
AG-01***	Expansion of irrigation through utilization of surface water by double lifting in haor area	Agriculture	BADC	BWDB, DAE	GoB and DP
AG-02***	Minor Irrigation by low lift pumps project	Agriculture	BADC	BWDB, CEGIS	GoB and DP
AG-03**	Investigation and expansion of ground water irrigation	Agriculture	BADC	BWDB, DAE, CEGIS	GoB and DP
AG-04*	Promotion and plantation of Agar Plant	Fisheries and Livestock	BFRI	DAE	PPP
AG-05*	Automation of rice transplantation system by Auto Rice Transplanter	Agriculture	DAE	BRRI, DoC	PPP
AG-06**	Mechanization of Agriculture through Combined Harvester	Agriculture	DAE	DoC, BRRI	PPP
AG-07**	Improvement of Quality of Crop Grain through Dryer system	Agriculture	BARI	BRRI, BARI	PPP
AG-08***	Intensive Cultivation of homestead vegetables and horticulture	Agriculture	DAE	BADC, BARI	GoB and DP
AG-09**	Development of climate resilient High Yielding Varieties of rice and non rice crops	Agriculture	BARI	BARI, BINA, BRRI	GoB and DP
AG-10**	Selection of Short Duration Boro Rice Cultivars/ Advanced Line	Agriculture	DAE	BRRI, DAE, NGO, BINA	GoB and DP
AG-11***	Changing Cropping Pattern to increase cropping intensity in haor areas	Agriculture	DAE	BARI, BRRI	GoB and DP
AG-12*	Extension of Integrated Pest Management Training Project	Agriculture	DAE	NGO, BARI, BRRI	GoB and DP
AG-13**	Expansion of Integrated Crop Management Training	Agriculture	DAE	BJRI, NGO	GoB and DP
AG-14*	Extension of Jute cultivation project	Agriculture	DAE	BJRI, NGO	GoB and DP
AG-15**	Integrated Development of Applied Research for Improved Farming Systems	Agriculture	BARI	BARI, DAE, BLRI, DLS, SRI, DoF, DF	GoB and DP
AG-16**	High Value-non-Rice-cum-Deep Water Rice Culture	Agriculture	DAE	BARI, BINA, BRRI, BADC, NGO	GoB and DP

DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
AG-17***	Assistance to Landless, Marginal and Small Farmers to overcome soaring input, and food prices in impoverished Haor area	Agriculture	DAE	BRRI, BARI, BINA, NGO	GoB and DP
AG-18**	Application of GIS for farm productivity enhancement through land suitability assessment of major cropping pattern in Haor Region	Agriculture	BARC	CEGIS	GoB and DP
AG-19*	Improvement of Storage Facilities and Agricultural Marketing System in Haor Area	Agriculture	DAM	DAE, BADC	GoB and DP
AG-20**	Introduction of Innovative Agriculture through Vegetables cultivation on Floating Bed	Agriculture	DAE	BADC, BARI	GoB and DP
Fisheries					
FI-01***	Development and Establishment of Fish Sanctuaries	Fisheries and Livestock	DoF	BWDB, CEGIS, NGO	GoB and DP
FI-02***	Habitat Restoration for Fish Diversity	Water Resources	BWDB	DoF	GoB and DP
FI-03***	Beel Nursery Programme for Increasing Fish Fingerling Recruitment	Fisheries and Livestock	DoF	NGO	GoB and DP
FI-04*	Good Fisheries Management Practices following the Mohanganj Experience	Water Resources	BWDB	NGO	GoB and DP
FI-05**	Floodplain Aquaculture under the Community Enterprise Approach	Fisheries and Livestock	DoF	BWDB, LGED, NGO	Private
FI-06**	Community and Household-based Net-pen Fish Culture in the Haors/Floodplain	Fisheries and Livestock	DoF	NGO	GoB and DP
FI-07***	Fish Fingerling Stocking and Raising Programme	Fisheries and Livestock	DoF	NGO, Local community	GoB and DP
FI-08**	Capacity Development and Alternate Income Generating Activities (AIGAS) for Fisher Community	Fisheries and Livestock	DoF	NGO	GoB and DP
FI-09***	Renovation of Hatcheries for Conserving Quality Brood Stock and Production of Fish Seeds	Fisheries and Livestock	DoF	BFRI	GoB and DP
FI-10**	Study on Review of Policies, Regulations and Lease System for Sustaining Fisheries Resources	Fisheries and Livestock	DoF	BFRI, NGO	GoB and DP
FI-11***	Restoration of River Duars (Deep Pools) for Protecting Brood/Mother Fish	Water Resources	BWDB	DoF	GoB and DP
FI-12**	Rennovation of Fish Ponds and Dissemination of Improved Aquaculture Technology to Fish Farmers	Fisheries and Livestock	DoF	NGO	GoB and DP
FI-13**	Development and Construction of Innovative Fish Pass/Fish Friendly Structures	Water Resources	BWDB	DoF	GoB and DP
FI-14*	Establishment of Fisheries Information Service Centre	Fisheries and Livestock	DoF	FLID, CEGIS, NGO	GoB and DP
FI-15**	Introduction of Deep Water Rice-cum-Fish Culture	Fisheries and Livestock	DoF	DAE, NGO	GoB and DP
FI-16**	Establishment and Rehabilitation of Fish Landing Centres	Fisheries and Livestock	BFDC	DoF	GoB and DP
FI-17**	Establishment of Fish Drying and Fermentation Centre	Fisheries and Livestock	BFDC	DoF	GoB and DP
FI-18**	Study on Impact of Climate Change and Interventions on Fisheries Resources	Fisheries and Livestock	BFRI	DoF, CEGIS, University, Research Institute	GoB and DP
FI-19*	Development and Establishment of Cold Storage and Ice Plants	Fisheries and Livestock	BFDC	DoF, Public-private-partnership	GoB and DP
FI-20*	Research on Fish Stock Improvement through	Fisheries and	BFRI	University,	GoB and

DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
	Gene Pool Preservation and In-breeding Depression	Livestock		Research organization	DP
FI-21*	Rehabilitation of Existing Fish Processing Units and Establishment of a New Fish Processing Industry	Fisheries and Livestock	BFDC	DoF	GoB and DP
FI-22**	Community and Household-based Cage Fish Culture	Fisheries and Livestock	DoF	NGO	Private
Pearl Culture					
PC-01**	Development and Dissemination of pearl culture technology in Haor Area	Fisheries and Livestock	DoF	BFRI	GoB and DP
Livestock					
LS-01***	Improvement of fodder availability for livestock development	Fisheries and Livestock	DLS	BHWDB	GoB and DP
LS-02**	Integration of livestock in traditional farming system	Fisheries and Livestock	DLS	BHWDB, DAE	GoB and DP
LS-03*	Farmers training programs for capacity building	Fisheries and Livestock	DLS	BHWDB, LGED	GoB and DP
LS-04*	Establishment of pilot breeding program for cattle development	Fisheries and Livestock	DLS	BHWDB, DAM	GoB and DP
LS-05**	Promotion of small and mini dairy farms	Fisheries and Livestock	DLS	BHWDB, MoWCA	Private
LS-06***	Promotion of conventional and alternative feed resources for livestock feeding	Fisheries and Livestock	DLS	BHWDB	GoB and DP
LS-07**	Extension of Livestock Services through establishment of Union Livestock Service Center (ULSC)	Fisheries and Livestock	DLS	BHWDB, LGRD	GoB and DP
LS-08*	Development of Livestock Products through involvement of Community Organization	Fisheries and Livestock	DLS	BHWDB, DAM	GoB and DP
LS-09***	Development of Community Animal Health Workers for Livestock Healthcare	Fisheries and Livestock	DLS	BHWDB	GoB and DP
LS-10***	Promotion of Small and Mini Poultry and Duck Farms	Fisheries and Livestock	DLS	NGO, BHWDB	Private
Forest					
FR-01**	Establishment of One Forest Nurseries in each of the 57 Upazilas of the Haor Areas	Environment and Forests	FD	BHWDB	PPP
FR-02***	Afforestation through involvement of local Community in Haor Area	Environment and Forests	FD	BHWDB, CEGIS	PPP
FR-03***	Afforestation of Roads, Embankments, Homesteads and Institutions	Environment and Forests	FD	BHWDB, FD, CEGIS	PPP
FR-04*	Reclamation of Izmali land for promotion of Social Forestry	Environment and Forests	FD	BHWDB, CEGIS, NGO	GoB and DP
FR-05**	Increase the Capacity of Community for forest conservation and Improvement	Environment and Forests	FD	BHWDB, CEGIS, NGO, FD	GoB and DP
FR-06*	Research Programmes on Haor Areas	Fisheries and Livestock	BFRI	BHWDB, CEGIS, NGO	GoB and DP
Biodiversity and wetland					
BW-01***	Eco- management zoning of Haor wetlands for biodiversity protection	Water Resources	BHWDB	BHWDB, CEGIS, NGO, IUCN	GoB and DP
BW-02***	Restoration of important wetlands	Environment and Forests	DoE	BHWDB, CEGIS, NGO, IUCN	GoB and DP
BW-03**	Development and implementation of	Water	BHWDB	BHWDB, FD,	GoB and

DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
	important wetlands for global significance.	Resources		DOE, CEGIS, IUCN, NGO	DP
BW-04*	Establishment of global wetlands center	Water Resources	BHWDB	BHWDB, FD, DoF, DOE, CEGIS, FD	GoB and DP
BW-05*	Review of policy for biodiversity management	Environment and Forests	DoE	BHWDB, FD, DOE, CEGIS, IUCN, NGO	GoB and DP
BW-06***	Habitat preservation program for plants, wildlife, fisheries and migratory birds	Environment and Forests	DoE	FD, CEGIS, IUCN, NGO	GoB and DP
BW-07**	Research and education program on Haor wetlands biodiversity conservation and management	Environment and Forests	DoE	FD, DOE, DoF, University, Research institute, CEGIS, NGO	GoB and DP
BW-08**	Management of commercially important Haor wetland biodiversity	Water Resources	BHWDB	FD, DoE, DoF, BPC, CEGIS	GoB and DP
BW-09 **	Pollution control and prevention from agriculture, industry and urban settlement	Water Resources	BHWDB	DoE, DAE, LGI, DPHE, CEGIS	GoB and DP
BW-10***	Adaption and Mitigation to Climate Disaster Risks in Haor Basin	Food and Disaster Management	DMB	CEGIS, NGO, BHWDB, IUCN	GoB and DP
Transportation					
TR-1***	Upgradation of Rural Roads	Local Government Division	LGED		GoB and DP
TR-2***	Submersible rural road construction	Local Government Division	LGED		GoB and DP
TR-3***	Submersible District road construction (Sulla to Ajmiriganj)	Communications	RHD		GoB and DP
TR-4***	Submersible District road construction (Khaliajuri to Ajmiriganj)	Communications	RHD		GoB and DP
TR-5***	Submersible District road construction (Itna to Ajmiriganj)	Communications	RHD		GoB and DP
TR-6***	Submersible District road construction (Austagram to Lakhai)	Communications	RHD		GoB and DP
TR-7***	Submersible District road construction (Derai to Jagannathpur)	Communications	RHD		GoB and DP
TR-8**	Construction of Regional Highway	Communications	RHD		GoB and DP
TR-9*	Construction of Surma Bridge at Chatak	Communications	RHD		GoB and DP
TR-10***	Development of inland navigation by dredging in nine river routes	Shipping	BIWTA	BWDB	GoB and DP
TR-11**	Development of 150 landing facilities in the rural area	Shipping	BIWTC	LGED	GoB and DP
TR-12**	Installation of navigational aids along the river routes	Shipping	BIWTA		GoB and DP
TR-13**	Hydrographic survey in the nine major river routes	Shipping	BIWTA	CEGIS	GoB and DP
TR-14**	Construction of terminal buildings at 15 major passenger stations	Shipping	BIWTC		GoB and DP
TR-15*	Development of parking yards, storage facilities and security walls at 13 stations	Shipping	BIWTC		PPP

DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
Water Supply and Sanitation					
WS-01***	Establishment Sustainable and Community based Haor friendly Water Supply Technologies	Local Government Division	DPHE	LGI, CEGIS, NGO, ITN-BUET	GoB and DP
WS-02***	Introduce the Sustainable and Community based Flood Proof Hygienic Sanitation System in Haor areas	Local Government Division	DPHE	CEGIS, Hindu Religious WCIF	GoB and DP
Housing and Settlement					
ST-01**	Eco Village Platform Development for mitigate future Housing and settlement demand	Local Government Division	LGRD	BHWDB	GoB and DP
Education					
ED-01***	Establishment of Community based Multigrade Learning Centres	Primary and Mass Education	DPE		GoB and DP
ED-02**	Community based School Feeding Programme	Primary and Mass Education	DPE	NGO, Private company	GoB and DP
ED-03***	Establishment of Primary Schools	Primary and Mass Education	DPE	LGED	GoB and DP
ED-04**	School Boat Facilities for Inaccessible Areas	Local Government Division	LGI		GoB and DP
ED-05*	Awareness Generation Programmes on Gender Discrimination	Primary and Mass Education	DPE	Islamic Foundation, Hindu Religious WCIF, CEGIS	GoB and DP
ED-06**	Introduce skill based training programmes	Education	DTE		GoB and DP
ED-07*	Establishment of High Schools, Colleges and Madrasa	Education	DSHE	LGED	GoB and DP
Health					
HE-01***	Upgradation of Upazila Health Complex (UHC) and Construction of Upazila Health & Family Welfare Centre (UHFWC)	Health and Family Welfare	DHE		GoB and DP
HE-02***	Maternal and Reproductive Health Development Programme	Health and Family Welfare	DG-Health	DGFP	GoB and DP
HE-03***	Child Mortality Reduction Programme	Health and Family Welfare	DG-Health	DGFP	GoB and DP
HE-04**	Promotion of nutrition status of the haor people	Health and Family Welfare	DG-Health	DGFP, NNP	GoB and DP
HE-05**	Improve the quality of hospital service	Health and Family Welfare	DG-Health	CEGIS	GoB and DP
HE-06*	Capacity Development of Non-government, Non-profit Health Care Agencies using Private-Public-Partnership (PPP)	Health and Family Welfare	DG-Health	NGO	GoB and DP
HE-07*	Expansion of Alternative Medical Care (Unani, Ayurvedic & Homeopathic system of medicine)	Health and Family Welfare	DG-Health	LGED	GoB and DP
HE-08*	Strengthening of supervision and monitoring system	Health and Family Welfare	DG-Health	DGFP	GoB and DP
HE-09***	Community health care: Establishment of Community clinics (CC)	Health and Family Welfare	DHE		GoB and DP
HE-10***	Community health care: Mobile clinic and emergency medical team	Health and Family Welfare	DG-Health	Private Agency	GoB and DP

DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
HE-11**	Establishment of e-Health Services and Facilities up to Community Level	Health and Family Welfare	DG-Health	CEGIS	GoB and DP
HE-12**	Strengthening referral system from CC to UHFWC; UHFWC to UHC; UHC to District Hospitals	Health and Family Welfare	DG-Health	DGFP	GoB and DP
HE-13**	Environmental Health Programme	Health and Family Welfare	DG-Health	CEGIS	GoB and DP
HE-14**	Capacity development of health personnel	Health and Family Welfare	DG-Health	DGFP	GoB and DP
HE-15*	Medical Waste Management in District Hospital and Upazila Health Complex	Health and Family Welfare	DG-Health	DGFP, City Corporation	GoB and DP
HE-16*	GIS mapping of health facilities and disease pattern	Health and Family Welfare	DG-Health	CEGIS	GoB and DP
Tourism					
TS-01***	Development of Mega Eco-parks	Civil Aviation and Tourism	BPC	FD, PPP	PPP
TS-02**	Establishment of War Museums	Civil Aviation and Tourism	BPC	LGED	GoB and DP
TS-03**	Establishment of Amusement Parks	Civil Aviation and Tourism	BPC	Private Agency	PPP
TS-04**	Development of Tourist/Picnic Spots	Civil Aviation and Tourism	BPC	Private Agency	PPP
TS-05***	Construction of Bird Watching Tower	Civil Aviation and Tourism	BPC	LGED	Private
TS-06*	Renovation of Zamindar Palaces	Civil Aviation and Tourism	BPC	LGED	GoB and DP
TS-07***	Dolphin Sighting Tour Programme	Civil Aviation and Tourism	BPC	Private Agency	Private
TS-08***	Hakaluki Haor Sightseeing Tour Programme	Civil Aviation and Tourism	BPC	LGI, Private Agency	Private
TS-09**	Development of Fish Park	Civil Aviation and Tourism	BPC	DoF, BFRI	Private
TS-10***	Establishment of Wildlife Sanctuary	Civil Aviation and Tourism	BPC	FD	GoB and DP
TS-11**	Promotional Programmes on Haor for Electronic and Print Media	Civil Aviation and Tourism	BPC	LGED, City Corporations, LGI	GoB and DP
TS-12**	Construction of Tourism Infrastructures	Civil Aviation and Tourism	BPC	LGED	PPP
TS-13*	Training programmes in Hotel Management and Food Catering	Civil Aviation and Tourism	BPC	Private Agency, NHTI	GoB and DP
Social Services					
SS-01**	Construction of Growth centers/Rural markets	Local Government Division	LGED	PPP	GoB and DP
SS-02*	Construction of Food Godowns	Food and Disaster Management	DG-Food		GoB and DP
SS-03***	Upgradation/construction of religious prayer house, graveyards and cremation grounds	Local Government Division	LGED		GoB and DP
SS-04**	Awareness Generation Programme for the Spiritual Leaders	Religious Affairs	IF	NGO	GoB and DP
SS-05*	Construction of Playground and Supply of Sports materials	Local Government Division	LGI	National Sports Council	GoB and DP
SS-06***	Upgradation and Construction of Police	Local	LGI		GoB and

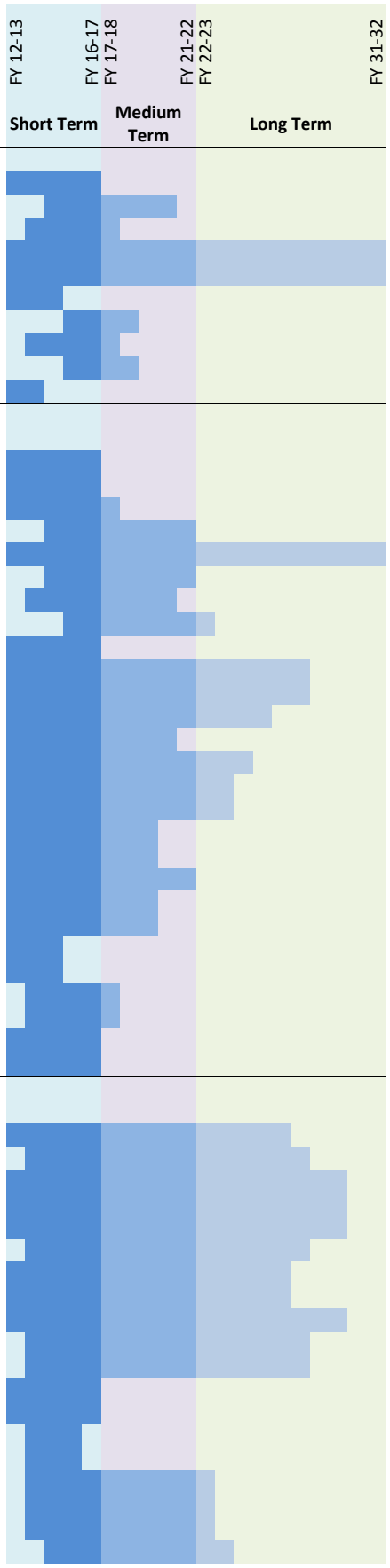
DA Code	Projects by Development Area	Ministry	Lead Agency	Supporting Agencies	Funding
	Stations	Government Division			DP
Industry					
IN-01**	Can food Industry	Commerce	BCCI		Private
IN-02**	Beverage Industry	Industries	BITAC	Private Agency	Private
IN-03***	Small and Cottage Industries Development program for destitute women's in haor area	Industries	BSCIC	Union Parishad	GoB and DP
IN-04*	Swamp Water Processing Industry	Industries	BSCIC	DPHE	Private
IN-05**	Tea processing Industry	Industries	BSCIC	Private Agency	Private
IN-06**	Gas cylinder Industry	Civil Aviation and Tourism	BPC	Private Agency	Private
IN-07*	Industrial Park	Local Government Division	City Corporation		GoB and DP
IN-08***	Establishment of Charcoal Industry	Industries	BSCIC		Private
IN-09***	Boat Manufacturing Industry	Industries	BSCIC		Private
Power and Energy					
PW-01***	Expansion of electric distribution systems in Haor districts	Power, Energy & Mineral Resources	REB		GoB and DP
PW-02**	Expansion of solar power generation systems	Power, Energy & Mineral Resources	REB	Private Agency, NGO, Grameen Shakti, BRAC	Private
PW-03*	Pre-feasibility Study on Renewable Energy Potentials and Power Generation Possibilities in Haor Area	Water Resources	BHWDB	CEGIS	GoB and DP
PW-04*	Development of mini-hydropower schemes	Power, Energy & Mineral Resources	BPDB		PPP
Mineral Resources					
MR-01**	Seismic survey, exploration drilling in the Haor districts to explore new gas field	Power, Energy & Mineral Resources	Petrobangla		PPP
MR-02**	Development of Mines for gravel, white clay, glass sand, coal and peat extraction from Haor districts	Power, Energy & Mineral Resources	BoMD		PPP
MR-03***	Strengthening capacity of miner and mining labor in Haor districts	Local Government Division	LGI	BMD	GoB and DP

Note: *** Very High Priority, ** High Priority, * Medium Priority

GoB Government of Bangladesh
DP Development Partner
PPP Public Private Partnership
Private Private Agency

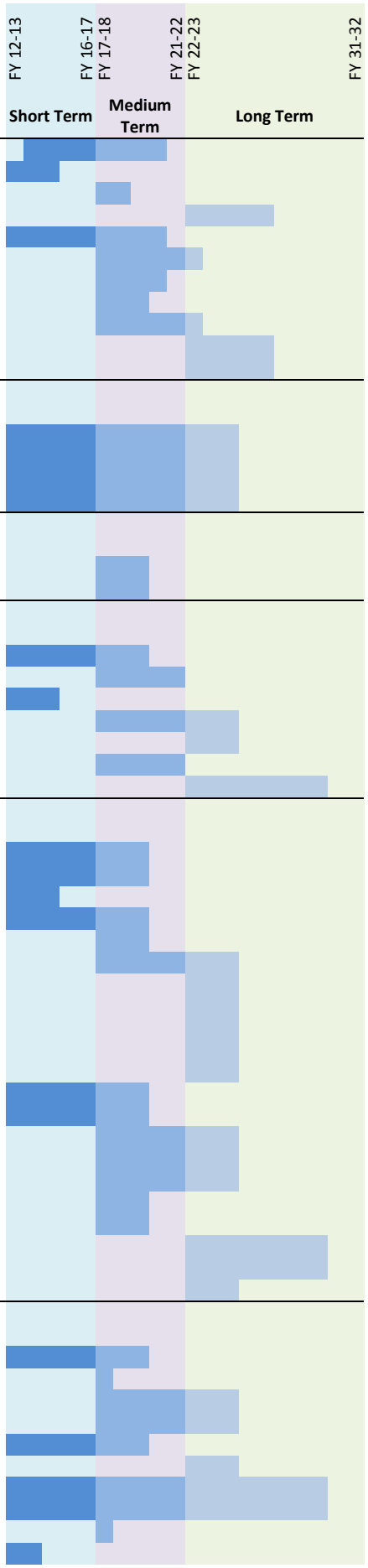
Implementation Schedule

DA Code	Projects by Development Area
	Water Resources
WR-01***	Pre-Monsoon Flood Protection and Drainage Improvement in Haor Areas
WR-02**	Flood Management of Haor Areas
WR-03***	River Dredging and Development of Settlement
WR-04**	Development of Early Warning System for Flash Flood prone areas in Haor and dissemination to Community Level
WR-05***	Village Protection against Wave Action of Haor Area
WR-06**	Monitoring of the Rivers in Haor Area
WR-07***	Impact study of the interventions of transboundary river system
WR-08**	Study of the Climate Change impact of Haor areas
WR-09***	Strengthening and Capacity Development of BHWDB
	Agriculture
AG-01***	Expansion of irrigation through utilization of surface water by double lifting in haor area
AG-02***	Minor Irrigation by low lift pumps project
AG-03**	Investigation and expansion of ground water irrigation
AG-04*	Promotion and plantation of Agar Plant
AG-05*	Automation of rice transplantation system by Auto Rice Transplanter
AG-06**	Mechanization of Agriculture through Combined Harvester
AG-07**	Improvement of Quality of Crop Grain through Dryer system
AG-08***	Intensive Cultivation of homestead vegetables and horticulture
AG-09**	Development of climate resilient High Yielding Varieties of rice and non-rice crops
AG-10**	Selection of Short Duration Boro Rice Cultivars/ Advanced Line
AG-11***	Changing Cropping Pattern to increase cropping intensity in haor areas
AG-12*	Extension of Integrated Pest Management Training Project
AG-13**	Expansion of Integrated Crop Management Training
AG-14*	Extension of Jute cultivation project
AG-15**	Integrated Development of Applied Research for Improved Farming Systems
AG-16**	High Value-non-Rice-cum-Deep Water Rice Culture
AG-17***	Assistance to Landless, Marginal and Small Farmers to overcome soaring input, and food prices in impoverished Haor area
AG-18**	Application of GIS for farm productivity enhancement through land suitability assessment of major cropping pattern in Haor Region
AG-19*	Improvement of Storage Facilities and Agricultural Marketing System in Haor Area
AG-20**	Introduction of Innovative Agriculture through Vegetables cultivation on Floating Bed
	Fisheries
FI-01***	Development and Establishment of Fish Sanctuaries
FI-02***	Habitat Restoration for Fish Diversity
FI-03***	Beel Nursery Programme for Increasing Fish Fingerling Recruitment
FI-04*	Good Fisheries Management Practices following the Mohanganj Experience
FI-05**	Floodplain Aquaculture under the Community Enterprise Approach
FI-06**	Community and Household-based Net-pen Fish Culture in the Haor/Floodplain
FI-07***	Fish Fingerling Stocking and Raising Programme
FI-08**	Capacity Development and Alternate Income Generating Activities (AIGAS) for Fisher Community
FI-09***	Renovation of Hatcheries for Conserving Quality Brood Stock and Production of Fish Seeds
FI-10**	Study on Review of Policies, Regulations and Lease System for Sustaining Fisheries Resources
FI-11***	Restoration of River Duars (Deep Pools) for Protecting Brood/Mother Fish
FI-12**	Renovation of Fish Ponds and Dissemination of Improved Aquaculture Technology to Fish Farmers
FI-13**	Development and Construction of Innovative Fish Pass/Fish Friendly



DA Code	Projects by Development Area	FY 12-13 / FY 16-17 (Short Term)	FY 17-18 / FY 21-22 (Medium Term)	FY 22-23 / FY 31-32 (Long Term)
	Structures			
FI-14*	Establishment of Fisheries Information Service Centre			
FI-15**	Introduction of Deep Water Rice-cum-Fish Culture			
FI-16**	Establishment and Rehabilitation of Fish Landing Centers			
FI-17**	Establishment of Fish Drying and Fermentation Centre			
FI-18**	Study on Impact of Climate Change and Interventions on Fisheries Resources			
FI-19*	Development and Establishment of Cold Storage and Ice Plants			
FI-20*	Research on Fish Stock Improvement through Gene Pool Preservation and In-breeding Depression			
FI-21*	Rehabilitation of Existing Fish Processing Units and Establishment of a New Fish Processing Industry			
FI-22**	Community and Household-based Cage Fish Culture			
	Pearl Culture			
PC-01**	Development and Dissemination of pearl culture technology in Haor Area			
	Livestock			
LS-01***	Improvement of fodder availability for livestock development			
LS-02**	Integration of livestock in traditional farming system			
LS-03*	Farmers training programs for capacity building			
LS-04*	Establishment of pilot breeding programme for cattle development			
LS-05**	Promotion of small and mini dairy farms			
LS-06***	Promotion of conventional and alternative feed resources for livestock feeding			
LS-07**	Extension of Livestock Services through establishment of Union Livestock Service Center (ULSC)			
LS-08*	Development of Livestock Products through involvement of Community Organization			
LS-09***	Development of Community Animal Health Workers for Livestock Healthcare			
LS-10***	Promotion of Small and Mini Poultry and Duck Farms			
	Forest			
FR-01**	Establishment of One Forest Nurseries in each of the 57 Upazilas of the Haor Areas			
FR-02***	Afforestation through involvement of local Community in Haor Area			
FR-03***	Afforestation of Roads, Embankments, Homesteads and Institutions			
FR-04*	Reclamation of Izmali land for promotion of Social Forestry			
FR-05**	Increase the Capacity of Community for forest conservation and Improvement			
FR-06*	Research Programmes on Haor Areas			
	Biodiversity and wetland			
BW-01***	Eco- management zoning of Haor wetlands for biodiversity protection			
BW-02***	Restoration of important wetlands			
BW-03**	Development and implementation of important wetlands for global significance.			
BW-04*	Establishment of global wetlands center			
BW-05*	Review of policy for biodiversity management			
BW-06***	Habitat preservation programme for plants, wildlife, fisheries and migratory birds			
BW-07**	Research and education programme on Haor wetlands biodiversity conservation and management			
BW-08**	Management of commercially important Haor wetland biodiversity			
BW-09 **	Pollution control and prevention from agriculture, industry and urban settlement			
BW-10***	Adaption and Mitigation to Climate Disaster Risks in Haor Basin			
	Transportation			
TR-1***	Upgradation of Rural Roads			
TR-2***	Submersible rural road construction			
TR-3***	Submersible District road construction (Sulla to Ajmiriganj)			
TR-4***	Submersible District road construction (Khaliajuri to Ajmiriganj)			
TR-5***	Submersible District road construction (Itna to Ajmiriganj)			

DA Code	Projects by Development Area
TR-6***	Submersible District road construction (Austagram to Lakhai)
TR-7***	Submersible District road construction (Derai to Jagannathpur)
TR-8**	Construction of Regional Highway
TR-9*	Construction of Surma Bridge at Chhatak
TR-10***	Development of inland navigation by dredging in nine river routes
TR-11**	Development of 150 landing facilities in the rural area
TR-12**	Installation of navigational aids along the river routes
TR-13**	Hydrographic survey in the nine major river routes
TR-14**	Construction of terminal buildings at 15 major passenger stations
TR-15*	Development of parking yards, storage facilities and security walls at 13 stations
	Water Supply and Sanitation
WS-01***	Establishment Sustainable and Community based Haor friendly Water Supply Technologies
WS-02***	Introduce the Sustainable and Community based Flood Proof Hygienic Sanitation System in Haor areas
	Housing and Settlement
ST-01**	Eco Village Platform Development for mitigate future Housing and settlement demand
	Education
ED-01***	Establishment of Community based Multigrade Learning Centers
ED-02**	Community based School Feeding Programme
ED-03***	Establishment of Primary Schools
ED-04**	School Boat Facilities for Inaccessible Areas
ED-05*	Awareness Generation Programmes on Gender Discrimination
ED-06**	Introduce skill based training programmes
ED-07*	Establishment of High Schools, Colleges and Madrasa
	Health
HE-01***	Upgradation of Upazila Health Complex (UHC) and Construction of Upazila Health & Family Welfare Centre (UHFWC)
HE-02***	Maternal and Reproductive Health Development Programme
HE-03***	Child Mortality Reduction Programme
HE-04**	Promotion of nutrition status of the haor people
HE-05**	Improve the quality of hospital service
HE-06*	Capacity Development of Non-government, Non-profit Health Care Agencies using Private-Public-Partnership (PPP)
HE-07*	Expansion of Alternative Medical Care (Unani, Ayurvedic & Homeopathic system of medicine)
HE-08*	Strengthening of supervision and monitoring system
HE-09***	Community health care: Establishment of Community clinics (CC)
HE-10***	Community health care: Mobile clinic and emergency medical team
HE-11**	Establishment of e-Health Services and Facilities up to Community Level
HE-12**	Strengthening referral system from CC to UHFWC; UHFWC to UHC; UHC to District Hospitals
HE-13**	Environmental Health Programme
HE-14**	Capacity development of health personnel
HE-15*	Medical Waste Management in District Hospital and Upazila Health Complex
HE-16*	GIS mapping of health facilities and disease pattern
	Tourism
TS-01***	Development of Mega Eco-parks
TS-02**	Establishment of War Museums
TS-03**	Establishment of Amusement Parks
TS-04**	Development of Tourist/Picnic Spots
TS-05***	Construction of Bird Watching Tower
TS-06*	Renovation of Zamindar Palaces
TS-07***	Dolphin Sighting Tour Programme
TS-08***	Hakaluki Haor Sightseeing Tour Programme
TS-09**	Development of Fish Park
TS-10***	Establishment of Wildlife Sanctuary



DA Code	Projects by Development Area	FY 12-13 / FY 16-17 (Short Term)	FY 17-18 / FY 21-22 (Medium Term)	FY 22-23 / FY 31-32 (Long Term)
TS-11**	Promotional Programmes on Haor for Electronic and Print Media			
TS-12**	Construction of Tourism Infrastructures			
TS-13*	Training programmes in Hotel Management and Food Catering			
	Social Services			
SS-01**	Construction of Growth centers/Rural markets			
SS-02*	Construction of Food Godowns			
SS-03***	Upgradation/construction of religious prayer house, graveyards and cremation grounds			
SS-04**	Awareness Generation Programme for the Spiritual Leaders			
SS-05*	Construction of Playground and Supply of Sports materials			
SS-06***	Upgradation and Construction of Police Stations			
	Industry			
IN-01**	Can food Industry			
IN-02**	Beverage Industry			
IN-03***	Small and Cottage Industries Development programme for destitute women's in haor area			
IN-04*	Swamp Water Processing Industry			
IN-05**	Tea processing Industry			
IN-06**	Gas cylinder Industry			
IN-07*	Industrial Park			
IN-08***	Establishment of Charcoal Industry			
IN-09***	Boat Manufacturing Industry			
	Power and Energy			
PW-01***	Expansion of electric distribution systems in Haor districts			
PW-02**	Expansion of solar power generation systems			
PW-03*	Pre-feasibility Study on Renewable Energy Potentials and Power Generation Possibilities in Haor Area			
PW-04*	Development of mini-hydropower schemes			
	Mineral Resources			
MR-01**	Seismic survey, exploration drilling in the Haor districts to explore new gas field			
MR-02**	Development of Mines for gravel, white clay, glass sand, coal and peat extraction from Haor districts			
MR-03***	Strengthening capacity of miner and mining labor in Haor districts			

Note: *** Very High Priority, ** High Priority, * Medium Priority

Water Resources

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-01**	**Priority- Very High**
Project Title	**Pre-monsoon Flood Protection and Drainage Improvement in Haor Area**		
Location	Gowainghat, Rajnagar, Derai, Kamalganj, Kulaura, Nabiganj, Zakiganj, Maulvibazar Sadar, Baniachong, Katiadi, Pakundia, Mithamoin, Bajitpur, Hossainpur, Austagram, Durgapur, Kuliar Char, Karimganj, Belabor, Netrakona Sadar, Roypura, Kishoreganj Sadar, Barhatta, Bancharampur of Brahmanbaria, Sadar upazila of Sunamganj, Habiganj, Netrakona, Kishoreganj, Sylhet, Maulvibazar and Brahmanbaria districts.		
Key Objectives	Protection from flash flood and improvement of drainage under existing haor schemes		
Description	The haor region, situated just below the hilly regions of the states of Assam, Meghalaya and Tripura of India, experiences some of the most severe hydrological conditions. Principal rivers of the region include the Surma, the Kushiyara, the Manu, the Khowai and the Someswari etc. have upstream catchments in the hills of India. Haors are connected with the main rivers by numerous small rivers and khals. Conventionally, annual inundation causes fertile silt deposition on the land that contributes to the high yield of Boro rice. However, early flash floods in certain years are the main disaster of the haor area which engulfs the primary production sector and thereby threatens the lives and livelihoods of the haor inhabitants. This project covers the Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona and Kishoreganj districts where BWDB schemes already exist to provide protection against flash floods and drainage congestion. However, the existing schemes are not properly functioning and need to be rehabilitated. The BWDB has already started rehabilitation activities for fifty-two of the 118 schemes in the haor area. This project is proposed for the rehabilitation of an additional twenty-five schemes. The project will include a topographic survey along embankment alignment, a pre and post dredging survey, construction/ re-construction/ re-sectioning of submersible embankments, construction of compartmental dykes, construction of cross dams, construction of thirty-nine drainage regulators, drainage outlets, causeways/fuses, irrigation inlets, repair and rehabilitation of existing regulators, re-excavation of internal khals, dredging of the Surma-Baulai river system, operation and maintenance (O&M) during construction, etc.		
Lead Implementing Agency	Bangladesh Water Development Board (BWDB)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), Center for Environmental and Geographic Information Services (CEGIS) and Institute of Water Modelling (IWM)		
Cost in BDT	12,550 Lakh		

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-02**	**Priority - High**
Project Title	**Flood Management in Haor Area**		
Location	Ajmiriganj, Atpara, Austagram, Bajitpur, Balaganj, Baniachong, Barhatta, Beani bazaar, Bhairab, Bishwambharpur, Chhatak, Companiganj, Dakshin Sunamganj, Fenchuganj, Habiganj Sadar, Itna, Jagannathpur, Jamalganj, Kalmakanda, Karimganj, Katiadi, Kendua, Kishoreganj Sadar, Kuliarchar, Madan, Mithamoin, Nabiganj, Nasirnagar, Nikli, Rajnagar, Sunamganj Sadar, Tarail upazila of Sunamganj, Habiganj, Netrakona, Kishoreganj, Sylhet, Maulvibazar and Brahmanbaria districts		
Key Objectives	Protection from flash flood and improvement of drainage in potential new haor area		
Description	The north-eastern region of Bangladesh covers about 25% of the total area. Flash floods from the hills damage crops in the haor area. The main physical interventions of the project are construction of earthen submersible embankments along the periphery of the haors along with construction of regulators/sluices and re-excavation of canals at selected locations. The function of the embankments is to prevent flooding up to the end of May and that of the regulators is to facilitate drainage and irrigation. In spite of the BWDB schemes in this area, there are some unprotected locations which are badly experiencing flood and drainage congestion. Thirty one haors in Kishoreganj, Netrakona, Sunamganj, Sylhet, Habiganj, Maulvibazar and Brahmanbaria districts are proposed to be covered under this flood management project. Agriculture is the major livelihood of the haor people. Boro rice transplanted in January and harvested in April, being the only crop. A very short period of the year is available for crop production as, in every year, haor area remain under water for around seven months. Construction of submersible embankments, regulators, sluices, closures, re-excavation of khals, and plantation of trees are recommended under this project.		
Lead Implementing Agency	Bangladesh Water Development Board (BWDB)		
Supporting Agency	Bangladesh Haor and Wetlands Development Board (BHWDB), Center for Environmental and Geographic Information Services (CEGIS) and Institute of Water Modelling (IWM)		
Cost in BDT	81,643 Lakh		

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-03**	**Priority - Very High**
Project Title	**River Dredging and Development of Settlement**		
Location	Bishwambharpur, Derai, Dharampasha, Dowarabazar, Jamalganj, Sarail, Sulla, Sunamganj Sadar, Tahirpur, Kanaighat, Zakiganj, Lakhai, Nasirnagar, Sarail, Akhaura, Brahmanbaria Sadar, Kasba, Nabinagar, Austagram, Bajitpur, Bhairab, Itna, Karimganj, Mithamoin, Nikli, Atpara, Durgapur, Khaliajuri, Madan, Mohanganj, Netrakona Sadar upazila of Sunamganj, Netrakona, Kishoreganj, Sylhet and Brahmanbaria districts		
Key Objectives	Improvement of drainage capacity and development of new settlement platform		
Description	The ongoing channel instability and sedimentation problems over the last 40 years have led to increased pre-monsoon flood damage, deteriorating river navigation and loss of productive agricultural land and human settlements in haor area. Much of this instability has occurred in response to the avulsion of the Bibiyana River into Suriya Khal in the 1960's. Impacts from past FCD embankments upstream of Sherpur and closure of important drainage channels have also contributed to this situation. Measures to promote the development of a more stable channel regime are necessary for long term maintenance of the river system and for ensuring operation of infrastructure and river-based transportation systems in the surrounding area. Simply continuing to rise the height of the existing embankments throughout the project area may provide temporary benefits but long term sustainable solutions will require remedial work in the main river. Almost 729.21 km of channel will be dredged for maintenance, 3 km will be re-aligned, 47 homestead platforms will be prepared, including river protection works, afforestation and 2 closures, will be constructed under the project. The project will also enhance the carrying capacity of rivers to improve drainage (hence reduce flooding), improve navigation and thus improve the socio-economic condition of the people.		
Lead Implementing Agency	Bangladesh Water Development Board (BWDB)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS) and Bangladesh Haor and Wetland Development Board (BHWDB)		
Cost in BDT	48,970 Lakh		

Strategic Thematic Area	**Improved water and disaster management**
Development Area	**Water Resources** **WR-04** **Priority - High**
Project Title	**Development of Early Warning System for Flash Flood Prone Area in Haor and Dissemination to Community Level**
Location	All upazilas of Sunamganj, Habiganj, Netrakona, Kishoreganj, Sylhet, Maulvibazar and Brahmanbaria districts
Key Objectives	Development of early flash flood warning system and dissemination to the community
Description	A huge volume of water enters in Bangladesh from the Meghalaya and Tripura hills which often cause severe flash floods in the haor area. These storms produce severe flash floods in two areas, one between the border with Meghalaya and the Kangsha and Surma Rivers, the other between the border with Tripura and the Kushiyara River. The Barak system is also contributing to flash floods through the Surma and the Kushiyara. Bangladesh being a flood prone country, flood forecast and early warning are of great importance in reducing the loss of lives and properties of the haor people. At present the Flood Forecasting and Warning Center (FFWC) of the BWDB provides flood forecast information at river level, but no effective dissemination system exists for delivering forecasts at community level. The BWDB may use the Community Flood Information System (CFIS) developed by CEGIS for reducing vulnerability and enabling people to save their assets by producing accurate and timely flood forecasts utilizing easily understandable mobile SMS. The system is supported by forecast information from the FFWC and SMS. A GIS-based simple relational model WATSURF that can transfer and translate river water levels to floodplain locations is used here. WATSURF creates location specific SMS for 72 hours and can transmit to mobile phones of flag operators, union parishad and selected community people. Flag operators were selected by the community to receive SMS and operate flags and bulletin boards for disseminating local flood forecast. The SMSs contain only the name of the union and the symbols for water level rise (+) or fall (-) for the next 72 hours. One + or - symbol indicate 9 inch of water rise or fall respectively. This makes the SMS simple, locally effective and understandable even by illiterate people. This system has been implemented on pilot basis. This can be replicated in the haor area so that early warning for flash floods can be effectively disseminated to the inhabitants through SMS. Under the project, a GIS-based early warning system for flash floods will be produced and a mechanism will be developed to disseminate it to the community.
Lead Implementing Agency	Bangladesh Water Development Board (BWDB)
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS) and Bangladesh Haor and Wetland Development Board (BHWDB),
Cost in BDT	768 Lakh

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-05**	**Priority - Very High**
Project Title	**Village Protection Against Wave Action in Haor Area**		
Location	Nasirnagar, Sarail, Lakhai, Austagram, Bajitpur, Bhairab, Itna, Karimganj, Mithamoin, Nikli, Tarail, Khaliajuri, Bishwambharpur, Derai, Dharampasha, Jagannathpur, Jamalganj, Sulla and Tahirpur upazila of Sunamganj, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Protection of villages from wave erosion through green belt development and revetment work		
Description	Villages in haor areas are situated near rivers and in deeply flooded area of the northeast region. To keep them above water level during the flood season which lasts for five to seven months in a year, these villages are formed over man-made elevated earthen platforms. These platforms are frequently threatened by erosion from wave action. This is further worsened by the destruction of such low lying swamp forests for homestead fuels. The village protection plan aims to improve the quality of life for the people of haor area to protect the earthen platforms from erosion caused by wave action during the wet season. The project includes construction of revetments, stairs and ramps, a green belt and nurseries.		
Lead Implementing Agency	Bangladesh Water Development Board (BWDB)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS) and Bangladesh Haor and Wetland Development Board (BHWDB),		
Cost in BDT	31,046 Lakh		

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-06**	**Priority - High**
Project Title	**Monitoring of the Rivers in Haor Area**		
Location	Nabinagar, Bajitpur, Mithamoin, Nikli, Khaliajuri, Madan, Mohanganj, Ajmiriganj, Baniachong, Habiganj Sadar, Derai, Dharampasha, Jagannathpur, Jamalganj and Sulla upazila of Brahmanbaria, Kishoreganj, Netrakona, Habiganj and Sunamganj District		
Key Objectives	Study of the morphological characteristics of the rivers of the Haor area to identify different types of activities to keep the haors functioning		
Description	The rivers of the haor areas are very dynamic by nature. They are continuously changing their course, width, length, bed level etc. Levee breaching and subsequent sediment spreading at the adjacent floodplain and haor are common phenomenon in these rivers. As a result, flooding, wetland degradation, deterioration of agricultural land, riverbank erosion etc. is very frequent in this area. In this situation, it is a crucial demand to monitor the state of the major rivers such as Surma, Kushiyara, Baulai, Mogra, Dhanu, etc. to assess the requirement of maintenance work and also for new interventions.		
Lead Implementing Agency	Bangladesh Water Development Board (BWDB)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS) and Bangladesh Haor and Wetland Development Board (BHWDB),		
Cost in BDT	900 Lakh		

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-07**	**Priority - Very High**
Project Title	**Impact study of the interventions of transboundary river system**		
Location	Durgapur, Kalmakanda, Bishwambharpur, Chhatak, Dharampasha, Dowarabazar, Sunamganj Sadar, Tahirpur, Beani Bazar, Companiganj, Gowainghat, Jaintapur, Kanaighat, Zakiganj, Barlekha, Kamalganj, Kulaura, Sreemangal, Chunarughat, Madhabpur, Akhaura, Brahmanbaria Sadar and Kasba of Netrakona, Sunamganj, Sylhet, Maulvibazar, Habiganj, Brahmanbaria district		
Key Objectives	Assess the impact of any type of intervention at the upstream of international boundary		
Description	In total 24 rivers enters into Bangladesh from Meghalaya (11 rivers), Barak (2 rivers) and Tripura (11 rivers) systems of India. Around 64% catchment area of these rivers lies in India while 36% is within Bangladesh. During pre-monsoon flash flood period, around 67% of total flow of the haor area enters from these Indian catchments. The ecology, environment and socio-economy of the haor areas are highly influenced by the flash flood. Since all these factors are being controlled by the upstream (Indian catchment), any sort of intervention in upstream rivers will significantly impact the life of people of this downstream area. The impact might be positive, negative or both. It is essential to assess the impacts of upstream intervention. Hence the project is aimed to examine and explore the existing relevant international laws and universal agreements (legally binding for its parties) whether a win-win situation can be reached between India and Bangladesh for sharing and maximising the benefits and management of the common trans-boundary rivers feeding the haor area.		
Lead Implementing Agency	Joint River Commission, Bangladesh		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS) and Bangladesh Haor and Wetland Development Board (BHWDB),		
Cost in BDT	1,500 Lakh		

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-08**	**Priority - High**
Project Title	**Study of the Climate Change impact of Haor area**		
Location	All upazilas of Haor districts		
Key Objectives	Climate change impact study on Haor area		
Description	The haor region, situated just below the hilly regions of the states of Assam, Meghalaya and Tripura of India, experiences some of the most severe hydrological conditions. The principal rivers of the region have upstream catchments in the hills of India and the haors are connected with the main rivers by numerous small rivers and khals. Extensive rainfalls in the upstream coupled with the local rainfall frequently cause seasonal inundation of the haors, both in the pre-monsoon and the monsoon. The 4th IPCC Report predicts that seasonal (pre-monsoon) rainfall will increase up to 31% in 2099, resulting in higher flows during the monsoon season in the rivers. Global warming will result in sea level rise between 0.18 and 0.79 meters in 2099. In that case, the flash flood and normal flood condition may get worsen and the extent of flooding or inundation both spatially and temporally may be expanded. Hence the project will include studying of the impacts of climate change on haor area in all the districts in a comprehensive way, considering the geographic characteristics of the region and its climate, and the future emission scenarios. The study will focus on the consequent change in temperature and rainfall condition and sea level rise situation and how they impact on the overall hydrological characteristics of the haor region and amplify the hazard conditions like flash flood. It will also study the consequences of the events on the socio-economic condition and environment of the haor area.		
Lead Implementing Agency	Bangladesh Haor and Wetland Development Board (BHWDB)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS)		
Cost in BDT	197.08 lakh		

Strategic Thematic Area	**Improved water and disaster management**		
Development Area	**Water Resources**	**WR-09**	**Priority - Very High**
Project Title	**Strengthening and Capacity Development of BHWDB**		
Location	Dhaka Head Office, Kishoreganj		
Key Objectives	Organisational Development Plan and capacity development of the BHWDB		
Description	The BHWDB is created as an exclusive government institution for the management and integrated development of haor and wetland resources to facilitate macro-level planning. The organisation needs to enhance its capacity for the implementation of the Master Plan of Haor Area as well as for coordinating its other mandated tasks and maintenance of the Haor and Wetland Database. A master plan study will be initiated by the BHWDB which would aim to address a number of issues as well as gain comprehensive understanding on the present hydrological and hydro-geological characteristics and conditions, land-use patterns and water quality situation. The study would be a timely initiative and the master plan will cover agriculture, land, fishery, forest, environment and the eco-system. The BHWDB needs to be reformed and developed as an organisation in such a way that the institutional structure should sustain and never be restricted in fulfilling its mandates like many other agencies in Bangladesh. Three major goals are yet to be achieved: 1) an appropriate institutional structure for the BHWDB so that it could perform its mandated tasks and responsibilities in an effective way, and 2) enhanced capacity of professionals for implementation of the Master Plan of Haor Area and maintenance of the Haor and Wetland Database of the BHWDB and 3) a strong resource base (human and physical) so that the authorised personnel from the BHWDB could perform their jobs effectively to fulfill its vision.		
Lead Implementing Agency	Bangladesh Haor and Wetland Development Board (BHWDB)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS).		
Cost in BDT	197.08 lakh		

Agriculture

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-01**	**Priority - Very High**
Project Title	**Expansion of Irrigation through Utilization of Surface Water by Double Lifting in Haor Area**		
Location	All upazilas of Sunamganj, Habiganj, Netrakona, Kishoreganj, Sylhet, Maulvibazar and Brahmanbaria districts		
Key Objectives	Bringing additional cultivable area under surface irrigation		
Description	In the early fifties in Bangladesh, irrigation activities were started through utilization of surface water by using low lift pumps (LLP) on rental basis. The BADC made these activities popular through its development and expansion from 1962. Since then, irrigation area was started expanding in every year and in the year 1979-80, a maximum of 6.04 lac hectares of land came under irrigation. Due to the privatization of this Programme from 1980, irrigation area started decreasing through utilization of surface water. According to the census of 1996-97 only 5.82 lakh hectares of land are provided irrigation with surface water by LLPs. After 1996-97, surface water irrigation by LLP gradually increased and reached maximum of about 9.65 lakh ha during 2009-10. Irrigation coverage in the haor area by surface water is about 4.72 lakh ha of which coverage of LLP is about 3.81 lakh ha. About 57,000 ha of Boro plots are irrigated with the help of gravity flow, 34,000 ha with traditional methods such as the sewing basket, Dhon, etc. and 54,000 ha of area is being cultivated under rain fed condition. The main aim of the project is to produce 81,000 tons of additional food grains per annum, the financial value of which would be Tk. 16200 lakh. This aim would be achieved by providing irrigation facilities to 54,000 ha of land in irrigation season through utilization of 51, 102 and 204 floating pumps with capacity for yielding 25, 12.5 and 5 cusec of water, respectively. The project also aims to provide 5-day training to 357 managers on scheme operation and irrigation management, 15-day training to 357 pump drivers on the operation of pumps, and 3-day training to 2,675 fieldsmen on irrigation canal and distribution of water. The socio-economic conditions of landowners, marginal farmers and working people (men and women) of the project area will also be improved which, in turn will, alleviate poverty. A number of water pumps along with spare parts with different level of capacities will also be bought and installed for irrigation purposes.		
Lead Implementing Agency	Bangladesh Agricultural Development Corporation (BADC)		
Supporting Agency	Department of Agricultural Extension (DAE) and Bangladesh Water Development Board (BWDB).		
Cost in BDT	13,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-02**	**Priority - Very High**
Project Title	**Minor Irrigation by Low Lift Pumps**		
Location	All upazilas of Sunamganj, Habiganj, Netrakona, Kishoreganj, Sylhet, Maulvibazar and Brahmanbaria districts		
Key Objectives	Improvement of surface water irrigation system		
Description	In the haor area, transplantation of Boro is generally started in December and ended in January with the help of residual standing water or with available irrigation water from nearby rivers, khals or beels. Such storage is limited due to the gradual filling of water bodies by siltation. During March-April, most of the water bodies dried up due to usage of water and absence of rainfall replenishment. The critical stages of growth of rice start from panicle initiation stage to grain filling stages which usually occur between late February and mid-March in Boro rice. Supply of water to the rice fields is essential at this time which is to be achieved either by rainfall or by supplementary irrigation. Two to three rainfalls may be sufficient for normal growth, but in drought situation the farmers have nothing to do for want of available water. Re-excavation of khals, beels and rivers would increase the storage capacity of the reservoirs in these areas. Surface water from these reservoirs can be used for irrigation. Low Lift Pumps (LLPs) of 1-cusec or 2-cusec can be installed to ensure crop production. In the haor area, irrigation coverage by surface water is about 4.72 lakh ha of which the coverage of LLP is about 3.81 lakh ha. About 57,000 ha of Boro plots are irrigated with the help of gravity flow, 34,000 ha with traditional methods like the sewing basket, Dhon, etc. and 54,000 ha of area is cultivated under rainfed condition. There is scope for extension of irrigation by LLPs in this area. The aims of the project is (i) to provide irrigation to an additional 34,000 ha of land using 1 and 2 cusec pumps; (ii) to produce an additional 50,000 tons of food grain annually; and (iii) to improve the socio-economic condition of farmers through creation of employment opportunities in the haor area. A number of khals in the area will be re-excavated, diesel/electricity driven LLPs will be bought, and training will be provided to the workforce.		
Lead Implementing Agency	Bangladesh Agricultural Development Corporation (BADC)		
Supporting Agency	Department of Agricultural Extension (DAE), Bangladesh Water Development Board (BWDB) and Center for Environmental and Geographic Information Services (CEGIS).		
Cost in BDT	10,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-03**	**Priority - High**
Project Title	**Investigation and Expansion of Groundwater Irrigation**		
Location	Bahubal, Chunarughat, Madhabpur, Nabiganj and Sadar upazilas of Habiganj district; Barlekha, Kamalganj, Kulaura, Rajnagar, Sreemangal and Sadar upazilas of Maulvibazar district; Balaganj, Beani Bazaar, Bishwanath, Fenchuganj, Golapganj, Gowainghat, Jaintapur, Kanaighat, Zakiganj and Sadar upazila of Sylhet district		
Key Objectives	Improvement and expansion of groundwater irrigation		
Description	Irrigation coverage during dry season is about 62% of net cultivated area. In Rabi season, about 83% of Boro crop area is irrigated and the rest of the area is irrigated by traditional methods or remain under rainfed condition. Other dry land Rabi crops are grown under fully rainfed condition. In Kharif-I and Kharif-II seasons, major crops Aus and Aman are mostly cultivated under the rainfed condition. The total irrigation coverage during dry season is about 8.17 lakh ha. Irrigation coverage by groundwater is about 3.45 lakh ha of where coverage of deep tube well (DTW) is about 0.37 lakh ha and STW about 3.08 lakh ha of land. Irrigation coverage by surface water is about 4.72 lakh ha of which coverage of LLP is about 3.81 lakh ha. About 0.57 lakh ha of Boro plots are irrigated with the help of gravity flow, 0.34 lakh ha with traditional methods like the sewing basket, Dhon, etc. and 0.54 lakh ha of area is cultivated under rainfed condition. Groundwater is a key source of water supply to crops in high and medium high land where surface water is not readily available. However, the availability of groundwater varies throughout the region and its extent is not well known. Groundwater tapping occurs mainly in the private sector, its rate of extraction is uncertain. Over extraction of groundwater directly is depleting groundwater table towards lower level. It is making extraction of groundwater rather difficult and renders it unavailable for drawing by pumps. Therefore, it is urgently needed to explore the availability of groundwater along with the causes of the lowering its level as well as to develop groundwater management guidelines for the haor region. The main objective is to facilitate improved and sustainable management of groundwater for agricultural use in haor area. Project activities include groundwater modeling & analysis, assessment of the impact of groundwater table, baseline survey of groundwater quality and subsequent monitoring of the impacts of tapping of groundwater on its reserve. Irrigable area will also be expanded under the project.		
Lead Implementing Agency	Bangladesh Agricultural Development Corporation (BADC)		
Supporting Agency	Department of Agricultural Extension (DAE), Bangladesh Water Development Board (BWDB) and Center for Environmental and Geographic Information Services (CEGIS).		
Cost in BDT	75,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-04**	**Priority - Medium**
Project Title	**Agar Plantation**		
Location	Kanaighat, Gowainghat, Jaintapur, Beani Bazaar, Golapganj and Sadar upazila of Sylhet district; Fenchuganj, Barlekha, Kulaura, Rajnagar, Juri, Kamalganj, Sreemangal and Sadar upazila of Maulvibazar districts and Bahubal, Chunarughat, Madhabpur upazila of Habiganj district		
Key Objectives	Production of high cost perfume material and raw material for medicine		
Description	The aims of the project are to utilize hill slopes to produce high cost perfumery material, earn foreign currency, and produce raw materials for medicine. Agar oil and Agaru or Agar wood are the most exalted perfumery raw materials obtained from the fungus infected wood of the Agar tree. This transformed wood yields Agar oil on distillation that has a unique fragrance and high export value. The Agar oil, known in the East as Agar-atar, is one of the oldest perfumery materials. Agar is an evergreen tree with spreading canopy that allows partial penetration of sunshine through it as it requires a lot of sunshine. Growing from sea level up to 500 m altitudes, the Agar plant prefers high humid, sub-tropical climate with rainfall between 1800-3500 mm per annum. Although it prefers well-drained deep sandy loam to loamy soil rich in organic matter, it can also grow in marginal soils over rocky beds with cracks and crevices. It grows well in hill slopes and forest environment as well as in acidic soil. Hill slopes around the haor region, where soil and climate is favorable for Agar cultivation will be used under this project. Presently, a portion of hills around haor areas are used for Tea gardens and cultivation of Lemons, Pineapples etc. There is also a scope for starting Agar plantation in individual land parcels or as shade trees at the tea gardens. Under the project, additional area will be brought under Agar plantation. Scientists of Forest Research Institutes/DAE will supply all related inputs and technology for planting Agar and the technology developed by the research institutes will be applied for growing and processing agar oil.		
Lead Implementing Agency	Bangladesh Fisheries Research Institute (BFRI)		
Supporting Agency	Department of Agricultural Extension (DAE)		
Cost in BDT	3,120 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-05**	**Priority - Medium**
Project Title	**Use of Auto Transplanter for Rice Transplantation**		
Location	Haor upazilas (57 nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Minimizing labour, time and cost for planting/ sowing of rice seedlings		
Description	In the haor region, T Aus, T Aman and Boro are grown in 1.40 million ha of land, 93% of which is covered by transplanted rice. The labour requirements for rice cultivation vary due to different cultural practices. Only Boro rice is cultivated extensively in haor areas which are confronted with labour crisis. The total requirement of labour for rice production in the haor region is about 281 million man-days of which 62 million are utilized for transplanting. Farmers are facing problems due to shortage of labour for rice transplantation during a stipulated time period. The use of rice transplanters could help reduce labour requirement during the peak period as about 5000 man-days could be saved. Thus, the objectives of the project are to minimise labour requirement and time, and to reduce cost of rice transplantation. Settlements will be selected from each haor upazila by the DAE on the basis of Community Based Organisations (CBOs). The Guidelines on Participatory Water Management may be followed for the formation of such organizations. Users of the rice transplanters will be trained on the Operation and Maintenance (O&M) of those machines by officials of DAE/BANGLADESH RICE RESEARCH INSTITUTE (BRRI)/authorized companies. The impacts of the rice transplanter will be shown to the farmers of other neighboring settlements. These findings will encourage farmers to purchase the rice transplanter for their own use under the umbrella of the CBO. Under the project, a number of rice transplanters (a maximum of 4 for each upazila) will be purchased and distributed, CBOs will be formed, training on O&M and the relevant matters will be provided to the users, monitoring and evaluation will be carried out by competent authorities (DAE/MoA), and adverse impacts and benefits will be recorded.		
Lead Implementing Agency	Department of Agricultural Extension (DAE)		
Supporting Agency	Directorate of Co-operative (DoC) and Bangladesh Rice Research Institute (BRRI)		
Cost in BDT	40,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-06**	**Priority - High**
Project Title	**Agriculture mechanization through combined harvesters**		
Location	Haor upazilas (57 nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Facilitation of quick harvesting to protect crops from flash flood damage and reduce post-harvest loss		
Description	In the haor area, the intensity of flash floods/normal floods is very high. Farmers cannot harvest their matured paddy quickly and face many difficulties in timely harvest and post-harvest processing of crops. The situation is severe during Boro harvesting when the demand for agricultural labourers is very high. Sometimes, delayed harvesting of Boro due to shortage of labourers causes crop damage by early flash floods. Unexpected rainfall affects threshing and cleaning of the harvested paddy. Use of combined harvester can help farmers to harvest and process crops with comparative ease and saves the costs and time. The aims of the project are to create facilities for quick harvesting of matured crop through combined harvesters; reduce dependence on labours in peak period and release land for the cultivation of the next crop, especially Rabi crop and protect the Boro crop from early flash flood damage through quick harvesting and to reduce post-harvest loss. The combined harvester is used for harvesting, threshing as well as cleaning. It will save labour requirement significantly. Boro crops will be saved from flash flood damage and Rabi crops could be practised just after harvesting of T Aman. One combined harvester can be used for 4 ha/ day (10 hours) over 60 effective working days (30+30 for Boro and Aman). Each harvester will harvest (including threshing and cleaning) 240 ha. A total of 64 man-days will be saved by using a harvester. So, a total of 240x64=153, 60 man-days will be saved/harvester / year. The main benefits from the project would be that labour requirement will be reduced enabling timely harvest of crops. Under the project, combined harvesters will be purchased and distributed to Community Based Organisations (CBOs) that will be formed, training will be provided to the executive members of the CBOs on Operation and Maintenance (O&M), and monitoring and evaluation will be done at the end of each phase.		
Lead Implementing Agency	Department of Agricultural Extension (DAE)		
Supporting Agency	Bangladesh Rice Research Institute (BRRI), Directorate of Co-operative (DoC)		
Cost in BDT	45,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-07**	**Priority - High**
Project Title	**Crop Grain Dryer Project**		
Location	Haor upazilas (57 nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Minimizing post-harvest loss of crops from drying, improvement of quality of seeds and grain of crops		
Description	Rice is the main crop of the haor area. The intensity of rainfall and flood is generally high in the region from pre-monsoon to monsoon season. In this situation, farmers devote themselves to harvesting their crops. They face difficulty in drying the threshed Boro and Aus crops in the absence of proper sunlight. The existence of paved threshing floors in the haor area is very rare and so farmers stock the harvested wet grains at the premises of their homes under open sky. Sometimes, the paddy germinates under such conditions and a considerable amount of Boro/Aus crops are damaged during the post-harvest stages causing a significant loss in production (10-15%), along with the deterioration of quality of seeds and grain. The main objectives of the project are to minimise or save post-harvest loss of crops and to dry and preserve crop grains and seeds easily at minimum cost maintaining its quality. The project will be implemented by the DAE. A total of 2040 grain dryer machines will be procured following relevant procurement policy. Firstly, settlements will be selected from each haor upazila by the DAE on the basis of community based organizations. Distressed women/poor women / unemployed youth may be may be given priority. Officials of DAE/ authorized companies would provide training to the selected members on operation and maintenance of the machines.		
Lead Implementing Agency	Bangladesh Agricultural Research Institute (BARI)		
Supporting Agency	Bangladesh Rice Research Institute (BRRI) and Bangladesh Agricultural Research Institute (BARI)		
Cost in BDT	285 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-08**	**Priority - Very High**
Project Title	**Intensive Cultivation of homestead vegetables and fruits**		
Location	Haor upazilas (57 nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Increasing year-round cultivation of homestead vegetables, Mushroom, pulses, spices and fruits as well as improving nutrition and increasing household income of haor dwellers.		
Description	Most of the rivers in the haor areas are silted up severely. These rivers are proposed to be dredged to mitigate drainage congestion and improve navigation and storage of reservoirs. The dredge spoil may be used for the preparation of raised platforms, which along with high land area, may be used for the cultivation of vegetables, Mushroom and fruits. The aims of the project are to increase cultivation of homestead vegetables, Mushroom, pulses, spices and fruits throughout the year and to improve nutrition and increase household income. A total of 2000 settlements (182 of which would be new) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts as well as 10,000 farmers will be selected for the project. Officials of the DAE, BADC, and agriculture research institutes will be involved in the implementation of the project. Farmers will be provided incentives (such as newly developed seeds, fertilizers and pesticides) to motivate them to grow more vegetables, Mushroom and fruits in their homesteads thereby bringing a revolutionary positive change in respect of nutrition and household economy. Under the project, production of homestead vegetables, Mushroom, spices and fruits will be increased through cultivation of newly developed HYVs/Hybrid seeds. Platforms are proposed to be built from dredge spoils on high land, and officials of the DAE will supply all related inputs and technology to the farmers at free of cost for a minimum of five year period. Technology developed by the research institutes will be applied in these homestead farms. Neighboring farmers will be trained to follow others. Monitoring and evaluation of the activities will be done through competent authorities (MoA/ DAE).		
Lead Implementing Agency	DAE		
Supporting Agency	BADC and Bangladesh Agricultural Research Institute (BARI)		
Cost in BDT	135 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-09**	**Priority - High**
Project Title	**Development of Short Duration Cold Tolerant High Yielding Varieties of Boro Rice**		
Location	Haor upazilas (57 nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Introduction of short duration, cold-tolerant, high-yielding rice and non-rice crop cultivars		
Description	The northeastern part of Bangladesh has a unique landscape where natural patterns of flooding have created very productive fisheries in the wet season, and allowed rice to grow in the dry season. In haor districts, flash floods cause crop damage which is considered as a big threat to the people. Sometimes, the flash floods come early, just before rice harvest leaving no time for the people to harvest their crops. Flash floods generally occur after mid-April due to heavy rainfall in the hills of Meghalaya, India. In recent years, flash floods are observed to devastate Sunamganj district and other haor area fifteen days earlier than usual. The rivers and canals cannot hold much water due to siltation, and the severity of flood intensifies. On the other hand, local farmers have switched to cultivating HYV rice (BR 29) from local Boro rice variety. BR 29 takes about 30 days more to harvest compared to the local Boro variety. The haor region is a single cropped area and the change of climate and agriculture practice cause damage to crops. Early sown Boro crops generally suffer from cold injury which causes false grain. To cope with this climate change situation, farmers need to adapt with new technology having cold tolerant capacity, high yielding potential and short duration (early–maturity) of Boro crop so that harvesting will be completed before mid-April. Under the project, short duration and/or cold tolerant Boro crop HYVs will be introduced through improvement of varietal characteristics by the scientists of BANGLADESH RICE RESEARCH INSTITUTE (BRRI), BINA and other related research institutes, and the activities of the project will be monitored by the competent authorities.		
Lead Implementing Agency	Bangladesh Agricultural Research Institute (BARI)		
Supporting Agency	Research Institutes (BRRI & BINA) and BARI		
Cost in BDT	1,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-10**	**Priority - High**
Project Title	**Selection of Short Duration Boro Rice Cultivars/Advanced Line**		
Location	Haor Upazilas (57 Nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Introduction of comparatively short duration HYV/Hybrid rice varieties for Boro season		
Description	In many of the haor area, Boro crops are damaged due to early flash floods/pre-monsoon floods during mid-April-early May. Most of the HYVs rice matures between late April-Mid May. If the growing periods could be shortened 15 to 30 days, the maturity stage would come before mid-April. To ensure harvest before mid-April, selection of short duration (early maturity) varieties is essential. The main aims of the project are to find out short duration rice cultivars for the Boro season, to find out comparative yield performance of some HYV/hybrid rice in the Boro season, and to evaluate and identify the most suitable varieties for the haor basin. Under the project, selected Boro rice cultivars will be cultivated in farmer's fields with involvement of beneficiaries under close supervision of Upazila Agriculture Extension Officers and researchers through establishment of demonstration plots. Sites will be identified for the establishment of the demonstration plots while inputs such as seeds, fertilizers, pesticides and irrigation cost will be provided by DAE officials in consultation with researchers from BANGLADESH RICE RESEARCH INSTITUTE (BRRI), BINA, and other research institutes. The date of maturity and yield performance will be recorded, a number of beneficiaries will be given different trainings, and monitoring and evaluation will be done by the DAE.		
Lead Implementing Agency	Department of Agricultural Extension (DAE)		
Supporting Agency	Research Institute (BINA), Bangladesh Rice Research Institute (BRRI), DAE and NGO		
Cost in BDT	102 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-11**	**Priority - Very High**
Project Title	**Changing Cropping Pattern to increase cropping intensity in haor area**		
Location	250 locations in 57 haor upazilas of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Improvement of cropping intensity for growing double or triple crops by utilizing fallow land		
Description	Most of the areas of the north-east region of Bangladesh are mono-cropped. There are some area where the land type is high (16.6%) to medium high land (23.4). A portion of these lands are under cultivation. To improve the existing land use intensity and economic and financial performance of the haor area, it is proposed to select crops and varieties that could be cultivated profitably and acceptable to the farmers. Introducing mustard - T Aus and T Aman cropping patterns has been found very effective in the north-east region by scientists from BARI. The new technology developed by BARI (Fallow-T Aus-T Aman) is considered as the most economically and financially viable cropping pattern. Another cropping pattern, wheat-jute –T Aman and spices-T Aus-T Aman, is planned to be practised along with two other patterns to evaluate the comparative yield performance and to find out the best technique for crop diversification. A total of 255 farmers will be selected from 51 upazilas where high and medium high lands are available for introduction of the proposed project. Farmers will be given training on the project activities which will be implemented with involvement of scientists from BARI. Essential inputs (seeds, fertilizers, pesticides etc.) will be provided to the beneficiaries free of cost for establishment of demonstration plots. Under the project, training will be imparted to 5100 beneficiaries through demonstration plots and farmers field schools and about 2,20,000 ha of land will be brought under crop diversification within 3 years of starting the project.		
Lead Implementing Agency	Department of Agricultural Extension (DAE).		
Supporting Agency	Bangladesh Rice Research Institute (BRRI) and Bangladesh Agricultural Research Institute (BARI)		
Cost in BDT	1,500 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-12**	**Priority - Medium**
Project Title	**Extension of Integrated Pest Management (IPM) Training**		
Location	Haor upazilas (57 nos.) of Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts		
Key Objectives	Reduction in use of pesticides for protection of plants		
Description	Pesticides are used for better production of crops. However, pesticides are reported to cause about 5-15% of loss in crop production and has adverse impacts on health and the environment. Recently, the Integrated Pest Management technique has been developed to control pests biologically with no or minimum use of pesticides. The IPM utilizes all suitable techniques and methods compatible to the environment and maintains the pest populations at levels below those causing economic injury. It has been found very effective in plant protection including vegetables and fruits. Around 28,500 farmers will be trained on IPM with at least 500 farmers selected from each upazila. The overall activities will be carried out by DAE officials with the involvement of beneficiaries. The objectives, expectations, norms and responsibilities of the IPM trained farmers will be identified and training modules on the IPM concept, principles and components will be developed and implemented. The techniques of IPM will be disseminated among the farmers of the haor area through establishment of IPM Farmers Field Schools and Farmers Field Day. The project activities will create environment friendly pest management options, and increase the ability of farmers to identify pests, their natural enemies, crop diseases and crop defenders. Farmers' knowledge regarding the adverse effects of pesticides will be also increased along with their ability to make proper pest management decisions.		
Lead Implementing Agency	Department of Agricultural Extension (DAE)		
Supporting Agency	Bangladesh Rice Research Institute (BRRI), BARI and NGO		
Cost in BDT	700 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-13**	**Priority - High**
Project Title	**Expansion of Integrated Crop Management (ICM) Project Training**		
Location	All upazilas of the seven haor districts		
Key Objectives	Minimizing the consumption of non-renewable and other resources for better production of crops		
Description	Integrated Crop Management (ICM) is a method of farming that balances the requirements of running profitable business with responsibility and sensitivity to the environment. It includes practices that avoid waste, enhance energy efficiency and minimise pollution. ICM combines the best modern technology with some basic principles of good farming practices and is a whole farm, long term strategy. Integrated crop management carries implications for co-management, particularly in the context of intensive cultivation systems where individual farm size is very small. The benefits to an individual farmer, or a small number of farmers, from introducing a low-pesticide or low-fertilizer regime may be counteracted if their neighbors continue to use high levels. These high levels may discourage beneficial predators of pests, or continue to depress fish numbers in neighboring water courses or in the paddy-field itself. Livelihood gains can be made by resource-poor people through the application of component of ICM technologies. Many current mechanisms of delivery and access to knowledge prevent farmers from harnessing the potential livelihood benefits from ICM. ICM is a 'whole farm approach' which is site specific and includes: 1) The use of crop rotation, 2) Appropriate cultivation technique, 3) Careful choice of seed varieties, 4) Minimum reliance on artificial inputs such as fertilizers, pesticides and fossils fuels, 5) Maintenance of the landscape, and 6) Enhancement of wildlife habitats. About 11,400 beneficiaries will receive training on ICM for introducing low pesticides, optimum level of fertilizers and for the improvement of crop production in an integrated approach without counteracting the neighbors. Hence, the DAE may introduce the technique by training beneficiaries in every haor upazila.		
Lead Implementing Agency	Department of Agricultural Extension (DAE)		
Supporting Agency	NGO and BJRI		
Cost in BDT	700 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-14**	**Priority - Medium**
Project Title	**Extension of Jute cultivation**		
Location	All upazilas of the seven haor districts (Brahmanbaria, Kishoreganj, Netrakona, Habiganj, Maulvibazar, Sunamganj and Sylhet).		
Key Objectives	Production of cash crops for fiber, fuel and raw materials for various products		
Description	Jute, the Golden Fiber of Bangladesh, is very important to the economy of Bangladesh. It is a leading cash crop and still a major source of foreign exchange. In haor area, there are about 2, 75,156 ha and 3, 86,847 ha of area under high land and medium high land respectively. Presently, most of these areas are used for rice based crops. This area may be utilized for crop diversification through introduction of non-rice crops like wheat, maize, pulses, oilseeds etc. During Kharif-I season, jute can be cultivated in haor area with Aus. The crop improves soil fertility, and its sticks are indispensable to the farmers for fuel, fencing and thatching. Jute is used to manufacture traditional products and packaging materials. Industrial products based on jute are environment friendly and have world-wide reputation. The use of jute for paper pulp and geo-textile has increased its possibilities for global use. Potential jute growing area and farmers will be identified. Demonstration plots will be set up in 345 farmers' fields. Promising jute varieties will be selected through discussion with the officials of the BJRI and the DAE. Training will be given to all 345 beneficiaries on land preparation, selection of seeds, fertilization, optimum time of sowing, cultural practices, harvest, jute retting technique, fiber extraction and storing etc. Inputs such as seeds, fertilizers and pesticides will be distributed free of cost to the beneficiaries. The findings will be disseminated to the farmers through 10,200 Farmer's Field Schools. Under the project, crop diversification will be introduced through practicing cash crops like jute to meet fuel and fiber demand, restore soil fertility and improve the socio-economic condition of the farmers.		
Lead Implementing Agency	DAE		
Supporting Agency	BJRI and NGO		
Cost in BDT	700 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-15**	**Priority - High**
Project Title	**Integrated Development of Applied Research for Improved Farming Systems**		
Location	All upazilas of the seven haor districts		
Key Objectives	Development of integrated farming systems for better livelihood of haor people		
Description	In haor area, crop production systems are under increasing pressure as the population continues to grow. Rice will continue to be the dominant crop for the foreseeable future since it is well-suited to the agro-hydraulic regime of haor area. However, there is a need to diversify and improve the farming systems (agricultural crop production, livestock, fish-cum-rice farming and agro-forestry). Applied and adaptive research is needed to design and test improved farming systems for deeply flooded area leading to better cropping practices, improved technologies and superior management of rice-fish culture. It will also help to bring about improvement of agro-forestry, introduction of small-scale mixed farming, and extension of information on post-harvest activities as well as consumption, processing, storing and marketing of products in the haor. Integrated research on crop production, livestock, agro-forestry and off-farm activities would be developed by all agencies concerned to improve the quality of diet, income and employment opportunities in the area. A computerised farming plan will be developed from informal farmer interviews and through on-station and on-farm studies of traditional and modern farm practices. Scientists and socio-economists will develop systems based on the physical and biological potential of the area, and also on social and economic acceptability. The extent of adoption of improved farming systems will be determined through the evaluation of productivity, and impacts on farmers' income and on consumption patterns. Agriculture, livestock, fisheries and agro-forestry extension service officials will conduct on-farm research. Under the project, adaptive research for crop production, improved farming systems, better cropping practices, improved technologies and management practices on nutrition, introduction of medium-scale cattle farming, improvement of agro-forestry, rice-fish culture, extension of information on post-harvest activities, consumption, processing, storing and marketing will be carried out to improve farming in haor area.		
Lead Implementing Agency	BARI		
Supporting Agency	BLRI, DLS, SRDI, DoF and DF		
Cost in BDT	1,500 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-16**	**Priority - High**
Project Title	**High Value-non-Rice-cum-Deep Water Rice Culture**		
Location	Baniachong, Dakshin Surma, Golapganj, Gowainghat, Habiganj Sadar, Kanaighat, Lakhai, Madhabpur, Maulvibazar Sadar, Nabiganj of Habiganj, Maulvibazar, Sylhet and Brahmanbaria districts		
Key Objectives	Production of crop by increasing land utility and high value non-rice crops		
Description	Broadcast Aman (B Aman) rice can be grown in wet season when there is plenty of water. Successful cultivation of deep-water rice in Aman season may lead farmers to grow high value crops in the subsequent season instead of Boro for water efficiency and profit. The high value crops include mainly vegetables such as potato, bitter gourd, patol, ladies finger, jhinga, cauliflower, cabbage, tomato, carrot, sweet gourd, gourd, chili etc. At the end of April, the seeds of B Aman are required to be broadcast in the vegetable fields. The seeds germinate and attain crown root stage within 3 weeks. There are some deep water varieties (lakhmi digha, baulia gigha, etc.) which grow as water rises after seedling reaches crown root stages (3-5 leaves at seedlings stage) of growth. Deep water paddy can survive and produce panicles with increasing inundation of water. It also provides shelter for fish and food in the form of periphyton on the submerged stems and leaves. Deep water paddy can be selected according to the local flooding characteristics and behavior of the cultivars. High value crops (mainly vegetables) will be grown in 5000 ha in the haor upazilas. The crop cultivars will be selected by scientists from the BADC and officials of the DAE. Inputs such as seeds, fertilizers, pesticide etc. will be provided by DAE officials. Different high value dry land crops will be grown under the close supervision of Upazila Agriculture Extension Officers and scientists (BADC/BANGLADESH RICE RESEARCH INSTITUTE (BRRI)). Fertilizers and other inputs will be applied as recommended by the researchers and the DAE. The yield performance and cost benefit ratio will be evaluated. Training will be imparted to the farmers /beneficiaries on high value non-rice crop production and deep water paddy. The findings will be helpful for the economic development of the haor area.		
Lead Implementing Agency	DAE		
Supporting Agency	BARI, BINA, Bangladesh Rice Research Institute (BRRI) and BADC		
Cost in BDT	1,500 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-17**	**Priority - Very High**
Project Title	**Assistance to Landless, Marginal and Small Farmers to overcome soaring agricultural input, and food prices in impoverished Haor area**		
Location	All Haor Upazilas (57 nos) of seven haor districts		
Key Objectives	Reduction of poverty of marginal and small farmers through boosting agricultural production		
Description	Agriculture and forestry accounts for 23% of the GDP and employs more than 57% of the country's labour force. The main sources of livelihood for the rural population are agriculture and non-farm activities that directly or indirectly depend on agriculture. Some three-quarters of the rural population consist of landless labourers and marginal farmers with less than 0.2 hectare of land. Rice production accounts for more than 70% of the sector's value-added productivity. The haor people are the worst affected by floods. Flash floods and monsoon floods are found to damage Boro and Aman rice in haors in almost every year. In this context, a Programme has been proposed to assist these vulnerable rural people to overcome soaring food prices and boost their agricultural production as well as ensure food security at the household and community levels. These include supply of different inputs like (i) improved varieties of crop seeds as well as appropriate fertilizers and chemicals; (ii) power tillers and other agricultural machineries like threshers, hand reapers etc. to replace manual inefficiency; (iii) low-lift pumps to facilitate irrigation; and (iv) capacity building of formal and informal small-scale producer groups and their affiliated associations or organizations. This will improve crop production efficiency that, in turn will benefit farmers. Under the project, awareness campaign, generic socio-economic baseline survey and needs assessment of the study area will be undertaken. The project activities will also include community mobilisation of small-scale producer groups and their union-based farmers' associations and Producer and Marketing Organisations (PMOs), selection and training of "facilitators", mobilisation of new and existing community-based groups, formation of new farmers' groups and Water Management Associations (WMAs), procurement and use of agricultural machinery and other inputs, etc.		
Lead Implementing Agency	DAE		
Supporting Agency	Bangladesh Agricultural Research Institute (BRRI), BARI, BINA and NGO		
Cost in BDT	4,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-18**	**Priority - High**
Project Title	**Application of GIS for farm productivity enhancement through land suitability assessment of major cropping pattern in Haor Region**		
Location	Two upazilas of each haor district		
Key Objectives	Development of crop suitability database with GIS mapping and analysis tools		
Description	There are about 1.97 million ha of land in the haor region of which 1.31 million ha is agriculture land. However, agriculture land is decreasing at the rate of 0.33% annually due to encroachment by settlements, roads, industries, urban and other infrastructure development and due to erosion etc. The cropping intensity in the haor area is about 147% compared to 179% at national level. The national demand for food grain production is increasing every year against the decreasing trend of net cultivable area. This is a big challenge, which can be met only through proper utilization of agricultural lands. The farmers should be advised to select the right cropping patterns for their lands to increase cropping intensity and benefit farming practices financially. The suitability of a particular land for a specific cropping pattern is to be assessed based on its physical and socio-economic environment. This will be done under the project by considering the degrees to which these environments limit the growth as well as the potential yields of the crop during its normal growing season. The suitability assessment will consider all the physical, social and economic constraints and limitations likely to affect crop production. The assessment will take account of all the inventoried attributes of the land (climate, inundation, soil, land form) relevant to the crop being assessed and compare them to the crop's requirements so as to demonstrate an easy picture of its suitability for crop production. Socio-economic suitability ratings will be based on different parameters like land ownership, credit, tenancy, wealth and equity, marketing, storage and communication, etc. According to the weightage factors of the parameters, five suitability classes will be determined. These classes are Very suitable-VS, Suitable-S, Moderately Suitable-MS, Marginally Suitable-LS, and Not Suitable-N. Land suitability ratings will be determined by considering the physical and socio-economic suitability ratings.		
Lead Implementing Agency	BARC		
Supporting Agency	CEGIS		
Cost in BDT	450 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-19**	**Priority - Medium**
Project Title	**Improvement of Storage Facilities and Agricultural Marketing System in Haor Area**		
Location	All upazilas of seven districts		
Key Objectives	Reduction of nonfunctional margins of traders, increasing benefit of growers and ensuring availability of agricultural inputs at fair price		
Description	The storage facilities for crops are very poor in the haor area. The agricultural production system is closely linked with the needs of the farm household as well as storage and marketing facilities. Inaccessibility of the area makes it difficult for farmers to get reasonable price for their farm products. Most of the farmers sell their products in village markets immediately after harvest when prices are typically low. The reason behind the farmers' inability to store their seeds/crops are (i) instant need for cash, (ii) lack of proper storage facilities, (iii) crop loan obligations, and (iv) tenural crop sharing arrangements. A number of measures will be taken under the project such as establishment of regulated markets, construction of warehouses, provision for grading standardisation of produce, etc. Measures such as daily broadcast of market prices of agricultural crops on Radio, TV, daily newspaper, designated websites improvement of transport facilities, improved facilities for storing goods, etc. will also be included in the project. Inputs (seeds, fertilizers, pesticides etc.) will be made available at fair price for crop production. Clear information will be given regarding market conditions as well as about the current prices to protect farmers from being cheated. Organised and regulated markets will be set up where farmers will not be cheated by the middleman. Marketing research and survey will be conducted to determine the best produce handling methods to minimise loss, damage and to identify improved methods of wholesaling and retailing as well as plan for new marketing facilities at appropriate centers. Thus, the project is expected to ensure fair price of products, quality of inputs like seeds, fertilizers, pesticides etc., and narrow the gap between the prices received by the producers and paid by the consumers.		
Lead Implementing Agency	Directorate of Agricultural Marketing (DAM)		
Supporting Agency	DAE & BADC		
Cost in BDT	5,000 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Agriculture**	**AG-20**	**Priority - High**
Project Title	**Introduction of Innovative Agriculture through Vegetables cultivation on Floating Bed**		
Location	21 (twenty one) upazilas of seven districts		
Key Objectives	Production of vegetables utilizing floating bed (water hyacinth) technology in water bodies		
Description	The northern part of Bangladesh has a unique landscape where the natural patterns of flooding result in the spontaneous production of water hyacinths in the wet season. A vast area of the haor region remains fallow and submerged under water. This situation is very favorable for the growth of water hyacinths, which are used to make floating bed to grow vegetables on it. Initially, 21 upazilas from seven districts (Sylhet, Sunamganj, Maulvibazar, Habiganj, Netrakona and Kishoreganj) will be selected for establishing floating bed to grow vegetables. This helps to meet the requirement of vegetables during rainy season when there is scarcity of land for growing vegetables. These vegetables cannot be damaged by floods or heavy rainfall and the cost of production is also very low. A total of 20 beneficiaries will be selected from each upazila for the pilot project with a total of 420 farmers engaged in the cultivation of vegetables on floating hyacinth beds. Officials of the DAE, the BADC, and other agricultural research institutes will be involved in the implementation of the project. Farmers will be provided incentives (such as newly developed seeds, compost, protection of tagged floating beds etc.) to be motivated to grow more vegetables during rainy season on floating beds. Vegetables like red greens, red shak, gourd, sweet gourd, cucumber, bitter gourd, etc. will be practised on the floating beds. DAE officials will supply all related inputs and technologies to the farmers at free of cost at least for five years. Neighboring farmers will also receive training with a view to disseminate the latest knowledge of floating bed cultivation of vegetables in the haor region.		
Lead Implementing Agency	DAE		
Supporting Agency	BADC and BARI		
Cost in BDT	205 Lakh		

Fisheries

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-01**	**Priority - Very High**
Project title	**Development and Establishment of Fish Sanctuaries**		
Location	57 haor upazilas (beel no.- 280, river part-50 and beel area- 1,975 ha)		
Key objectives	Conservation and management of wetlands with community involvement for protection and improvement of fish biodiversity		
Description	Inland open water fisheries have been experiencing a significant decline during the last four decades due to FCD/I projects, siltation of habitats, indiscriminate and over fishing, degradation and loss of fish habitat, and short-sighted management initiatives. Due to insufficient number of sanctuaries in the haor basin, brood fish and hatchling are caught with very little effort. Therefore, fish diversity and production are declining severely and the fishery-dependent livelihoods of the fishermen community in these areas are being jeopardized. Exercise of conservation measures and application of provisions of the Fish Act, 1950 could protect and conserve fisheries resources. During the last few decades, a total of 426 fish sanctuaries were reported to exist in 257 water bodies in different parts of the country. Out of them, only 50-53 UFoS and 87 DoF fish sanctuaries exit in the haor area. Most of these sanctuaries are managed with community participation under the co-management approach through different projects such as, MACH, CBFM-2, FFP and other government financed projects. The Master Plan of Haor Area proposes to establish 280 sanctuaries in beels/haors and 50 sanctuaries in rivers to meet the substantially increasing demand for fish and to protect biodiversity. Specific locations for the proposed sanctuaries will be identified through an initial feasibility study. The sanctuary area will be delineated, protected and excavated if required. Community-based sanctuary management committees will be formed and monitoring and training Programmes will be arranged for DoF officials and the project beneficiaries. Community mobilisation and protection of sanctuaries will be the core activities of the project.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	NGO, BWDB and CEGIS		
Cost in BDT	6,860 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-02**	**Priority - Very High**
Project title	**Habitat Restoration for Fish Diversity**		
Location	57 haor upazilas (beel no.- 600 and beel area- 600 ha; khal area- 13,000 ha)		
Key objectives	Restoration of fish habitat for conserving fish biodiversity and enhancing fish production		
Description	Bangladesh is very rich in inland capture fish production. It has a large number of rivers with extensive floodplains and depressions. Currently, inland fisheries contribute about 81% of the total fish catch, of which 42% come from capture fisheries (floodplains, beels and haors). One of the major causes of fish decline is the substantial sedimentation of habitats. Such siltation is being expedited by different water regulatory structures, implementation of flood control and drainage projects, different fish barricades, etc. Siltation of water bodies in the haor basin is a common phenomenon. Deposition of silt reducing the water carrying capacity of rivers and storage capacity of water bodies, obstructing fish migration, etc. It is assumed that siltation is also responsible for creating and spreading fish diseases. Therefore, fish diversity and production have been declining over the years. To mitigate this problem, 600 beels spread over an area of 5,000 ha and 13,000 ha of khal area have been proposed for re-excavation under this project in order to restore fish habitats. Habitats and fish migration routes will be delineated, protected, excavated if required, management committees will be established, and monitoring and training Programmes will be arranged for DoF officials and for the beneficiaries. Fish habitats of both beel and khal origin will be identified and delineated for re-excavation with the consultation of local people. Training Programme will be arranged for building up the capacity of the executing agencies on dredge spoil management. Around 3,000 jalmohals exist in the haor districts those are highly abundant with different fish species and a significant number of them are silted up at such level which is unsuitable as fish habitats during dry season. The proposed project has thus been considered to restore around 600 beels along with degraded connectivity in the haor upazilas to enhance fish and aquatic diversity and to promote fish production in the haor basin.		
Lead implementing agency	Bangladesh Water Development Board (BWDB)		
Supporting agency	Department of Fisheries (DoF)		
Cost in BDT	328,000 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-03**	**Priority - Very High**
Project title	**Beel Nursery Programme for Increasing Fish Fingerling Recruitment**		
Location	57 haor upazilas (1,700 beels, 3,600 ha of beel area and 500 ha of khal area)		
Key objectives	Restoration of fish species diversity and boosting up production in the floodplains and improving fishermen's livelihood		
Description	The inland capture fish production is decreasing day by day due to increasing pressure on fishery resources, environmental degradation of aquatic habitats and poor fisheries management. Conventional fisheries management measures such as regulation of minimum mesh size, seasonal fishing ban, etc. are used to counteract this situation; but these measures can be difficult to enforce and do not always offer the possibility of increasing or maintaining production levels in situations of high fishing pressure or in degraded environments. In the haor basin, there is a large number of shallow beels, small water bodies such as village ponds, and small irrigation tanks that have potential for improving biodiversity and corresponding production. Stocking of fish fry of native and pure bred in these smaller water bodies has been generally more successful as these are easier to manage, do not require large amounts of stocking material and are often more productive. Suitable beels will be selected and nursery area will be delineated during the feasibility study. Re-excavation of nursery area will be conducted and construction of light dykes as per requirement and protection measures for the released fry/fingerlings will be arranged. Training Programmes will be also arranged for building the capacity of executing agencies for beel nursery management. It is a low cost project on natural conservation of fish. In some cases, a little amount of supplementary feed is required for stocking beels. Experience indicates that this kind of a project is likely to have an important role in boosting up fish production so as to reach the projected fish production for 2020 and 2030.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	NGO		
Cost in BDT	6,250 lakh (estimation based on 2010 price)		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-04**	**Priority - Medium**
Project title	**Good Fisheries Management Practices following the Mohanganj Experience**		
Location	57 haor upazilas, 50 out of 373 haors through a rotational approach		
Key objectives	Protection of fish/fingerling and brood fish from indiscriminate fishing through awareness Programme.		
Description	Over, indiscriminate and illegal fishing, catching brood and immature fish, fishing during breeding season and by de-watering are common phenomena in the haor area. Unlike other parts of Bangladesh, good fisheries management practices by following fishing norms are absent. A pilot project was carried out in Dingapota haor under Mohanganj upazila where awareness raising and motivating people proved to be the most effective tools for fisheries management. Dingapota is the largest haor in Mohonganj upazila with an area of around 8,000 ha. As a part of motivational and awareness rising activities, a campaign was conducted with messages on three good practices : 1) “do not fish during fish breeding season (Boishakh, Joistho, Ashar of Bangla year/mid-April to mid-July)”; 2) “do not use harmful gear for fishing”; and 3) “do not catch fish by de-watering beels”. Regular communication was maintained and consultation meetings were held with different stakeholders and at household level as well as at wholesale fish markets, fish landing centers, haats and bazaars. The messages were also disseminated to local people using cell phones and the local satellite TV channels. Illegal karrent jals (monofilament gill nets) and under sized mesh nets were seized and burnt in public while cases were filed against those who broke the fishing rule under the Fish Act. As a result, fish production in Dingapota haor has increased 3-4 times (as per local DoF assessments); availability of big fishes had increased; many endangered fish species have reappeared; aquatic biodiversity has been conserved at a satisfactory level; and the income of fisher households has increased. Under the proposed project, selection of haors for good fisheries management practices will be done during a feasibility study. Effective messages will be developed on conservation of fisheries and shared with local stakeholders. Dissemination tools will be identified for taking the messages to the community level. Fishers deserving AIGAS facilities will also be selected and a methodology will be formulated to provide test relief (TR)/ vulnerable group development (VGD)/ vulnerable group feeding (VGF) to fishers during the fishing ban period.		
Lead implementing agency	BWDB		
Supporting agency	NGO		
Cost in BDT	1691 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-05**	**Priority - High**
Project title	**Floodplain Aquaculture under the Community Enterprise Approach**		
Location	69 upazilas (99 floodplain aquaculture projects spread over 17,200 ha)		
Key objectives	Boosting up fish production through utilization of vast floodplain area under the community enterprise approach		
Description	The community-based floodplain aquaculture practice was initiated in Daudkandi upazila of Comilla district. There are four approaches to this practice of which the community enterprise approach is popularly implemented. One of the major objectives of this model is proper utilization of floodplain for fish production after the harvest of paddy. Recently, this model has been introduced and became popular in many other parts of the country. There are extensive floodplains in the haor basins that have different depths and retain water for 5-6 months in a year. However, there is no community-based floodplain fish culture despite the existence of BWDB's flood protection schemes. Hence, the project aims to disseminate the proposed model to haor districts as it could potentially generate benefits for floodplain communities. The proposed model would help to increase rice-cum-fish production and alternate income source by ensuring sharing fisheries resources among all communities within the project boundary. Hence, the income of the local people will be increased along with the strengthening of social bonding. BWDB schemes suitable for floodplain aquaculture practice will be identified and the area will be delineated during a feasibility study. Baseline condition of the floodplain (climate, hydrology, infrastructures, biological resources, socio-economic conditions of floodplain dependent people) will be also prepared. Furthermore, flood vulnerability, land use and cropping pattern, water quality, existing fishing practices and dependent livelihoods, etc. will be looked into. Skill development training on floodplain aquaculture will be arranged for the stakeholders.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	BWDB, LGED and NGO		
Cost in BDT	2,500 lakh		

Development Area	**Fisheries**	**FI-06**	**Priority - High**
Project title	**Community and Household-based Net-pen Fish Culture in the Haors/Floodplain**		
Location	57 haor upazilas (no. of pens- 5,000, pen area- 5,000 ha and pen size: 0.5-1.25 ha each)		
Key objectives	Improvement of the livelihoods of local community and households		
Description	Pen fish culture in the floodplain is an old practice carried out with a limited number of pens and in an unstructured fashion. The haor basin is located in a large floodplain and the spatial area is more than 5 lakh hectares under moderate type of flood inundation which is suitable for net-pen fish culture. A large number of fishermen who used to catch fish in the haor basin will be involved in the net-pen fish culture practice under a community enterprise approach in a structured way. Due to the lack of knowledge and proper training on pen culture, the people of the haor basin area, where water is retained 5-6 months a year, are deprived from such type of fish culture. Hence, the proposed project would facilitate proper utilization of open water bodies in the haor area through co-operative societies. Identification and delineation of suitable locations and selection of neighboring fishermen societies will be done during the feasibility study. The project will help farmers in getting credit facilities and crab-cut resistant nets along with native and quality fish seeds and feeds. Capacity building training on net-pen fish culture will also be given to officials and beneficiaries. The haor basin is rich in flowing and static water bodies. So, there is a great potential to generate income for fishing communities through producing more fish using such a captive fish culture technique.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	NGO		
Cost in BDT	25,000 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-07**	**Priority - Very High**
Project title	**Fish Fingerling Stocking and Raising Programme**		
Location	69 upazilas of haor districts		
Key objectives	Increasing diversity and the composition of fish species to improve low-value local species dominance		
Description	The floodplain retains water for 5-6 months in the haor basin. The increasing national demand and declining resource levels caused by over-fishing together create more pressure on this delicately balanced resource base. In addition, emphasis on high-value export species and use of intensive non-specific fishing methods is disrupting the natural fisheries production cycle. Excessive numbers of juvenile and locally important fish species are being caught through the use of non-selective catch-all techniques, and these by-catches are dumped while only the high-value species are kept. As a result, some inland fish species are on the verge of extinction and some are already disappeared. Thus, conservation, increase and re-introduction of nearly extinct and critically endangered species along with the expansion of aquaculture, fingerling stocking/rearing improvement with native and purebred fish species are essential through nursing in or near the beel/haor/floodplain area. Under the project, native and genetically pure fish breed will be collected from the nearest convenient hatchery to be acclimatised with and nursed in the local environment to make them adaptable to the water body where they will be released. Emphasis will be given to carp and other endangered and rare species. Fingerlings of the major carp should be a minimum of 5″-6″ for nursing.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	NGO and local community		
Cost in BDT	512 lakh		

Strategic thematic area	**Agricultural development for food security**
Development Area	**Fisheries** **FI-08** **Priority - High**
Project title	**Capacity Development and Alternate Income Generating Activities (AIGAS) for Fisher Community**
Location	69 upazilas of haor districts: 86,000 fisher households
Key objectives	Provision of alternative income source to the fisher community for protecting brood fish
Description	The haor area is the vast wetland ecosystem of Bangladesh located in Sylhet, Sunamganj, Habiganj, Netrakona, Kishoreganj and Brahmanbaria districts. The area is very rich in diverse resource systems and thousands of households (nearly 95,000 fishermen households) from the villages around the haor area depend on its natural resources. The fisheries resources of the haor basin have experienced a significant decline due to man-made causes such as over and indiscriminate fishing, use of destructive fishing methods, degradation and loss of fish habitat, short-sighted management, and extensive use of fertilizers and pesticides in agriculture. In addition, fish harvesting by dewatering and over harvesting of brood during spawning period has aggravated the situation. As a result, fish diversity and its production in the haor area is depleting gradually. In this situation, fish harvesting during spawning season (at least three months) should be banned or restricted. For this reason, Alternate Income Generating Activities (AIGAS) or financial support should be provided to fishermen during this period for reducing fishing stress. During the lean period, poor fishermen need to be provided with aid in the form of VGD, VGF, TR, etc. Under the project, genuine fishers and dependent fishers will be identified through field survey. A list of fishers in the haor area would be made and potential alternate income generating activities will be identified through discussion with different levels of stakeholders. A training Programme on AIGAS would be carried out for the fishermen following which financial support/soft loan would be given to them. The fishermen of the haor basin are very poor and are fully dependent on natural resources. Their poverty and the lack of alternative income sources lead them to harvest fish during the government prohibited period. Therefore, the project would help to diversify the livelihoods of fishers so that they could reduce their dependence on wetland resources by taking alternative income generating activities.
Lead implementing agency	Department of Fisheries (DoF)
Supporting agency	NGO
Cost in BDT	14,448 lakh

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-09**	**Priority - Very High**
Project title	**Renovation of Hatcheries for Conserving Quality Brood Stock and Production of Fish Seeds**		
Location	3 government hatcheries (Shantiganj, Katiadi & Kursi) and 37 private hatcheries		
Key objectives	Conservation of brood fish stock and production of native and purebred fish seeds		
Description	Hatcheries are among the main sources of fry/fingerling for fish culture and about 98% of fry of the country is produced in the hatcheries. Hatchery management is a very important part of aquaculture in Bangladesh. Brood stock and breeding management are the main parts of fin fish hatchery management. There are three government fish hatcheries in the haor area. Out of these one is located in Shantiganj of Sunamganj, another in Katiadi of Kishoreganj and the third one in Kursi under Nabiganj of Habiganj. There are at least 37 privately established hatcheries in the haor area. Condition of most of the hatcheries and the quality and production rate of fingerlings is very poor. Hence, three (3) old hatcheries are needed to be renovated along with the private ones. No new hatchery is needed if the efficiency of these hatcheries could be increased. A feasibility study will be conducted to identify and assess the problems and needs of the existing hatcheries. After the feasibility study, earth and civil works will be started. Training Programmes will be arranged for the hatchery owners and pond farmers. Seminars/workshops will also be arranged for the expansion of aquaculture practices.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	BFRI		
Cost in BDT	5,000 lakh		

Strategic thematic area	**Agricultural development for food security**
Development Area	**Fisheries** **FI-10** **Priority - High**
Project title	**Study on Review of Policies, Regulations and Lease System for Sustainable Fisheries Resources**
Location	Master Plan of Haor Area
Key objectives	Improvement of fisheries management for the livelihood of haor/beel dependent fishers
Description	The fishing communities are the main players in the fisheries sector. They are involved in exploiting fisheries resources with hard labour in adverse conditions to the extent of even risking their lives. The fishers are mostly poor, landless and neglected groups in the society and are often deprived of their access to fisheries resources due to lack of appropriate policies and illegal interventions undertaken by affluent and powerful people. The livelihoods of fishers are affected by fishing bans or restriction imposed by the government and during lean fishing periods as they do not have any alternate job opportunity. The livelihoods of fishers are affected by the decline in inland fisheries due to manmade and natural causes. Fishers are not yet organised, do not have any bargaining power, and as such, are exploited. For the improvement of their livelihoods, the Government of Bangladesh has initiated the jalmohal leasing system. However, genuine fishers continue to be deprived of their leasing rights specifically due to the financial crisis, high amount of license fee, bank insolvency, manipulation of the leasing system by the local influentials, and presence of fake fishermen in the fishermen's cooperatives. The project activities will include review of existing fisheries related policies, plans and acts along with the review of the Public Water body Management Policy (NWMP) for understanding, finding out gaps and suggest accordingly safeguarding fisher's interests. This project will be undertaken to ensure legal access of genuine fishers to jalmohals and for reforming different fisheries related policies to fit them to the present management system.
Lead implementing agency	Department of Fisheries (DoF)
Supporting agency	NGO and BFRI
Cost in BDT	500 lakh

Strategic thematic area	**Agricultural development for food security**
Development Area	**Fisheries** **FI-11** **Priority - Very High**
Project title	**Restoration of River Duars (Deep Pools) for Protecting Brood/Mother Fish**
Location	69 upazilas of haor districts
Key objectives	Protection and conservation of riverine brood/mother fish from over and indiscriminate fishing
Description	Almost the entire fishery resource of the region becomes crowded and confined to two major habitats: rivers and beels. Most fish particularly the brood stock seeks out deep water habitats such as duars (deep pools in rivers and beels) and kaphs (scour pockets in river) to spend the overwintering period when they become more susceptible to mortality. It is reported that duars act as important brood stock habitat than beels except Tanguar Haor, as siltation affects the depth of the beels. The combined effect of sedimentation, Boro irrigation, de-watering activities for harvesting total fish and annual katha (fish aggregates) harvesting has resulted in the elimination of beels as secure overwintering refuge and habitat for brood stock. The sustainability of fish production of the haor area almost entirely depends on the brood stock of duars which are fairly stable and difficult to fish in due to high current velocities and turbulence as well as great depth. There are approximately 325 duars with the dry season depth varying from 4 m to 35 m. Presently, the depth of many duars are decreasing due to over siltation during early monsoon. Fish mortality occurs sometime due to first flood (goola) and coal mine effluent from a neighboring country. Hence, re-excavation of 65 duars of low depth and establishment of some new duars are needed. The specific location of duars will be identified through an initial feasibility study following which excavation work will be started. Besides this, fish sanctuaries will be established in duars. Community mobilisation and protection of sanctuaries will be the core-activities of the project. Presently, some human and natural interventions are affecting fish habitats adversely such as agrochemicals, filing up of rivers and channels due to siltation, and flood control drainage projects etc. In addition to these, fish harvesting through dewatering and using banned mesh net are causing depletion of fish species. In this situation, duars are considered as the main shelter of brood fish species. Therefore, this project would help to conserve and protect fish species for further spawning.
Lead implementing agency	Bangladesh Water Development Board (BWDB)
Supporting agency	Department of Fisheries (DoF)
Cost in BDT	6,240 lakh

Strategic thematic area	**Agricultural development for food security**
Development Area	**Fisheries** **FI-12** **Priority - High**
Project title	**Renovation of Fish Ponds and Dissemination of Improved Aquaculture Technology to Fish Farmers**
Location	69 upazilas (pond area- 1,500 ha and in raised dykes in cultured ponds)
Key objectives	Increasing culture fish production by utilizing homestead ponds through promoting improved culture technology
Description	Fish ponds within the haor area under culture fishery are spread over 34,379 ha while culturable ponds, derelict pond and borrow pits covering about 2,524 ha are used for capture fishery. More than 93% of the total number of fish pond and ditch/borrow pit habitats are cultured (generally larger, deeper and need not preparation cost), 5.8% are culturable (may be used for fish culture without any major investment) and 1.0% are derelict (not presently used and lying fallow, in most cases covered with water hyacinth). Culturable ponds contribute less than 1% of the overall fish production in the region and the yearly average yield of ditches/borrow pits is 1,476 kg/ha, which is lower than the national average yield (1,510 kg/ha). There is a scope for increasing production by using culturable ponds through some investment. Little support is extended to aquaculture in the region; the exception being the DANIDA-financed aquaculture extension project; but even this project operates in parts of the Kishoreganj district. An extension support project for the farmers is needed for enhancing pond fish production. Under this project, aquaculture in submerged and high land area will be considered through technology transfer. Under the project, culture ponds will be selected, and new ponds will be excavated, soil suitability will be studied, dykes will be developed, and extension support, technology transfer through demonstration, arrangement of training and monitoring activities will be implemented. The project will try to optimize the nutrient flow and to reduce pressure on capture fisheries. Moreover, it will have an important role in boosting up fish production so as to attain the projected fish production for 2020 and 2030.
Lead implementing agency	Department of Fisheries (DoF)
Supporting agency	NGO
Cost in BDT	4,500 lakh

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-13**	**Priority - High**
Project title	**Development and Construction of Innovative Fish Pass/Fish Friendly Structures**		
Location	69 upazilas of haor districts		
Key objectives	Introduction of environmental friendly fish pass for better management of fisheries resources by facilitating fish migration		
Description	Many submersible and low embankments and some full flood control embankments were constructed for the protection of Boro crops from flash flood, which had a role in establishing a better life style for farmers in the haor basin. However, setting up low embankments is not generally considered as ideal instruments for fisheries development. On the other hand, full flood control embankments obstruct fish migration during spawning and movement at the end of monsoon. Fish production in locations under the project has been declining significantly. Only one fish pass is found at the Kashampur regulator of the FCDI project in Manu River, which was set up to restore fish migration between the Kushiyara River and Kawadighi haor. This was found disrupted by flood embankments. New fish pass and fish friendly structures are therefore required in all flood control projects to facilitate fish migration and to augment fish diversity as well as production. Under the project, fish pass locations, fish migration route, time, migrant species and water velocity for specific fish migration will be delineated. Fish pass/fish friendly structures will be constructed and maintained, effectiveness of the structures will be monitored, and proper training will be provided to officials and beneficiaries.		
Lead implementing agency	BWDB		
Supporting agency	DoF		
Cost in BDT	25,000 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-14**	**Priority - Medium**
Project title	**Establishment of Fisheries Information Service Center**		
Location	69 upazilas of the haor districts: 210 centers, one each in three unions of each upazila		
Key objectives	Rapid and efficient dissemination of improved fish culture technologies and related information regarding open water fisheries management and conservation to relatively distant and remote area by using modern information and communication technology.		
Description	Fish farmers and fishermen need farming/management related information from the extension wing of the DoF. Such information may include pond preparation, stocking, dosage of input types, improved /latest culture and management technology, disease, harvesting, fish conservation, biodiversity, fish laws and regulations, sanctuary, beel nursing, quality fish seed, etc. A large number of people are engaged in fish farming practices and they usually seek this information. In compliance with the government strategy to disseminate information digitally to the village level, the department of fisheries (DoF) has initiated an "e-extension services for need based aquaculture extension" under a Programme on access to information. Under this Programme, the fish farmer is expected to improve their culture practice as well as fisheries management and conservation practices. Establishment of the 210 information service centers, or the "e-leaf", primarily on union basis will involve development of a strategy for e-extension, a dynamic website, preparation of a database on geo-ecology and intensive fish culture and regular update, and preparation of open water bodies according to type. The activities will also include regular update, distribution of leaflets, booklets, etc. containing fisheries information, use of GIS tools in fish culture and management, development of information and communication technology based monitoring system and control and surveillance (MCS) system, etc. Fish farmers of the remote villages will go to the nearby e-leaf for advice on fish culture and management related problems. In the event the e-leaf is unable to provide a solution to a problem, the famers would be able to consult the upazila/district fisheries officer through mobile/tele and video conferences for their assistance.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	FLID, CEGIS and NGO		
Cost in BDT	1,300 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-15**	**Priority - High**
Project title	**Introduction of Deep Water Rice-cum-Fish Culture**		
Location	57 haor upazilas: 11,000 ha		
Key objectives	Improvement of wetland dependent livelihoods by utilizing broadcast Aman field under the community enterprise approach		
Description	Rice-cum-fish culture is an old practice in several countries like Japan, Malaysia, Italy, China and India. In some north eastern states of India, it is practised to an appreciable extent but in Bangladesh, it is rarely practised. Paddy-cum-fish culture can provide an additional supply of fish crop in haor area where paddy fields remain under water for 3 to 7 months in a year. The culture of fish in fields, which remain flooded even after the paddy is harvested, might also serve as an additional advantage and occupation for farmers. There are 60,000 ha of deep water rice field in the haor basin out of which 11,000 ha could be used for rice-cum-fish culture practice. Deep water rice-cum-fish culture is less costly, involves simple technology, and is easily manageable. Low lying area where water flows easily will be selected for this type of fish culture. The soil of the paddy field is fertile with organic manure and has high water retention capacity. After site selection bundh/protection of rice field will be carried out in the early monsoon. Before releasing fish seed, the seed will be stocked and reared in nursery ponds. Training Programmes will be arranged for DoF officers (2 training/upazila) and for the beneficiaries (>2 training/upazila). Community mobilisation and protection (law and order) of fish fence will be the crore activities of the project.		
Lead implementing agency	Department of fisheries (DoF)		
Supporting agency	DAE and NGO		
Cost in BDT	1000 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-16**	**Priority - High**
Project title	**Establishment and Rehabilitation of Fish Landing Centers**		
Location	57 haor upazilas: 60 new landing centers along with existing centers		
Key objectives	Ensuring safe and hygienic landing of fish, facilitating temporary preservation to reduce wastage and ensuring quality of fish for distant marketing		
Description	Fish landing center is a place where the number or poundage of fish is unloaded by commercial fishermen or brought to shore by recreational fishermen for personal use. Fishes are landed at these centers from different parts of the country which are subsequently distributed in the fish markets adjacent to the landing centers for sale. All the landing centers of the country are regulated by the Bangladesh Fisheries Development Corporation (BFDC). There are 134 fish landing centers in the study area which is not sufficient to meet the requirements of this area. Moreover, the existing landing centers have no modern and hygienic facilities. The present status of most of the centers is very poor. Hence, around 60 new fish landing centers need to be established to facilitate landing, storage and sale of fish. Besides this, all existing and unhygienic landing centers will be rehabilitated. The specific locations will be identified through an initial feasibility study following which landing centers will be constructed along with necessary utilities. Training Programmes will be arranged for the beneficiaries of the landing centers. Management committees will be formed for maintenance and for ensuring a hygienic environment at the landing centers.		
Lead implementing agency	Bangladesh fisheries development corporation (BFDC)		
Supporting agency	Department of Fisheries (DoF)		
Cost in BDT	14,600 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-17**	**Priority - High**
Project title	**Establishment of Fish Drying and Fermentation Center**		
Location	57 haor upazilas (500 fish drying centers and 57 fish fermentation centers)		
Key objectives	Drying and fermenting harvested fish for preservation and for reducing wastage		
Description	The haor basin is known as the biggest capture fisheries ground of Bangladesh. Every year a huge amount of fish is caught in this area. Around 20% of capture fisheries of the country comes from this region. However, in spite of the considerable amount of fisheries resources there are very few fish processing industries in this area. Fishes are highly perishable. Due to lack of proper management and lack of fish processing industries, around 4% of the fish cannot be preserved and hence being destroyed. There are a number of fish drying and fermentation centers mostly concentrated in Netrakona, Kishoreganj and Sunamganj. These are all privately established fish drying and fermentation units with substandard quality that need to be improved. Hence, considering the quantity of existing fish production and increased tendency of consuming dried and fermented fish nationally and internationally, establishment of more units of both categories seems highly necessary. These units would not only preserve fishes but also earn a huge amount of foreign currency as well as create skilled and unskilled employment opportunity in this area. However, there is no space or scientific knowledge about fish processing especially on fish drying and fermentation. This proposed project would create more space for fish drying and fermentation. Suitable project location will be identified through an initial feasibility study following which the fish processing center will be established and a connecting road will be constructed. Training Programmes will be also arranged for the beneficiaries for transfer and dissemination of scientific knowledge.		
Lead implementing agency	Bangladesh Fisheries Development Corporation (BFDC)		
Supporting agency	Department of Fisheries (DoF)		
Cost in BDT	2,650 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-18**	**Priority - High**
Project title	**Study on Impact of Climate Change and Interventions on Fisheries Resources**		
Location	69 upazilas		
Key objectives	Determining baseline condition, assessing the impacts and prescribing adaptation measures for climate change and interventions on fisheries resources		
Description	Since the last three to four decades, both submersible and FCD/I projects of low height were taken for the protection of Boro crops from early or pre-monsoon flash flood and Aman from river flood. The FCD/I projects benefited farmers, provided opportunities to grow more than one crop within the project area, resulting a significant increase in crop production. However, the FCD/I projects have also had a significantly negative impact on inland open capture fisheries. For future development of fisheries resources in the haor area, many fish sanctuaries, beel nurseries, etc. would be established in the haors/beels. The fisheries resources along with the aquatic environment of those beels/haors might be declined due to interventions and impacts of climate change. Hence, a detailed study/research activity is needed for assessing the impacts of interventions and climate change on fish resources in haor area.		
Lead implementing agency	Bangladesh Fisheries Research Institute (BFRI)		
Supporting agency	Department of Fisheries (DoF), CEGIS, University and Research Institute		
Cost in BDT	50,000 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-19**	**Priority - Medium**
Project title	**Development and Establishment of Cold Storage and Ice Plants**		
Location	57 haor upazilas: 87 ice plants and 2 cold storages		
Key objectives	Long-term Preservation of harvested fish for distant marketing and export of fish and fish products		
Description	Typically, fresh fish is sold wholesale in ungutted form in the landing stations. Almost all fresh fish (except live fish) destined for distant markets is kept on iced. A large number of ice plants exist in the haor area for preserving fish temporarily. According to the information provided by Upazila Fisheries Officers (UFOs), around 326 ice plants are situated in different districts of the haor region and the distribution of plants is as follows: 115 in Kishoreganj followed by 44 in Habiganj, 41 in Netrakona, 39 in Brahmanbaria, 37 in Sunamganj, 29 in Sylhet and 21 in Maulvibazar. Ice plants are situated mostly near landing centers, retail markets and *arats*. As per the information provided by UFOs nearly 87 ice plants and two cold storages are required to reduce the fish wastage to some extent. In some cases, the existing ice plants need to be repaired. This can be done under the Public-Private Partnership (PPP) approach. The specific locations will be identified during the initial feasibility study. After that, ice plants and cold storages will be constructed and repaired. Training Programmes will be arranged for the beneficiaries of the landing centers. Management committees will be formed for maintenance and for ensuring hygienic environment of the fish selling units.		
Lead implementing agency	Bangladesh Fisheries Development Corporation (BFDC)		
Supporting agency	Department of Fisheries (DoF) and public-private-partnership		
Cost in BDT	1,522 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-20**	**Priority - Medium**
Project title	**Research on Fish Stock Improvement through Gene Pool Preservation and In-breeding Depression**		
Location	Gene pool for around 150 fish species in haor upazilas		
Key objectives	Preservation of the genetic material of indigenous and endangered fish species through establishing gene banks		
Description	The increasing national demand and declining resource levels caused by over-fishing together create more and more pressure on this delicately balanced resource base. In addition, emphasis given on high-value export species and use of intensive non-specific fishing methods are disrupting the natural inland production cycle. Predator/prey relationships are being upset, links in the food chain are being disturbed by the increasing concentration of single species, and important habitats are being destroyed through the use of heavy equipment, such as katha ber, small mesh net (karrent jal), which catch even fish egg and other aquatic organisms. Excessive numbers of juvenile and locally important fish species are being caught through the use of non-selective catch-all techniques, and these by-catches are discarded while only the high-value species are kept. As a result, some inland fish species are nearly extinct and some are already extinct. Hence, conservation, increase and re-establishment of nearly extinct and critically endangered species as well as conservation of highly valued brood fish and expansion of aquaculture are essential to improve fisheries in the haor area. Research on stock improvement through gene pool preservation of fish stock and inbreeding depression is, therefore, essential. Threatened fish species will be identified through a catch assessment survey. Brood fish of threatened fish species will be collected by BFRI for the purpose of conservation. The conserved and extracted gene will be cultured. The domestication of some species for aquaculture and fisheries resources has brought changes in gene frequencies, invariably reducing the level of fitness of certain species (as seen in their susceptibility to diseases and reduced tolerance for environmental stress). The culture of predator species, collection of juveniles from the wild, water pollution and the spread of fish disease are of major concerns. There is a need to preserve the diversity of fish stocks so that inbreeding cannot spread and jeopardize the aquatic resources of the country.		
Lead implementing agency	Bangladesh Fisheries Research Institute (BFRI)		
Supporting agency	University and Research organization		
Cost in BDT	1,500 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-21**	**Priority - Medium**
Project title	**Rehabilitation of Existing Fish Processing Units and Establishment of a New Fish Processing Industry**		
Location	Three existing ones for rehabilitation and one new		
Key objectives	Preservation of fish and fish products for export and for reducing fish wastage		
Description	The haor basin is known as the biggest capture fisheries ground in Bangladesh. Every year, a huge amount of fish is caught in this area. Around 20% of capture fisheries of the country are comes from this region. But there are only a few fish processing industries in this area despite the abundance of fish resources. Fishes are highly perishable. Due to the lack of proper management and inadequate fish processing industries, around 4% of the fish become perished. Only three fish processing industries exist in this area. These industries are situated in Kuliarchar of Kishoreganj, Sunamganj sadar, and Sylhet sadar upazila. All of them are private industries and not enough to meet the requirement of the country, as they are not running at full capacity. Hence, considering the quantity of fish, existing fish production and increased tendency of fish export, the current industries need to be rehabilitated with modern technology and new industries need to be established preferably in Netrakona or other deserving locations. These industries would not only preserve fishes but also earn a huge amount of foreign currency as well as create skilled and unskilled employment opportunity in this area. The location for the new fish processing industry will be identified through an initial feasibility study following which it will be constructed with all necessary utilities. Training Programmes will be arranged for the beneficiaries of the industry.		
Lead implementing agency	Bangladesh Fisheries Development Corporation (BFDC)		
Supporting agency	Department of Fisheries (DoF)		
Cost in BDT	2,500 lakh		

Strategic thematic area	**Agricultural development for food security**		
Development Area	**Fisheries**	**FI-22**	**Priority - High**
Project title	**Community and Household-based Cage Fish Culture**		
Location	57 haor upazilas: no. of cages 5,700		
Key objectives	Boosting up fish production and improvement of the livelihoods of fishermen and landless people		
Description	The fish harvesting system in the haor region is traditional. In spite of the existence of floodplain rivers, hardly any cage fish culture is practiced in the haor region. Due to lack of knowledge and proper training on pen and cage fish culture, the people of these areas are deprived from fish culture where water is retained 5-6 months of a year. Hence, the proposed project would facilitate proper utilization of rivers with mild flow. This project will not only help in improving the livelihoods of fishers/poor people, it would also help boost up fish production and increase the household incomes of the haor community. Cage fish culture involves low cost and simple technology and is easily manageable. Women can participate in this activity and operate the cage with other family members. The locations and households will be identified with help from upazila fisheries officers and LGIs during a feasibility study. Training Programmes will be arranged for officers of the DoF (2 training/upazila) as well as for beneficiaries (>2 training/upazila). Community mobilisation and protection of fish cage will be the core-activities of the project.		
Lead implementing agency	Department of Fisheries (DoF)		
Supporting agency	NGO		
Cost in BDT	2,850 lakh		

Pearl culture

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Pearl culture**	**PC-01**	**Priority - High**
Project Title	**Extension of Fresh Water Pearl Culture in Haor Area**		
Location	69 upazilas of haor districts		
Key Objectives	**Introduction of pearl culture technology in the haor area and enhancement of local supply of pearls**		
Description	The haor area is full of water especially in monsoon and dry season when water is present only in rivers and perennial beels and some other low lying area. Haors, beels, baors and related floodplains represent the inland freshwater wetlands. The haor area itself is a seasonal water body formed during the monsoon. The beels are low-lying depressions of the haor system retaining water even during the dry months of the year. On the other hand, the floodplain retains water only in monsoon and plays an important role in biodiversity development. Pearl culture is possible only in permanent and protected water bodies if properly managed in all respect. Bangladesh is famous for natural pink pearls, locally known as "Mukta". They are collected from a species of freshwater Mussels which are found in abundance in inland water bodies such as lakes, rivers, ponds and dam sites. Occasionally, natural pearls are collected and sold in jewelry and novelty shops in cities and other large towns throughout the country. These pearls are beautiful and lustrous and are expensive. They are commonly termed as pink pearls, although the actual color is golden. The natural pearls are collected from some haor upazilas e.g., Mithamoin, Baniachong, Ajmiriganj, Shalla, Derai, Purbadhala, Bada, Bagdi, etc. Under the project, suitable ponds will be identified for pearl culture and pearls will be cultured in protected ponds in 69 upazilas. Bivalve nurseries will be developed to supply sufficient seed or "spat" (Oysters measuring between 2 and 8 mm), the villagers would be made aware about the activities and benefit sharing, operational mechanism, management and other related issues, and training will be provided to interested pond owners. Community-based Organisations (CBOs) will be formed and employment opportunity will be created for sustainable income for pond owners, CBOs and interested villagers in the haor area. Participation of women would be duly considered and ensured in all stages like planning, Implementation and monitoring. The monitoring process would be conducted both by the administration and at the community level. A logical framework analyses will be carried out to ascertain compliance to project activities, goal, purpose, implementation procedure and output etc. The logical framework will be used as the basis for monitoring and evaluation of all activities related to pearl culture.		
Lead Implementing Agency	Department of Fisheries (DoF)		
Supporting Agency	Bangladesh Fisheries Research Institute (BFRI)		
Cost in BDT	10,000 Lakh		

Biodiversity &Wetland

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-01**	**Priority - Very High**
Project Title	**Eco-management Zoning of Haor Wetlands for Biodiversity Protection**		
Location	Khaliajuri, Dharmapasha, Kalmakanda upazila of Kishoreganj, Sunamganj and Netrakona districts.		
Key Objectives	Determination of natural ecological features for the development of a management plan for wetlands		
Description	The natural characteristics of the haor region are being damaged due to various reasons. People are harvesting trees and fodder from swamp forests in a very detrimental manner. They are also collecting aquatic vegetation in huge quantity for fire-fuel. Fishes are being harvested even by draining waters. Mollusks are collected for duck meal and for making lime. Hunting and trapping of water birds are commonly seen in the winter season. Water pumping and irrigation and draining are currently a major use of surface water in the haor region. Lands are being encroached for agriculture by pumping water from beels. Water is frequently polluted from oil spill/leakage from mechanized boats and cargos while sand mining is going on unabated. All these are evidence of unsustainable utilization of haor resources. In some cases the changes in the ecosystem are irreparable. The role of swamp forests is to serve as a barrier to flash floods as well as facilitate nutrient production and soil stabilization. The habitats of fish, reptiles, birds and mammals in swamp and reed lands are declining. Species of herbs, shrubs, grass and hundreds of aquatic weeds are being uprooted indiscriminately which are literally the wild relatives of many of crops. Under the project, swamp forests will be restored and rehabilitated, 10% of representative haor lands of Kishoreganj /Netrakona /Sunamganj districts will be selected for natural regeneration and restoration of swamps/reeds and its associated communities to protect the biodiversity. Conservation of common property resources (jalmohal, hijolmohal and balumohal) will be also established while vegetation of natural levees (kanda) and soil will be protected, duars (Kua) in beels and connecting rivers will be protected and natural fish passes between beels and rivers will be maintained.		
Lead Implementing Agency	BHWDB		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), Center for Environmental and Geographic Information Services (CEGIS) and International Union for Conservation of Nature (IUCN).		
Cost in BDT	5,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-02**	**Priority - Very High**
Project Title	**Restoration of Important Wetlands**		
Location	Khaliajuri, Dharmapasha, Kalmakanda upazilas of Kishoreganj, Sunamganj and Netrakona districts		
Key Objectives	Protection and restoration of wetlands for threatened ecological communities and ensuring wise use of biological resources		
Description	Haors in Kishoreganj and Netrakona districts are losing their natural ecosystem functions as a result of which the biological resources are being depleted. At present various species of wild flora and fauna are threatened and are on the wink of extinction. Very common Molluskan fauna and aquatic plants are now becoming rare. All the negative activities are creating local ecological crisis. The natural resource base is vanishing which is causing extinction of the local wetland biodiversity. People are becoming poorer and socio-economic problems in these areas are increasing in manifold. The ongoing development Programme in the area is focused on land and terrestrial ecosystems which, in turn, demand to consider a paradigm shift from a land based development approach to wetlands based approach. The water management plan targets mostly rice production which has a wide range of negative impacts on other wetland resources. Under the project, natural patches of swamps and reed lands will be protected, threatened ecological communities (swamp forest, grass and reed lands), wildlife and plant species will be conserved. Other activities will include planting of indigenous plants in wetlands, mollusk bed and pearl culture, protection of migratory water birds wintering ground and remnants of natural patches of “hijalmohal” as genome base, replanting of rare plants such as Rosa involucrate, Salix tetrasperma. Glabra and Pongamia pinnata, ensuring sustainable harvest quota and wise use of biological resources, and protection of bird roost/heronry and wild genome of wetlands plant species at in situ.		
Lead Implementing Agency	Department of Environment (DoE)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and Center for Environmental and Geographic Information Services (CEGIS), International Union for Conservation of Nature (IUCN) and NGO.		
Cost in BDT	6,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-03**	**Priority - High**
Project Title	**Development and Implementation of Management Plan on Important Wetlands of Global Significance**		
Location	Tahirpur (Gurmar Haor), Khaliajuri, Dharmapasha (Sonamorol Haor), Bishwambharpur, (Karchar/Dekhar Haor), Habiganj, Bianiy Bazaar (Muria Haor), Luba River, Part of Surma River, Part of Kushiyara and Companiganj (reed lands)		
Key Objectives	Establishment of a new Protected Area (PA) having appropriate representation of prevailing ecosystems and conservation of biodiversity of the entire haor basin		
Description	Protected area (PAs) mean land and/or sea area especially dedicated to the protection and maintenance for biological diversity, and for natural and associated cultural resources, and managed through legal or other effective means. Although all PAs comply with the general purposes contained in this definition, in practice the precise purposes for which they are managed differ greatly. PAs are the fundamental building blocks of virtually all national and international conservation strategies, supported by governments and international institutions such as the Convention on Biological Diversity. They provide core of efforts to protect world's threatened species and are increasingly recognised as essential providers of ecosystem services and for biological resources. The purpose of this project is to establish a network of wetland protected area of the existing PAs and ECAs (Tanguar, Pashua, Hakaluki, Hail Haor and others) and potential PAs. This network will enhance the overall regional population of the wetlands ecosystems and its biota. Otherwise segmental wetland conservation will be like an island where the population of wild flora and fauna will be pocketed and there will be a danger of genetic discontinuity. Information requirements for a protected area management plan assessment typically include: Location and boundaries, and appropriate administrative boundaries area, status, administration, land ownership and occupancy, infrastructure and services, physical information, land use, cultural information, socio-economic status and trends, and relationship with the PA and its features; visitor numbers, interests and influences; ecosystems and habitats; and important flora and fauna, including protected species, threatened species, utilized wild species, ecological keystone species and species of cultural importance.		
Lead Implementing Agency	BHWDB		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), Forest Department (FD) and Center for Environmental and Geographic Information Services (CEGIS), International Union for Conservation of Nature (IUCN) and NGO.		
Cost in BDT	5,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-04**	**Priority - Medium**
Project Title	**Establishment of Global Wetland Center**		
Location	Tahirpur, Sunamganj		
Key Objectives	Development of a global network for promotion of global and regional excellence in wetlands management and research		
Description	One of the major ecosystems of Bangladesh is wetlands and the livelihoods of its people and the economy of the country are largely dependent on wetland ecosystem services and values. Despite the immense significance of wetlands, the country is still lacking an appropriate organisation to aspirate the ecological and economic attributes of wetlands. Furthermore, the wetlands have high cultural, religious and heritage values. As Bangladesh is a party to the Wetlands Convention, by establishing a global wetland center this country may play a leading role in wetland conservation in South Asia and rest of the world. This center will be the focal institution for the BHWDB for implementing the Master Plan of Haor Area. Presently, there is no single organisation having a long term vision of integrated Wetland and development. In recent years, the Government of Bangladesh has promulgated several important laws and developed national policies focusing on the environment in general and natural resources management in particular. All these policies consider several cross-cutting issues and through a variety of national and international policy instruments, the government has clearly committed itself to enforce environmentally sound management of biodiversity assets, and to achieve and maintain environmental quality at a level acceptable to extractive users and for sustainable ecosystem functions. Policies and institutions affecting wetlands, cut across inter-sectoral boundaries tied up in a complex web of sectoral resources management policies, legislation and organisation. To materialise the cross-sectoral focus it is urgently needed to establish an institution that responds to the need for securing wetland ecosystems and their services in the context of achieving sustainable development and improving human well-being. Thus, this proposed Center will be the active arm of the BHWDB and serve as the focal point for achieving the objectives mentioned in the document. The following tasks will be conducted under the project: establishment of a center for wetland conservation and sustainable development of global and regional excellence in the haor region; research on wetlands; education and awareness campaign; project management; sustainable development of wetlands; establishment of a Natural History Museum for the region; monitoring and evaluation of Wetland;, training on wetland conservation; and natural tourism development.		
Lead Implementing Agency	BHWDB		
Supporting Agency	Ministry of Civil Aviation and Tourism, Bangladesh Haor and Wetland Development Board (BHWDB), Forest Department (FD), Center for Environmental and Geographic Information Services (CEGIS) and International Union for Conservation of Nature (IUCN) and NGO.		
Cost in BDT	30,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-05**	**Priority - Medium**
Project Title	**Review of Policy for Biodiversity Management**		
Location	Whole Haor region		
Key Objectives	Updating and strengthening of the legal provisions for biodiversity and wetland conservation		
Description	The international conventions and national policies are not fully active in the area of biodiversity conservation in Bangladesh. The existing Environmental Conservation Act and rules do not explicitly cover the management of biodiversity conservation options (e.g. ECAs) or the institutional bindings and obligations of different stakeholders regarding biodiversity conservation. In addition, legal provisions for coordinating the conservation Programmes with other stakeholders (e.g. BWDB, LGED) need to be incorporated. Standards also need to be set for soil and water quality which will be helpful for monitoring the change of habitat quality of the wetland ecosystem. The DoE will conduct the project with the help of consultants. The project could be carried out through review of existing international and national policies, acts and rules as well as consultation with experts on biodiversity conservation and other relevant sectors at local and national levels.		
Lead Implementing Agency	Department of Environment (DoE)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), Forest Department (FD), Center for Environmental and Geographic Information Services (CEGIS) and International Union for Conservation of Nature (IUCN).		
Cost in BDT	2,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-06**	**Priority - Very High**
Project Title	**Habitat Preservation Programme for Plants, Wildlife, Fisheries and Migratory Birds**		
Location	Maulvibazar (Hail Haor and Kawadighi Haor), Sunamganj (Sonamorol Haor and Gurmar Haor), Sylhet (Baro Haor) and part of the Dolphin migration route		
Key Objectives	Prevention of biodiversity loss by providing suitable environment for plants and animal species		
Description	Protected area like Hakaluki Haor and Tanguar Haor were established with the aim of conserving biodiversity and maintaining goods and services in haor wetlands. This kind of initiative needs to be taken and strengthened with additional efforts on management of species population and monitoring of habitat quality based on life cycle analysis of different species. Delineation of protected area should be based on the life cycle of the species, especially for migratory species (birds and fish or other animals). Also regular monitoring of habitat quality with indicators (e.g. soil, water quality or bio indicators) will help evaluate degradation or improvement of ecosystem quality. The project is proposed in this context. The following tasks will be carried out under the project: maintaining existing protected area and establishing 4 new protected area for preserving the habitat of wild plants and animals including migratory species on the basis of life cycle analysis of the species; controlling and monitoring plant and animal population for food chain management within protected habitats; and monitoring and maintenance of water and soil quantity through regulation of water flow in the protected area.		
Lead Implementing Agency	Department of Environment (DoE)		
Supporting Agency	Department of Livestock (DLS), Bangladesh Haor and Wetland Development Board (BHWDB), Forest Department (FD), International Union for Conservation of Nature (IUCN) and Center for Environmental and Geographic Information Services (CEGIS) and NGO.		
Cost in BDT	15,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-07**	**Priority - High**
Project Title	**Research and Education Programme on Haor Wetland Biodiversity Conservation and Management**		
Location	Whole haor region		
Key Objectives	Exploration and establishment of a scientific basis for a conservation strategy for wetland biodiversity		
Description	Haor wetlands are unique ecosystems. Very few research and community awareness Programmes have been carried out by different organizations for the conservation and management of the protected area like 'Tanguar Haor' and 'Hakaluki Haor'. An extensive research Programme is required for the whole haor basin to explore opportunities for efficient wetland resource utilization and management. Universities could develop special higher degree research Programme on biodiversity conservation that will support research Programme or vice versa. Also monitoring and evaluation of wetland biodiversity and resources could be modernised and carried out regularly. The following research and education projects could be implemented under this Programme: baseline study on biodiversity status in the haor region; research on valuation of ecosystem services of haor wetlands; characterisation of "Eco-hydraulics"/ "Eco-hydrograph" for the haor wetland ecosystem; developing ecosystem health/ quality monitoring methods; developing course/ research curriculum on haor wetland biodiversity management in university level education; research on evolution and life cycle of key species as well as endangered and threatened species in haor wetlands; research on sustainable production of goods and services of haor wetland ecosystem; research on the impact of climate change on wetland biodiversity; research on the impact of pollution on wetland habitat and biodiversity; establishment of a "Wetland Center" as a nature museum and research center; and establishment of a gene bank of all plant and animal species found in the haor region.		
Lead Implementing Agency	Department of Environment (DoE)		
Supporting Agency	Department of Livestock (DLS), Bangladesh Haor and Wetland Development Board (BHWDB), Bangladesh Forest Department (FD), International Union for Conservation of Nature (IUCN) and Center for Environmental and Geographic Information Services (CEGIS).		
Cost in BDT	15,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-08**	**Priority - High**
Project Title	**Management of Commercially Important Haor Wetland Biodiversity**		
Location	The whole haor region		
Key Objectives	Initiation and promotion of management of commercially important wetland biodiversity		
Description	Fisheries, timber, tannin, fuel wood, reeds and thatching material, medicinal plants etc. are the major commercial products of the haor wetlands. Some of these important species are being threatened due to overexploitation of resources. On the other hand, promoting some economically valuable species may suppress the growth of other ecologically important species. Thus a balance between the two for sustainable management of commercially important species is crucial. Individual projects of this Programme will be implemented by relevant government departments with the help of consultants. In the initial stage, pilot studies will be conducted to develop the mechanisms, and then the system will be taken up by the existing government departments. Research conducted under 'Research and education Programme' in another project could be used for this Programme. Also, community based organizations could be involved in the management system with government departments. The following tasks will be carried out under the project: Control and monitoring of sustainable harvesting of commercially important plants and animal species, Singra, fodder plants, timber, thatching materials, fish, mollusks, etc.; and promotion of eco-tourism as alternative income from the haor wetland ecosystem, as well as promotion of plantation Programme, sustainable pearl farming and farming of medicinal plants in the haor region.		
Lead Implementing Agency	BHWDB		
Supporting Agency	Department of Livestock Services (DLS), Bangladesh Haor and Wetland Development Board (BHWDB) and NGO.		
Cost in BDT	20,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity &Wetland**	**BW-09**	**Priority - High**
Project Title	**Pollution Control and Prevention in Agriculture, Industry and Urban Settlement**		
Location	Whole Haor region		
Key Objectives	Identifying the sources of pollution along with prevention measures		
Description	Farmers in haor area use chemical fertilizers and pesticides in agricultural practices, which may contribute to water and soil pollution. Mechanised boat's oil spill in the rivers and there is also the risk of water pollution by coal while traveling through the river. Industries such as cement and fertilizer factories as well as pulp and paper mills dispose wastewater and solid wastes. Moreover, the solid waste and sewage from settlements are creating pollution locally. These issues should be managed properly for present and future environmental protection of haor wetlands. The project will undertake tasks such as controlling the use of chemical fertilizers and pesticides in agriculture and their transport from crop field to water bodies, imposing restrictions over illegal dumping of solid waste and wastewater from industries, mechanized boats and urban settlements to wetland area, etc.		
Lead Implementing Agency	BHWDB		
Supporting Agency	Department of Agricultural Extension (DAE), Bangladesh Haor and Wetland Development Board (BHWDB, Forest Department (FD) and International Union for Conservation of Nature (IUCN).		
Cost in BDT	7,000 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Biodiversity & Wetland Management**	**BW-10**	**Priority - Very High**
Project Title	**Adaption and Mitigation to Climate Disaster Risks in Haor Basin**		
Location	The whole haor region		
Key Objectives	Damage assessment due to climate change as well as prepare and implement adaptation and mitigation plan for haor basin		
Description	The vision of the Government of Bangladesh is to eradicate poverty and achieve economic and social well-being of its people. The vision is expected to be fulfilled through a pro-poor, climate resilient and low-carbon development approach based on the four building blocks of the Bali Action Plan. The Plan calls for adaptation to climate change, mitigation, technology transfer and adequate and timely flow of funds for investment within a framework of food, energy, water, and livelihoods security. This will be achieved by implementing a strategy, which will have six pillars: (1) Food security, social protection and health; (2) Comprehensive disaster management; (3) Infrastructure development; (4) Research and knowledge management; (5) Mitigation and low-carbon development; and (6) Capacity building and institutional development. The Action Plan will be an integral part of national development policies, plans and programmes. The following tasks will be conducted under the project: Understanding of the trends and pattern of flash floods through research and monitoring; evaluation of damages caused to the natural resources of the haor area due to climate change; preparation and implementation of a climate change adaptation and mitigation plan for the haor basin; enhancement of the resilience capacity of communities living in the haor basin; demonstration of the CDM and execution of an extension programme as a component of mitigation; and research on flood tolerant agro-crops.		
Lead Implementing Agency	Disaster Management Bureau		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), International Union for Conservation of Nature (IUCN) and Center for Environmental and Geographic Information Services (CEGIS) and NGO.		
Cost in BDT	8,000 Lakh		

Forestry

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Forestry**	**FR-01**	**Priority - High**
Project Title	**Establishment of one Forest Nursery in each of the 57 Upazilas of the Haor Areas**		
Location	57 upazilas of haor districts		
Key Objectives	Enhancement of the supply of fuel wood and fruits for local people		
Description	The target areas are fresh water wetlands locally designated as haors. These areas get flooded to a depth of 3 to 8 meters during monsoon. The areas that are inundated at relatively lesser depths are locally termed as "kanda". These constitute privately owned major agricultural lands. From the tenural view point, these may be either privately owned, jointly owned or government owned. The government owned (Khas) land and the jointly owned (Izmali) lands are subjected to indiscriminate harvest of natural resources. The homesteads, being privately owned, are mostly man-made earthen hillocks that remain above the water level during monsoon. The local inhabitants are mostly very poor. They face serious problems in getting fuel-wooden both wet and dry season. Especially in view of the successful Social Afforestation Programme of the Bangladesh Forest Department (FD), it is anticipated that supply of good and healthy saplings will encourage the local people to grow more fuel-wood & fruit bearing trees. The FD may be entrusted with the responsibility of establishing one forest nursery in each of the 57 upazilas of the target area to ensure supply of quality saplings of trees and fruit trees and provide technical support as well. The project activities will include acquisition of 2 ha of land in an upazila and establishment of a forest nursery there under the control of the FD, Ministry of Environment & Forests, Government of Bangladesh; ensuring supply of quality seedlings for tree plantation including fruit trees as well as supply of quality seedlings for plantation at homesteads, institutions, roadsides, embankments, feeder roads, community lands (such as Izmali lands, khans lands, kandas, etc.); supply of suitable seedlings of species that will help to protect homesteads from wave actions and erosion including awareness raising and technical support. Since the natural availability of Chailla Grass seedlings (cuttings) has declined seriously, these nurseries will also take necessary steps to ensure supply of cuttings to meet local demand. These nurseries are expected to meet the seedling requirement of about 2500 villages in and around these 57 upazilas. The nurseries are also expected to serve as venues for various local level training, especially in connection with the topics related to natural resource, nursery establishment, tree planting, etc.		
Lead Implementing Agency	Bangladesh Forest Department (FD)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and CEGIS		
Cost in BDT	38,449 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Forestry**	**FR-02**	**Priority - Very High**
Project Title	**Afforestation through Involvement of Local Community in Haor Area**		
Location	57 upazilas of haor districts		
Key Objectives	Enhancement of the local supply of fuel wood for local communities. Plantation of trees along all existing roadsides, embankment edges, homesteads and institutions such as school premises, mosque premises, eidgahs and other spiritual institutions		
Description	The local people have been dependent on the natural resources of the haor area since time immemorial. The unsustainable use of these natural resources coupled with the increased population and enhancement of their poverty, have led to the existing situation of serious depletion of natural resources. These haor communities are regarded to be neglected, deprived and very poor. Depletion of natural resources has enhanced their vulnerability to risks and disasters, especially under the ensuing climate change impacts. Under such condition, these haor communities are in dire need of assistance, especially through projects that are expected to augment their natural resource base and improve their livelihoods. This proposed Programme, once implemented, is expected to enhance the livelihoods of the targeted haor communities, especially of the social forestry participants. On top of this enhanced supply of fuel-wood in the locality will add to the improvement of living conditions and augment the supply of cow-dung for agricultural manure thereby boosting the local agricultural economy. Once these fresh water wetland plantations get established, the intensity and adversities of the waves will reduce which in turn will reduce the wave action or 'Afal' that is scouring away homestead hillocks. The proposed project will facilitate transfer of all khas lands in the "Kanda" area to the Bangladesh Forest Department (FD) by the Ministry of Land for undertaking social forestry Programmes. It will also help raise fresh water wetland plantations over an estimated area of 9500 ha involving local communities under the prevailing social forestry arrangements, as well as improve upon the pollarding harvest system so that it is sustainable and promote replanting at longer intervals, may be at 30/40 year cycle, initiate the restoration of ecosystems, conduct awareness-raising at community level in about 2500 villages located in and around the target area, and motivate the participants involved in the Programme & enhance their living standards.		
Lead Implementing Agency	Bangladesh Forest Department (FD)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and CEGIS		
Cost in BDT	34,954 lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**
Development Area	**Forestry** **FR-03** **Priority –Very High**
Project Title	**Road, Embankment, Homestead & Institution Plantation Programme in Haor Area**
Location	57 upazilas of haor districts
Key Objectives	Planting trees along all existing roadsides, embankment edges, homesteads and institutions such as school premises, mosque premises, Eidgahs, and other spiritual institutions
Description	The target areas are fresh water wetlands locally designated as haors. These areas get flooded to a depth of 3 to 8 meters during monsoon. The areas that are inundated at relatively lesser depths are locally known as "kanda". These constitute major privately owned agricultural lands, government owned khas lands etc. From the tenural point of view these may be either privately owned, jointly owned or government owned. The government owned (Khas) land and the jointly owned (Izmali) lands are subjected to indiscriminate harvest of natural resources, whatever is available therein. In the haor area, there are feeder roads and embankments. Some of these embankments get submerged during monsoon periods. The roadsides and embankment sides are mostly devoid of vegetation. The edges of these feeder roads and embankments could be planted with trees as strip plantations using suitable species with prevailing social forestry provisions. The homesteads are privately owned and mostly man-made earthen hillocks that remain above the water level during monsoon. There is enough scope for planting trees in these homesteads. The inhabitants are mostly very poor. If motivated, they will come forward for planting trees at their homesteads. Most of these homesteads suffer from erosion related problems, especially from wave action during monsoon. Live protection belts can be easily created provided the inhabitants are given the technology and seedlings of suitable species such as Koroch, Hijal, Murta, Challia grass, etc. In this context, especially in view of the successful Social Afforestation Programmes that have been implemented by the FD and promulgation of 'social forestry rules', it is anticipated that the FD may be entrusted with the responsibility for plantation along roadside, embankment edge, homestead and in the institutions. The plantations will enhance biodiversity and facilitate natural indigenous species to regenerate with the passage of time and restore lost ecosystems. This will also enhance tree cover and improve the overall environment.
Lead Implementing Agency	Bangladesh Forest Department (FD)
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), Bangladesh Forest Department (FD), Ministry of Agriculture and Center for Environmental and Geographic Information Services (CEGIS).
Cost in BDT	35,625 Lakh

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Forestry**	**FR-04**	**Priority - Medium**
Project Title	**Reclamation of Ijmali Land for Promotion of Social Forestry**		
Location	57 Nos. upazilas of haor area		
Key Objectives	Restoration of the ecosystems in ijmali lands and ensuring order towards sustainable use of the natural resources therein		
Description	In the haor area sites that get inundated to lesser depths are called kandas. There are large plots in these kanda areas that are commonly owned by the community. From the tenural view point these areas are jointly owned and locally termed as "Ijmali" lands. These areas had various types of natural resources such as Guizza Kata (wild rose), cane, murta, challia grasses, reeds, trees (Hijal, Koroch, Borun, etc.), and various types of fodder for cattle grazing. The communities in view of the joint ownerships had been extracting the available natural resources from these areas since long. Over extraction and indiscriminate harvest of these natural resources without any care and maintenance for long periods has seriously depleted these natural resources. These sites have tremendously depleted. Since these sites are subjected to joint ownership none come forward to maintain or improve them. At present these sites have become almost unproductive. Given the above situation, it is necessary to take up some Programme for the improvement of these sites and restoration of the lost ecosystems, especially vegetative cover. The project has been designed to meet these needs. Under the project Ijmali lands will be delineated, communities will be identified that have ownerships over the given Ijmali property and the community will be made aware and motivated towards planting, conservation and sustainable use of the resources. It is anticipated that NGO will be appropriate for implementing such measures with some technical assistance of the Forest Department, especially in selecting the species to be planted and promulgation of some acceptable propositions in line with the social forestry provisions. IUCN Bangladesh may be designated as the lead agency since this international organisation has a reputation in handling natural resource Programmes involving NGO. Proposals may be invited from the NGO for these measures. IUCN Bangladesh will provide all the required administrative and managerial support and serve as a bridge for the NGO with the MOEF, and the Forest Department. This project, once implemented, will bring order in the harvest of natural resources from Ijmali lands and enhance biodiversity & facilitate natural indigenous species to regenerate naturally with the passage of time and restore the lost ecosystems. The activities will also enhance tree cover and improve the environment.		
Lead Implementing Agency	Bangladesh Forest Department (FD)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), CEGIS and NGO		
Cost in BDT	71,538 lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Forestry**	**FR-05**	**Priority - High**
Project Title	**Improvement of Community Capacity for Forest Conservation and Improvement**		
Location	57 upazilas of haor districts		
Key Objectives	Development of awareness among local people about the importance of forests		
Description	The target areas are fresh water wetlands locally designated as haors. These areas get flooded to a depth of 3 to 8 meters during monsoon. The areas, those are inundated at relatively lesser depths are locally known as "kanda". These constitute the major privately owned agricultural lands, government owned khas lands etc. The homesteads, being privately owned, are mostly man-made earthen hillocks that remain above the water level during monsoon. The local inhabitants are mostly very poor. They are ill-informed and very poorly educated. In this context, it is essential to raise awareness provide trainings so that the people are better informed about the environment in which they are living. The following tasks will be carried out under the project: raise awareness of the local people in general about the environment in which they live; enhance the general level of understanding; and build some structures so that they can use those venues for holding meetings, discussions, workshops, etc.		
Lead Implementing Agency	Bangladesh Forest Department (FD),		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and Center for Environmental and Geographic Information Services (CEGIS).		
Cost in BDT	59,146 Lakh		

Strategic Thematic Area	**Biodiversity enhancement and wetland management**		
Development Area	**Forestry**	**FR-06**	**Priority - Medium**
Project Title	**Research Programmes on Haor Area**		
Location	57 upazilas of haor districts		
Key Objectives	Undertaking research to list all the flora and fauna of the haor area including minor groups of plants and animals, and to unveil the dynamics of the haor ecosystems and find details of the socio-economic aspects of the haor people		
Description	The target areas are fresh water wetlands locally designated as haors. These areas get flooded to a depth of 3 to 8 meters during monsoon. Homesteads, being privately owned, are mostly man-made earthen hillocks that remain above the water level during monsoon inundation. The local inhabitants are mostly very poor people who are very poorly educated as well. Scientific data and information about the haor areas are either scanty and/or absent. There is also no detailed inventory of the existing flora and fauna of the haor area. The scope of work under this project covers undertaking research to make an inventory of all flora and fauna of the haor area including minor groups of plants and animals; unveiling the dynamics of the haor ecosystems; and finding out details of the socio-economic aspects of the haor people. The BFRI and the BARC will jointly find out the topics that need to be researched in connection with the haor area. Universities will submit research proposals to the BFRI, to be evaluated jointly by the BFRI and BARC for awarding grants to the proposing authority.		
Lead Implementing Agency	Bangladesh Fisheries Research Institute (BFRI)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB), Bangladesh Forest Department (FD) and Center for Environmental and Geographic Information Services (CEGIS).		
Cost in BDT	6,792 Lakh		

Livestock

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-01**	**Priority - Very High**
Project Title	**Improvement of Fodder Availability for Livestock Development**		
Location	51 haor upazilas		
Key Objectives	Ensuring availability of fodder by preservation and development of technology for local farmers		
Description	The main cause of poor health of cattle is insufficient and unbalanced supply of quality feed. The overall livestock feed deficit in the country is estimated to be 45% in terms of Dry Matter (DM), 50% of Total Digestible Nutrient (TDN) and 80% in terms of Crude Protein (CP). The situation is far more devastating in the haor region. It is therefore essential to increase fodder production in the haor area for the improvement of livestock productivity. It is estimated that 35-40% of the total straw available is used as fuel and for other purposes. Straw is used as building material, industrial packing material and for soil improvement. The situation has aggravated with the conversion of grazing land into cultivated paddy field. Communal grazing land and raised platform will be identified beside homesteads, and awareness raising Programmes, selection of species suitable for the haor region, training on grazing land management, fodder cultivation, collection and preservation and CBO formation for grazing land management. The project proposes fodder cultivation to ensure adequate feed for livestock throughout the year. This may be considered as a “one family one farm technique” for the economic development of the poor people. It also proposes proper utilisation of available land, and the raised platforms which are proposed to be built from dredge spoil will also be stabilised through the system and ensure fodder supply throughout the year. This will, in turn, improve the nutrition condition and increase household income, and reduce input cost like fuel wood. The poor will be provided with inputs (seeds seedling and cuttings) free of cost. Technical logistic support will be provided by DLS, DAE and Research Institutes. The project will be carried out through requirement analysis; awareness raising of farmers; Identification of marginal land, raised lands (roadside embankment, etc.) homestead edge, and proposed raised platform; selection of species for site specific planting; collection of inputs (seeds, seedlings and cuttings) and field demonstration; and training for farmers on grazing land management, fodder cultivation, collection and preservation. In addition, CBO formation for grazing land management, dissemination of the findings to other beneficiaries and then replication of the study in other area of haor would also be carried out.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	BHWDB		
Cost in BDT	8,823 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-02**	**Priority - High**
Project Title	**Integration of Livestock in Traditional Farming System**		
Location	51 haor upazilas		
Key Objectives	Integration of livestock in the farming system for improvement of the socio-economic condition of poor people		
Description	The project has been considered to improve livestock status, increase production and thereby improve livelihoods in the hoar area. Livestock farming will be integrated with traditional cropping system through development of poultry farms, duck farms and small scale dairy farms, waste will be converted into manure and energy through bio-digesters, and market linkage will be developed through formation of cooperatives. The scope of project activities would be identification of communal grazing land and raised platform beside homesteads; awareness rising of farmers; selection of species suitable for the haor region; training on grazing land management; fodder cultivation; collection and preservation and CBO formation for grazing land management. The project proposes proper utilisation of available land and raised platforms to be built from dredge spoil. The platforms will also be stabilised through the system and fodder supply will be ensured throughout the year. This in turn will improve nutrition condition, increase household income and reduce input cost, such as that of fuel wood. The poor will be provided with inputs (seeds seedling and cuttings) at free of cost. Technical &logistic support will be also provided by the DLS, DAE and research institutes. The outputs of the project will ensure fodder supply throughout the year, improved health condition of livestocks and consequently, reduced mortality, increased production and increased income and resilience of the farmers.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	BHWDB and DAE		
Cost in BDT	7,956 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-03**	**Priority - Medium**
Project Title	**Farmer Training Programmes for Capacity Building**		
Location	51 haor upazilas		
Key Objectives	Capacity development of farmers and generation of employment opportunity		
Description	Most of the farmers in the haor area have poor knowledge on modern technology for livestock, and training opportunity is also very limited. A huge number of crossbred cows and poultry farms exist in the haor area but their productivity is not up to the mark. So, farmer's training is essential on modern technology for increasing productivity and for capacity building. The DLS could arrange training for farmers by establishing a farmer's training center and facilitating transfer of modern technology and self-employment training Programmes for capacity building. The project is expected to have a long term positive impact on the national economy. It will be generate employment opportunities for men/women and increase per capita income. This intervention will also help improved supply of milk, meat and egg to the market. The project activities would include organising the farmers; raising their awareness and capacity; building infrastructure for training them; mobilising them to undertake livestock related activities; and generating employment opportunities. The following approaches will be taken to carry out the project. I) Requirement analysis, ii) Identification or area selection for the training center, iii) Land acquisition, iv) Collection of inputs v) Pre-construction, vi) Construction, vii) Machinery and equipment, viii) Training requirement, ix) Transport and vehicle etc.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	BHWDB and LGED		
Cost in BDT	2,400 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-04**	**Priority - Medium**
Project Title	**Establishment of Pilot Breeding Programme for Cattle Development**		
Location	51 haor upazilas		
Key Objectives	Conservation and development of local cattle breeds through native bulls, training of farmers on breeding process		
Description	Livestock plays a vital role in poverty alleviation through generating self-employment opportunities, and fulfilling the requirements of animal protein from meat, milk and eggs. The government has given high priority to the development of livestock in the effort to achieve Vision 2021. However, current production covers only less than ⅓ (one third) of the national requirements. The productivity of indigenous zebu cattle is very low in respect of milk and meat yields. Small and marginal farmers are aware and interested to improve breed quality but they have limited access to this service due to the scarcity of tested bulls and semen in the rural artificial insemination (AI) centers, and thus production potential cannot be achieved. At present only 42% of the breed able female cattle are under coverage of AI service, which is not enough to meet the demand in the haor area. The project is expected to bring about improvement of all activities and extension services, purchase of necessary equipment and appliances as well as stud bulls and bull calves from field level. There will be improvement in the selection of breeding bull or bull calves, maintenance of breeding records, and more artificial insemination centers etc.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and DAM		
Cost in BDT	3,600 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-05**	**Priority - High**
Project Title	**Promotion of Small and Mini Dairy Farms**		
Location	51 haor upazilas		
Key Objectives	Increasing production of milk and creation of employment opportunities		
Description	The majority of the cattle population in Bangladesh as well as haor area is of the nondescript indigenous type, and is mostly small in size with low productivity. The huge gap between supply and demand of milk is largely met by milk powder imports of about 20,000 MT annually valued at some USD 70 million. The price of liquid milk (e.g. BD 40-45/liter) in the local market has increased day by day. Consumption of milk and dairy products has been expanding dramatically with income growth, population growth, urbanisation and dietary changes. A three-fold increase in meat, milk and dairy product consumption is expected in South Asia from 1965 to 2030. Taking the modest population growth rate of 1.6% and per capita milk consumption 120ml, 9.09 million tons of milk will be required in the year of 2025 in Bangladesh. The total yearly requirement will be 19.02 million tons if per capita daily milk consumption rose to 250 ml in the 2025 in Bangladesh. Therefore, the dairy industry has the potential to grow much faster than at present. In addition to their health care, availability of good quality feeds and forages are necessary for breeding dairy animals with definite goals, increasing efficiencies of the organised sector. The project would include identification of baseline information of small and marginal dairy farms and the present status of milk production per cow per day in the haor area. It would also include replication of Community-based Livestock and Dairy Development Project (CLDDP) model, enhancing performance of milk production, promotion of income generation activities and improving livelihoods of the haor people.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and MoWCA		
Cost in BDT	5,850 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-06**	**Priority - Very High**
Project Title	**Promotion of Conventional and Alternative Feed Resources for Livestock Feeding**		
Location	Haor upazilas		
Key Objectives	Development and use of agro-resources for alternative feeds for livestock		
Description	Acute shortage of feed and fodder is one of the major obstacles for livestock development in Bangladesh as well as in the haor area. In addition, the global feed prices are increasing tremendously. The UN has projected that world population will exceed 9 billion by mid-century and the 100% increase in world food production by 2050 must come virtually from the same land area as today. Therefore, the increasing demand could be met by accelerating cropping intensity as well as by using alternative feed ingredients in rations for poultry, dairy and other small animals cost effectively, particularly in the haor area. Hence, the importance of using conventional feed and of searching alternative feed resources is increasing day by day. The project activities would include identifying baseline information of conventional and alternative feed resources, development of mechanisms for processing conventional agro by-products (e.g. processing straw with urea and molasses), introduction of potential feeds which could be available in the haor area (e.g. Azolla), improvement of performance of livestock production (meat, milk and eggs), increasing income generation activities and improving livelihoods of the haor people.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	Bangladesh Haor and Wet Development Board (BHWDB)		
Cost in BDT	1,625 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-07**	**Priority - High**
Project Title	**Extension of Livestock Services through Establishment of Union Livestock Service Center (ULSC)**		
Location	Haor upazilas		
Key Objectives	Establishment of support service institution for livestock support services at grassroot (Union) level		
Description	The Department of Livestock Services (DLS) and its district and upazila-based offices are responsible for providing livestock support services and human resources development through institutional training. Besides DLS, a potential number of NGO from home and abroad have been implementing same Programmes and activities for livestock development over the past three decades. As a result, a large number of human resources have gained knowledge and skills in livestock keeping but the support and services from upazila office to the farmer's door for scientific livestock rearing still remains inadequate. The actual causes identified by experts that prevent livestock support services from reaching the farmer's doorstep are: a) distance between villages and upazila livestock offices, b) limited number of field staffs, c) paucity of inputs and scarcity of equipment, d) lack of infrastructural facility at union level and lack of coordination between different NGO etc. The project activities will include collection of baseline information on the availability of livestock support services at farmer level, dissemination of livestock extension activities, enhancement of livestock (meat, milk and eggs) production performance, creation of employment opportunities (veterinary field assistants, AI workers, vaccinators, community animal health workers etc.) at union parishad level, and income generating activities through livestock rearing.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	Bangladesh Haor and Wet Development Board (BHWDB) and LGRD		
Cost in BDT	16,250 Lakh		

Strategic Thematic Area	**Agricultural development for food security**
Development Area	**Livestock** **LS-08** **Priority - Medium**
Project Title	**Development of Livestock Products thorough Involvement of Community Organisations**
Location	51 haor upazilas
Key Objectives	Development of marketing facilities by involvement of community organisations for ensuring fair price
Description	Farmers are always deprived from getting fair price for their products due to poor marketing facilities. The activities of the livestock sector needs to be consolidated by undertaking an integrated livestock development Programme through farmers' organisations to increase production. Planned activities are required along with establishment of market value chain for livelihood development and food & nutrition security. The effectiveness of the community organisation in creating market for livestock products depends on 3 key factors: i) productivity enhancement, ii) creating access to markets and iii) institutionalisation transaction governance. The project activities would include collection of baseline information on the present market price of livestock products, creation of farmers' organisation as well as group formation in the haor area, increasing awareness and building capacity of farmers, enhancing meat, milk and eggs production efficiency, creation of market oriented employment opportunities at farmer level, ensuring involvement of women in community organisations, and facilitating income generating activities through livestock product marketing.
Lead Implementing Agency	Department of Livestock Services (DLS)
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB) and Department of Agricultural Marketing
Cost in BDT	12,400 Lakh

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-09**	**Priority - Very High**
Project Title	**Development of Community Animal Health Workers for Livestock Health Care**		
Location	51 haor upazilas		
Key Objectives	Ensuring and improving animal health by community health workers, thereby reducing livestock mortality and improving production		
Description	The Department of Livestock Services (DLS) and its district and upazila-based offices are responsible for providing livestock support services. However, the support services from upazila office to the farmer's doorstep for scientific livestock rearing still remain inadequate. The challenge is the institutional vacuum that exists at the point of service delivery in combination with the inability of private veterinarians to meet the requirement for services. The problem is particularly acute for the poor due partly to demographics and partly to the economics of the supply of livestock services. Therefore, Community Animal Health Workers (CAHWs) would be one means of addressing inadequate government services. The project activities will include collection of baseline information on the availability of livestock support services at farmers' level, dissemination of animal health services to the farmer's doorstep, creation of employment opportunities as animal health workers, promotion of income generating activities through livestock rearing and engagement of private organisations in the project.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB)		
Cost in BDT	6,600 Lakh		

Strategic Thematic Area	**Agricultural development for food security**		
Development Area	**Livestock**	**LS-10**	**Priority - Very High**
Project Title	**Promotion of Small and Mini Poultry and Duck Farms**		
Location	51 haor upazilas		
Key Objectives	Increasing production of poultry products and creating employment opportunities		
Description	It is essential to reduce the gap between supply and demand of nutritious food. Therefore, small and marginal farmers in the haor area should be trained with modern technology for rearing poultry effectively. Poultry farming is the fastest growing industry in Bangladesh. Since 1995, a significant annual average growth rate of 15-20% has been achieved in commercial poultry. However, the growth rate in backyard poultry farming is not high. The steady growth rate of commercial poultry positively contributes to the human nutritional status as well as national economy. Nevertheless, there is still a gap between the supply and demand of poultry meat and eggs. For example, annual per head consumption of eggs in the country is 32 against the minimum requirement of 104 eggs. The project activities will include identifying baseline information on small and marginal poultry farms in the haor area, finding out the present status of egg production per hen and duck per year in the haor region, enhancing their egg production performance, increasing income generation activities and improving the livelihoods of the haor people.		
Lead Implementing Agency	Department of Livestock Services (DLS)		
Supporting Agency	Bangladesh Haor and Wet Development Board (BHWDB) and NGO		
Cost in BDT	11,190 Lakh		

Water Supply and Sanitation

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Water Supply and Sanitation**	**WS-01**	**Priority - Very High**
Project Title	**Establishment of Sustainable and Community-based Haor Friendly Water Supply Technologies**		
Location	Brahmanbaria, Kishoreganj, Netrakona, Habiganj, Maulvibazar, Sunamganj, Sylhet		
Key Objectives	Establishment of safe drinking water technologies in the haor area		
Description	The haor area is mostly inhabited by poor and disadvantaged groups of the population lacking access to basic water and sanitation services. Floods are natural phenomena that occur every year in these parts. Flash floods are main threats of the haor area which is usually flooded from May to October. The homestead sites are raised about 1.5 to 2.5 m from crop fields. The river water level comes up to nearly 0.5m during rainy season and goes down from homestead level to as much as 8m during dry season. Consequently, most of the water technologies are submerged during monsoon and flood period posing a great threat for the health of the haor community. The major problem of the haor area is plenty of water during monsoon and very little water in the dry season. Data analysis results indicate that water sources and distribution are not equal to the haor population's requirement. The DPHE has been implementing different types of water sources and supply system in Sylhet and Mymensingh, such as (i) deep tube wells, (ii) shallow tube wells, (iii) different types of Tara pumps, and (iv) traditional village pipe water supply. Some other alternate drinking water supply technologies include Pond Sand Filters (PSF), Ring Wells, the Rainwater Harvesting system (RWH) etc. However, safe water technologies are still insufficient to meet the requirement of the haor area, especially during the flood period. Thus the following options are proposed by the project for sustainable safe drinking water for the haor community: (i) Settlement-wise reservoir-based village pipe water supply with water treatment plant, (ii) alternate safe water options (e.g. PSF, RHW and raised Dug Wells etc.), (iii) mobile water quality test/treatment plant for house level supply during flood period, and (iv) flood protected raised tube wells.		
Lead Implementing Agency	Department of Public Health Engineering (DPHE)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS), NGO and ITN-BUET		
Cost in BDT	50,000 Lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**
Development Area	**Water Supply and Sanitation** **WS-02** **Priority - Very High**
Project Title	**Introduction of Sustainable and Community-based Flood Proof Hygienic Sanitation System in Haor Area**
Location	Brahmanbaria, Kishoreganj, Netrakona, Habiganj, Maulvibazar, Sunamganj, Sylhet
Key Objectives	Establishment of sanitation technologies in haor area
Description	Haor areas are mostly inhabited by the poor and disadvantaged groups of the population lacking access to basic water and sanitation services. Floods are natural phenomena that occur every year in these parts. Flash floods are main threats of the haor area, which are usually occur between May to October. The homestead sites are raised about 1.5 to 2.5 m from crop fields. The river water level comes up to nearly 0.5m during rainy season and goes down from homestead level to as much as 8m during dry season. Consequently, most of the sanitation options get washed away and become submerged during floods posing a great threat for the health of the inhabitants. Several recent studies reveal that the lack of appropriate sanitation facilities in flood-prone area, particularly during flood period, is a most important contributing factor to ill health and severe environmental degradation. Effluent dispersion from latrines into the surface water and groundwater is a significant pollution problem in the area. Only the provisions of physical sanitation facilities are not enough for the inhabitants of haor area to protect themselves from diseases or the environment from further degradation. Specific and specialised hygienic sanitation system is very essential for the people of the haor region. This project will introduce and install specialised and suitable sanitation technologies in selected upazilas of the haor area which can be adopted in the flood prone and waterlogged area as well as other area of the haor basin. Different organisations, especially BUET has conducted research on suitable sanitation technologies for flood prone area. There are several sanitation technologies; (i) Earth Stabilised Raised Pit (ESRP) latrine, (ii) Step latrine, (iii) Mound latrine (iv) Sand Enveloped Latrine (SEL) for high water area near hill footage and high raised villages and (v) Sand Enveloped Raised Pit Latrine (SERP) etc. Besides these technologies community-based mobile latrines for every cluster village will be developed under the project. The latrines will be designed with large diameter PVC pipes to carry solid waste below soil surface. Septic tanks with specialised hollow and metal pipes or PVC pipes with loop system (many pipes) will be designed in this regard. Based on the population density and male-female ratio, the number of community latrines will be determined and installed in the respective village/cluster settlements.
Lead Implementing Agency	Department of Public Health Engineering (DPHE)
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS), NGO and ITN-BUET.
Cost in BDT	55,000 Lakh

Transportation

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-01**	**Priority - Very High**
Project Title	**Up gradation of Rural roads**		
Location	69 upazilas of haor area (Brahmanbaria, Habiganj, Kishoreganj, Maulvibazar, Sunamganj and Sylhet districts)		
Key Objectives	Create accessibility for the haor connecting, village, union, upazila and growth centers.		
Description	Haor region is differentiated from any other part of Bangladesh by a unique topography because of which it remains under water for 6-7 months. Owing to this natural characteristics, roads and other infrastructure has not developed as required. It is very difficult and also cost ineffective to construct roads in the middle of haor area surrounded by water. Therefore, road network in the haor region remains undeveloped especially in the deeply flooded zone. Inadequate communication facilities hamper the overall socio-economic development of the haor people. Through improving the connectivity within and outside the region, accessibility to various services and facilities can be ensured leading to improved socio-economic development of haor people. The rural roads consisting of upazila, union and village roads are constructed by the Local Government Engineering Department (LGED) in the rural area. Upazila roads connect the upazila HQs with growth centers or national/regional roads. Union roads connect union HQs with upazila HQ/s, growth centers or local markets or with each other. Village roads connect villages with union HQ/s, local markets, farms and ghats or with each other. This project will upgrade 2875 km rural roads comprising of 198 km upazila road, 689 km union road, 1333 km village A road and 656 km village B road. It should be mentioned that LGED has its own project to plan and implement projects for construction of rural roads. The projects undertaken by LGED have already been taken into consideration during the preparation of the plan and project portfolio. However, prior to implementation of this project, the proposed plan should be revisited to remove, if any, duplication with projects of the LGED.		
Lead Implementing Agency	Local Government Engineering Department (LGED)		
Supporting Agency			
Cost in BDT	215625 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-02**	**Priority - Very High**
Project Title	**Submersible rural road construction**		

Location Brahmanbaria district (Bancharampur), Habiganj district (Baniachong, Habiganj Sadar, Lakhai, Nabiganj), Kishoreganj district (Bajitpur, Hossainpur, Kishoreganj Sadar, Pakundia) Maulvibazar district (Kulaura, Rajnagar), Netrakona district (Barhatta, Kalmakanda, Khaliajuri, Madan, Mohanganj, Netrakona Sadar, Purbadhala), Sunamganj district (Dakshin Sunamganj, Derai, Dharampasha, Jagannathpur, Jamalganj, Sulla, Tahirpur), Sylhet district (Beani Bazar, Golapganj, Kanaighat, Zakiganj)

Key Objectives Develop environment friendly road network to provide accessibility to haor people not connected with the existing road network

Description Submersible roads are such roads that remain submerged under water during monsoon season. The haor region being a wetland requires e certain flow of water for the sustenance of its ecosystem. A fully fledged road network recede the water flow. Water flow if not available in adequate supply then the wetland ecosystem will decline and the biodiversity of both flora and fauna will reduce. This will consequently affect the life and livelihood of the haor dwellers. During the monsoon people are dependent on the water transportation. But using water transport is time consuming and expensive. Again, in the dry season the waterways are unusable because of low flow of water in the river and canals. In light of the environmental as well as socio-economic considerations, transport engineers and planners opt for constructing submersible roads that are both environment friendly and at the same time serve the purpose of providing accessibility. It also helps to reduce wave action to combat erosion. Haor region lacks adequate roads. The conditions of the existing roads are miserable. Submersible roads can fulfill the gap of existing road system in haor area.

Under this project, a number of submersible roads have been proposed which, if constructed, will be beneficial for the haor region. The construction of the roads will follow the design guidelines set by LGED. The project is expected to initiate in 2012/13 and end in 2014/15. The total length of submersible road is 496 km (Priority 1 road is 132 km and Priority 2 road is 364 km). Construction cost also includes revetment works (with CC block and geotextile) of 1,100,851 sqm for priority 1 road and 3,040,410 sqm for priority 2 road.

Lead Implementing Agency Local Government Engineering Department (LGED)

Supporting Agency

Cost in BDT 149025 Lakh

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-03**	**Priority - Very High**
Project Title	**Submersible District road construction (Sulla to Ajmiriganj)**		
Location	**Sulla (in Sunamganj district) to Ajmiriganj (in Habiganj district)**		
Key Objectives	Develop environment friendly road network to provide accessibility to haor people not connected with the existing road network		
Description	Submersible roads are such roads that remain submerged under water during monsoon season. The haor region being a wetland requires e certain flow of water for the sustenance of its ecosystem. A fully fledged road network recede the water flow. Water flow if not available in adequate supply then the wetland ecosystem will decline and the biodiversity of both flora and fauna will reduce. This will consequently have effect on the life and livelihood of the haor dwellers. During the monsoon people are dependent on the water transportation. But using water transport is time consuming and expensive. Again, in the dry season the waterways are unusable because of low flow of water in the river and canals. In light of the environmental as well as socio-economic consideration, transport engineers and planners opt for constructing submersible roads that are both environment friendly and at the same time serve the purpose of providing accessibility. It also helps to reduce wave action to combat erosion. Haor region lacks adequate roads. The conditions of the existing roads are miserable. Submersible roads can fulfill the gap of existing road system in haor area. Under this project, a submersible road is proposed which, if constructed, will be beneficial for the haor region. The construction of the roads will follow the design guidelines set by RHD. The project is expected to initiate in 2012/13 and end in 2014/15. The total length of submersible road is 15 km.		
Lead Implementing Agency	Roads and Highways Department (R&HD)		
Supporting Agency			
Cost in BDT	3900 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-04**	**Priority - Very High**
Project Title	**Submersible District road construction (Khaliajuri to Ajmiriganj)**		
Location	**Khaliajuri (in Netrakona district) to Ajmiriganj (in Habiganj district)**		
Key Objectives	Develop environment friendly road network to provide accessibility to haor people not connected with the existing road network		
Description	Submersible roads are such roads that remain submerged under water during monsoon season. The haor region being a wetland requires e certain flow of water for the sustenance of its ecosystem. A fully fledged road network recede the water flow. Water flow if not available in adequate supply then the wetland ecosystem will decline and the biodiversity of both flora and fauna will reduce. This will consequently have effect on the life and livelihood of the haor dwellers. During the monsoon people are dependent on the water transportation. But using water transport is time consuming and expensive. Again, in the dry season the waterways are unusable because of low flow of water in the river and canals. In light of the environmental as well as socio-economic consideration, transport engineers and planners opt for constructing submersible roads that are both environment friendly and at the same time serve the purpose of providing accessibility. It also helps to reduce wave action to combat erosion. Haor region lacks adequate roads. The conditions of the existing roads are miserable. Submersible roads can fulfill the gap of existing road system in haor area. Under this project, a submersible road is proposed which, if constructed, will be beneficial for the haor region. The construction of the roads will follow the design guidelines set by RHD. The project is expected to initiate in 2012/13 and end in 2019/20. The total length of submersible road is 21 km.		
Lead Implementing Agency	Roads and Highways Department (R&HD)		
Supporting Agency			
Cost in BDT	5460 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-05**	**Priority - Very High**
Project Title	**Submersible District road construction (Itna to Ajmiriganj)**		
Location	**Itna (in Kishoreganj district) to Ajmiriganj (in Habiganj district)**		
Key Objectives	Develop environment friendly road network to provide accessibility to haor people not connected with the existing road network		
Description	Submersible roads are such roads that remain submerged under during monsoon season. The haor region being a wetland requires e certain flow of water for the sustenance of its ecosystem. A fully fledged road network recede the water flow. Water flow if not available in adequate supply then the wetland ecosystem will decline and the biodiversity of both flora and fauna will reduce. This will consequently have effect on the life and livelihood of the haor dwellers. During the monsoon people are dependent on the water transportation. But using water transport is time consuming and expensive. Again, in the dry season the waterways are unusable because of low flow of water in the river and canals. In light of the environmental as well as socio-economic consideration, transport engineers and planners opt for constructing submersible roads that are both environment friendly and at the same time serve the purpose of providing accessibility. It also helps to reduce wave action to combat erosion. Haor region lacks adequate roads. The conditions of the existing roads are miserable. Submersible roads can fulfill the gap of existing road system in haor area. Under this project a submersible road is proposed which if constructed will be beneficial for the haor region. The construction of the roads will follow the design guidelines set by RHD. The project is expected to initiate in 2012/13 and end in 2019/20. The total length of submersible road is 14 km.		
Lead Implementing Agency	Roads and Highways Department (R&HD)		
Supporting Agency			
Cost in BDT	3640 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-06**	**Priority - Very High**
Project Title	**Submersible District road construction (Austagram to Lakhai)**		
Location	**Austagram (Kishoreganj district) to Lakhai (Habiganj district)**		
Key Objectives	Develop environment friendly road network to provide accessibility to haor people not connected with the existing road network		
Description	Submersible roads are such roads that remain submerged under water during monsoon season. The haor region being a wetland requires e certain flow of water for the sustenance of its ecosystem. A fully fledged road network recede the water flow. Water flow if not available in adequate supply then the wetland ecosystem will decline and the biodiversity of both flora and fauna will reduce. This will consequently have effect on the life and livelihood of the haor dwellers. During the monsoon people are dependent on the water transportation. But using water transport is time consuming and expensive. Again, in the dry season the waterways are unusable because of low flow of water in the river and canals. In light of the environmental as well as socio-economic consideration, transport engineers and planners opt for constructing submersible roads that are both environment friendly and at the same time serve the purpose of providing accessibility. It also helps to reduce wave action to combat erosion. Haor region lacks adequate roads. The conditions of the existing roads are miserable. Submersible roads can fulfill the gap of existing road system in haor area. Under this project, a submersible road is proposed which if constructed will be beneficial for the haor region. The construction of the roads will follow the design guidelines set by RHD. The total length of submersible road is 18 km.		
Lead Implementing Agency	Roads and Highways Department (R&HD)		
Supporting Agency			
Cost in BDT	4680 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-07**	**Priority - Very High**
Project Title	**Submersible District road construction (Derai to Jagannathpur)**		
Location	**Derai to Jagannathpur in Sunamganj district**		
Key Objectives	Develop environment friendly road network to provide accessibility to haor people not connected with the existing road network		
Description	Submersible roads are such roads that remain submerged under water during monsoon season. The haor region being a wetland requires e certain flow of water for the sustenance of its ecosystem. A fully fledged road network recede the water flow. Water flow if not available in adequate supply then the wetland ecosystem will decline and the biodiversity of both flora and fauna will reduce. This will consequently have effect on the life and livelihood of the haor dwellers. During the monsoon people are dependent on the water transportation. But using water transport is time consuming and expensive. Again, in the dry season the waterways are unusable because of low flow of water in the river and canals. In light of the environmental as well as socio-economic consideration, transport engineers and planners opt for constructing submersible roads that are both environment friendly and at the same time serve the purpose of providing accessibility. It helps to reduce wave action to combat erosion. Haor region lacks adequate roads. The conditions of the existing roads are miserable. Submersible roads can fulfill the gap of existing road system in haor area. Under this project, a submersible road is proposed which if constructed, will be beneficial for the haor region. The construction of the roads will follow the design guidelines set by RHD. The project is expected to initiate in 2012/13 and end in 2014/15. The total length of submersible road is 20 km.		
Lead Implementing Agency	Roads and Highways Department (R&HD)		
Supporting Agency			
Cost in BDT	5200 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-08**	**Priority - High**
Project Title	**Construction of Regional Highway**		
Location	**Jamalganj to Dharmapasha in Sunamganj district**		
Key Objectives	Develop regional connectivity in the haor region		

Description

The Transportation is poor in the haor region. Apart from the inadequacy in the number of roads there is the added problem of dire condition of roads. The seasonal variation has huge influence on the transportation facilities. Haor is a wetland ecosystem surrounded with 373 haors. Haor area remains under water for 4-6 months during the pre-monsoon and monsoon season. The roads are submerged during this period making it impossible to move from one place to other without using the boat. The roads become muddy and are damaged when submerged under water during monsoon and autumn.

Regional highways connect the district HQ's or main river or land ports or with each other not connected by National Highways. The district roads connect district HQ's with upazila HQ's or connecting one upazila HQ to another upazila HQ by a single main connection with National/Regional Highway, through shortest distance/route. These roads are vital for ensuring accessibility between and within regions. Hence, these roads need to be properly maintained. If routine maintenance work is carried out then it can help prevent many of the problems from occurring in future. Road associated problems exaggerate if not maintained in time. The roads are further damaged due to traffic overloading and when hazards like flood, erosion (wave and river) occurs. Prolonged inundation worsens the road condition. Due to poor condition of the roads, flow of traffic and goods from one place to another is hindered, traffic congestion occurs and sometimes accidents also happen.

Through this project, a 32 km regional highway will be constructed. The project is expected to initiate in 2017/18 and end in 2018/19.

Lead Implementing Agency	Roads and Highways Department (R&HD)
Supporting Agency	
Cost in BDT	12800 Lakh

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-09**	**Priority - Medium**
Project Title	**Construction of Surma Bridge at Chhatak**		
Location	Surma river, Chhatak upazila, Sunamganj district		
Key Objectives	Develop regional connectivity		
Description	Haor region is differentiated from any other part of Bangladesh by a unique topography because of which it remains under water for 6-7 months. Owing to this natural characteristics, roads and other infrastructure has not developed as required. It is very difficult and also cost ineffective to construct roads in the middle of haor area surrounded by water. Therefore, road network in the haor region remains undeveloped specially in the deeply flooded zone. Inadequate communication facilities hamper the overall socio-economic development of the haor people. Through improving the connectivity within and outside the region, accessibility to various services and facilities can be ensured leading to improved socio-economic development of haor people. Under this project, a 400 m PC girder bridge will be constructed over the river Surma in Chhatak upazila of Sunamganj district to create connectivity with Companiganj and Chhatak.		
Lead Implementing Agency	Roads and Highways Department (R&HD)		
Supporting Agency			
Cost in BDT	6000 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-10**	**Priority - Very High**
Project Title	**Development of inland navigation by dredging in nine river routes**		
Location	Meghna, Baulai, Surma, Kangsha, Zadukata, Pagla, Buri, Jamuna, Titas, Mogra, Manu, Kalni, Kushiyara of Sylhet, Habiganj, Sunamganj, Maulvibazar, Kishoreganj, Narsingdi, Netrakona, Brahmanbaria and Comilla		
Key Objectives	Development of navigability in nine river routes to ensure perennial and uninterrupted inland navigation to decrease the transportation cost and time		
Description	There are more than 2700 km of waterways in the haor area. Of these 1243 km of waterways are classified navigable waterways by BIWTA. Due to non-maintenance of navigability, conditions are gradually deteriorating. Presently not more than 300 km of waterways are navigable perennially. Vessels cannot navigate in the lean period in the remaining waterways. Even navigability in the perennial waterways reduces to such an extent that vessels and crafts are compelled to run with half or two third of their loading capacity. Inland navigation is the main mode of transport in the haor area. Most of the rural populations have only access to this means of transport. Most of the bulk cargo like construction materials (bricks, stones, sans and cement), food grains, fertilizer, fish are transported by river. So, development of navigability by dredging will bring about a significant growth in the economy of haor area. It will also contribute to mitigate the impact of climate change saving liquid fuel and discharge of Co2. According to BIWTA's investigation dredging demand in the ten routes in haor area was estimated at 54.82 million cubic meters. Of these ten routes, approval of a project by BIWTA including Bhairab bazar-Chhatak-Sylhet route is in the final stage awaiting approval of ECNEC. Excluding that route dredging demand for the rest nine routes was estimated of 45.82 million cubic meters. This is a preliminary estimation and requires hydrographic survey to determine the actual volume.		
Lead Implementing Agency	Bangladesh Inland Water Transport Authority (BIWTA)		
Supporting Agency	Bangladesh Water Development Board (BWDB)		
Cost in BDT	90000 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-11**	**Priority - High**
Project Title	**Development of 150 landing facilities in the rural area**		
Location	Chhatak, Dowarabazar, Sunamganj, Dharmapasha, Jamalganj, Raniganj, Ruail, Derai, Ajmiriganj, Lakhai, Baniachong, Maulvibazar, Markuli, Balaganj, Companiganj, Bhairab, Mithamoin, Dhanpur, Itna, Karimganj, Austogram Nikli, Bajitpur, Kuliarchar, Narsingdi, Raipur, Kalmakanda, Khaliajuri, Bancharampur, Nabinagar, Nasirnagar, Sarail, Ashuganj.		
Key Objectives	Ensure easy and safe embarkation of passenger and cargo in the rural area and provide improved berthing facility for the vessels and crafts		
Description	Vessels and crafts plying in the inland waterways in the haor area call at 205 landing stations. Of those 38 have so far been developed by providing pontoon and shore connections mostly by BIWTA and a few by LGED. About 167 stations are yet to be developed with marginal facilities. Vessels struggle to berth alongside the bank of the rivers and loading/unloading of passenger and cargo are so unsafe and uncomfortable that loss of lives and properties is a regular incidents. These landing stations called ghat mostly located in the rural area play a very important role in facilitating movement of passenger and freight. Food grains, fertilizer, construction materials, fish, consumer goods, fuel etc., are brought within the reach of the people living in some remote area which have no other means of transportation. These serve the rural area populated by the poorest people who belong to the lowest strata of the society. As these 'ghats' have no other facilities whatsoever, improvement is necessary. So the rural based poverty stricken people can get the barest minimum service. Development of 'ghats' or landing stations are usually provided with floating pontoon or jetty or combination with both. But in some cases due to site conditions and technical conditions must be examined to determine alternative facilities like stairs. Site selection for providing facilities is also required for stability of the site in the face of erosion or sedimentation.		
Lead Implementing Agency	Bangladesh Inland Water Transport Corporation (BIWTC) under the Ministry of Shipping		
Supporting Agency	Local Government Engineering Development (LGED)		
Cost in BDT	15000 Lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-12**	**Priority - High**
Project Title	**Installation of navigational aids along the river routes**		
Location	All rivers flowing in all upazilas under the districts of Sylhet, Sunamganj, Habiganj, Maulvibazar, Brahmanbaria, Kishoreganj and Netrakona		
Key Objectives	Provision for aids to navigation to ensure round the clock operations of vessels avoiding the risks of grounding, capsizing or otherwise in distress.		
Description	Appropriate navigational aids are signs and signals in the river routes which enable the master of the vessel to navigate safely avoiding threats of grounding and accident hazards. BIWTA responsible for such service only provide navigational aids in the route between Bhairab and Chhatak and in the Ashuganj and Zakiganj. Although vessel operators complained about poor or no marking which resulted frequent grounding and capsize even. In absence of navigational aids and marking of channels navigators only depend on the experience which does not work in the changing conditions of the channels. BIWTA did not provide night navigation facilities along the river routes in the haor area as yet. As such from evening to dawn vessels are not allowed to operate resulted increase of transportation time and decrease of vessels turn round. With the limited resource BIWTA can provide night navigational facilities only on few major routes, no route in the haor is covered by such facilities. According to economic importance river routes in the haor are have been classified into three classes: Priority 1, Priority - High and Priority - Medium. It is proposed that night navigational facilities should be installed in Priority - Very High (553.91 km) and Priority – High (337.49 km) routes while general marking will be installed in Priority – Medium (1844.89 km) routes in such manner that markings are visible with the search lights of the vessels at night.		
Lead Implementing Agency	Bangladesh Inland Water Transport Authority		
Supporting Agency			
Cost in BDT	6000 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-13**	**Priority - High**
Project Title	**Hydrographic survey in the nine major river routes**		
Location	All rivers flowing in all upazilas under the districts of Sylhet, Sunamganj, Habiganj, Maulvibazar, Brahmanbaria, Kishoreganj and Netrakona		
Key Objectives	Identification of navigable channel and determine the volume of dredging for digital hydrographic chart preparation and dissemination		
Description	Navigational information and data are the reliable means of obtaining nautical condition of the waterways. Since 1989 BIWTA could not undertake comprehensive hydrographic survey of the inland waterways. As such no navigational information or data are available on the basis of which dredging and other development schemes may be undertaken. Ten major passenger and freight routes have been selected according to traffic importance. Hydrographic information will lead to the decision regarding dredging and at the sometime will ensure frequent and smooth navigation. Once comprehensive hydrographic survey is conducted and digital charts are prepared, regular updating of the charts will be easier in terms of time and cost. Of the major ten routes the Bhairab-Chhatak-Sylhet route is already included in a project to be implemented by BIWTA. Approval of the project by GOB is at the final stage, awaiting approval of the ECNEC. As such this route was not included in the MPHA.		
Lead Implementing Agency	Bangladesh Inland Water Transport Authority (BIWTA)		
Supporting Agency	CEGIS		
Cost in BDT	90 lakh		

Strategic Thematic Area **Improved physical infrastructure**

Development Area **Transportation** **TR-14** **Priority - High**

Project Title **Construction of terminal buildings at 15 major passenger stations**

Location

	Place	Upzila	District
1	Bhairab Bazar	Bhairab Bazar	Kishoreganj
2	Astagram	Astagram	Kishoreganj
3	Chamta	Karimganj	Kishoreganj
4	Mithamoin	Mithamoin	Kishoreganj
5	Ajmiriganj	Ajmiriganj	Habiganj
6	Markuli	Baniachong	Habiganj
7	Lakhai	Lakhai	Habiganj
8	Balaganj	Balaganj	Sylhet
9	Bholaganj	Companiganj	Sylhet
10	Chhatak	Chhatak	Sunamganj
11	Sunamganj	Sunamganj	Sunamganj
12	Mohanganj	Mohanganj	Netrakona
13	Ghaglajuri	Khaliajuri	Netrakona
14	Netrakona	Netrakona	Netrakona
15	Ashuganj	Ashuganj	Brahmanbaria

Key Objectives Provide improved passenger facilities like waiting rooms, toilets, drinking water, restaurant etc. and storm warning signal

Description There are four inland ports and 205 landing stations in the haor area. No terminal building has so far been developed except one at Narsingdi. At the proposed places the average passenger handling per day in more than 2000. The passenger facilities on the pontoons are very poor. Passengers are to wait for the vessels on the street or elsewhere. Terminal buildings not only serve the passengers providing waiting rooms, toilets, drinking water, tea stalls etc. at the same time these serve as an unit to monitor and regulate the movement of the passenger vessels and enforce the safety regulations as well. Storm warning signals are hoisted in the terminal buildings. Digital display of storm warning signal and arrival/departure time of vessels will enhance the safety and convenience of passengers. Such facilities will attract more passengers in inland navigation.

Lead Implementing Agency Bangladesh Inland Water Transport Corporation (BIWTC)

Supporting Agency

Cost in BDT 2500 lakh

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Transportation**	**TR-15**	**Priority - Medium**

Project Title **Development of parking yards, storage facilities and security walls at 13 stations**

Location

	Place	Upzila	District
1	Bhairab Bazar	Bhairab Bazar	Kishoreganj
2	Austagram	Austagram	Kishoreganj
3	Chamta	Karimganj	Kishoreganj
4	Sylhet	Sylhet	Sylhet
5	Lakhai	Lakhai	Habiganj
6	Balaganj	Balaganj	Sylhet
7	Bholaganj	Companiganj	Sylhet
8	Chhatak	Chhatak	Sunamganj
9	Sunamganj	Sunamganj	Sunamganj
10	Mohanganj	Mohanganj	Netrakona
11	Ghaglajuri	Khaliajuri	Netrakona
12	Netrakona	Netrakona	Netrakona
13	Ashuganj	Ashuganj	Brahmanbaria

Key Objectives Expeditious loading/unloading of cargo, removal of vehicular congestion and ensure safety of the cargo

Description There exist no storage facilities in inland ports and landing stations located in the haor districts. However there are few private warehouses at some places like Ashuganj, Bhairab and Chhatak. Cargo is stacked in open places even upon the road pavements. There is no arrangement to protect the cargo from rain of other natural calamities. Consignees or cargo owners have to take the responsibilities by themselves of the cargo from any risk. No security wall exists anywhere around the place of cargo handling activity. This causes a serious lack of security and increase the opportunity of pilferage. No parking yards have so far been developed in any landing station. Trucks and buses are generally queued on approach roads which causes congestion. For an improved cargo handling system those are very much required. 13 stations in this regard have been selected as major consolidation and distribution centers of cargo. Development of these facilities will facilitate the freight movement and will bring about a discipline and safety and security of the cargo handling.

Lead Implementing Agency Bangladesh Inland Water Transport Corporation (BIWTC)

Supporting Agency

Cost in BDT 2500 lakh

Education

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-01**	**Priority - Very High**
Project Title	**Establishment of Community-based Multi grade Learning Centers**		
Location	All 69 upazilas		
Key Objectives	Provision of access to pre-primary and primary level education for the ultra-poor and inhabitants of remote area		
Description	The current literacy rate of the country is 54.8%, which means almost half of the people of this country is illiterate. The situation is worse in the haor region. The literacy rate here is 51% on average. The haor region is still to achieve the MDG and OPP goal of 100% literacy by 2017. The Master Plan of Haor Area has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project will initiate in 2012/13 and end in 2019/20. The scope of work includes establishment of multi grade (pre-primary to class five) system based learning centers; recruitment of new teachers who, apart from taking regular classes, will provide basic education to illiterate mothers for 2 days (1 hour per day) each week; and one week long training Programmes to train school teachers on teaching methods for learning centers.		
Lead Implementing Agency	Directorate of Primary Education (DPE)		
Supporting Agency			
Cost in BDT	5,064 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-02**	**Priority - High**
Project Title	**Community-based School Feeding Programme**		
Location	Small communities with less than 100 families and which are inaccessible by road		
Key Objectives	Increasing opportunities for education for the ultra-poor and inhabitants of remote area of the haor region		
Description	Poor children often miss school for being engaged in different household chores. School attendance in remote area is very low specially in poverty stricken haor area. The Master Plan of Haor Area has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project will be initiated in 2017/18 and end in 2021/22. The scope of work includes identification of learning centers where the school feeding Programme will be initiated; selection of factories for collection of biscuits; selection of NGO for distribution; and quality control and monitoring of the feeding project.		
Lead Implementing Agency	Directorate of Primary Education (DPE)		
Supporting Agency	NGO and private company		
Cost in BDT	2,365 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-03**	**Priority - Very High**
Project Title	**Establishment of Primary Schools**		
Location	A total of 349 primary schools in 7 districts		
Key Objectives	Ensuring basic education for all in the haor region		
Description	Access to primary education for children of the haor area will improve the illiteracy rate. The Master Plan of Haor Area has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project will be initiated in 2012/13 and end in 2014/15. The scope of work includes find suitable sites for new primary schools; survey for identifying the category or type of schools that will be constructed based on flood level; design the schools based upon the survey findings; and establishment of new primary schools.		
Lead Implementing Agency	Directorate of Primary Education (DPE)		
Supporting Agency	Local Government Engineering Department (LGED)		
Cost in BDT	15,007 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-04**	**Priority - High**
Project Title	**School Boat Facilities for Inaccessible Area**		
Location	All schools and learning centers located in remote area and inaccessible by roads		
Key Objectives	Increasing accessibility to schools during monsoon for the ultra-poor and inhabitants of remote area of the haor region		
Description	The floodplains of the haor area went under water during the monsoon and it becomes impossible to travel without the means of boats. There are also some parts of the haor area that are not connected with roads and there have been unfortunate incidents of school children being drowned while trying to reach school. The Master Plan of Haor Area has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project, proposing the use of boating facilities for school children, will be initiated in 2017/18 and end in 2024/25. The scope of work includes identification of schools/learning centers that require transportation facilities for children; zoning of different area in which the service will be provided; selection and hiring of individuals/agencies for operation and maintenance of boating services under a fixed budget package contract; and monitoring of the service by the school committee.		
Lead Implementing Agency	LGI		
Supporting Agency			
Cost in BDT	12,595 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-05**	**Priority - Medium**
Project Title	**Awareness Generation Programmes on Gender Discrimination**		
Location	All the 539 haor unions located in 60 haor upazilas-Brahmanbaria district (Akhaura, Brahmanbaria Sadar, Nasirnagar, Sarail), Habiganj district (Ajmiriganj, Bahubal, Baniachong, Chunarughat, Habiganj Sadar, Lakhai, Madhabpur, Nabiganj), Kishoreganj district (Austagram, Bajitpur, Bhairab, Itna, Karimganj, Katiadi, Kishoreganj Sadar, Kuliar Char, Mithamoin, Nikli, Pakundia, Tarail), Maulvibazar district (Barlekha, Juri, Kulaura, Maulvibazar Sadar, Rajnagar, Sreemangal), Netrakona district (Atpara, Barhatta, Kalmakanda, Kendua, Khaliajuri, Madan, Mohanganj), Sunamganj district (Bishwambharpur, Chhatak, Dakshin Sunamganj, Derai, Dharampasha, Dowarabazar, Jagannathpur, Jamalganj, Sulla, Sunamganj Sadar, Tahirpur), Sylhet district (Balaganj, Beani Bazaar, Bishwanath, Companiganj, Dakshin Surma, Fenchuganj, Golapganj, Gowainghat, Jaintapur, Kanaighat, Sylhet Sadar, Zakiganj)		
Key Objectives	Ensuring gender parity in primary, secondary and higher level education in the haor area		
Description	Women comprise nearly 50% of the total population and play an important role in the family and society. Lack of education, poverty etc. accelerate gender discrimination. Gender equity is required to attain 100% literacy that will contribute towards poverty reduction and socio economic development. The Master Plan of Haor Area has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project will be initiated in 2022/23 and end in 2024/25. The scope of work includes workshop/training to promote female education, to raise awareness for female education and recruitment of female teachers up to 50%.		
Lead Implementing Agency	Directorate of Primary Education (DPE)		
Supporting Agency	Islamic Foundation, Hindu Religious WCIF and Center for Environmental and Geographic Information Services (CEGIS)		
Cost in BDT	94 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-06**	**Priority - High**
Project Title	**Vocational Training for Development of Skilled Labour Force**		
Location	50 selected vocational institutes		
Key Objectives	Increasing skilled labour force in the haor area for income generation		
Description	Skilled labour, which makes a huge contribution to the GDP, is required to pursue regional development. Skill-based training Programme can foster dynamism in post literacy activities through continued education Programme and skill development. The Master Plan of Haor Area has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project will be initiated in 2017/18 and end in 2021/22. Under this project, training Programmes will be arranged in some selected vocational training institutes with a focus on developing skills for income generation. Training will be given on the following 4 major trades: mobile phone repair and maintenance, water pump repair and maintenance, electrical (TV, fridge etc.) & electronic goods repair and maintenance, and electrical wiring of houses. Students from haor area will be encouraged to take vocational trainings.		
Lead Implementing Agency	Directorate of Technical Education (DTE)		
Supporting Agency			
Cost in BDT	3,600 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Education**	**ED-07**	**Priority - Medium**
Project Title	**Establishment of High Schools, Colleges and Madrasas**		
Location	408 no of high school, 114 no of college and 143 no of madrasa covering 7 districts of haor		
Key Objectives	Provision of higher level education for haor children and encouraging spiritual views among the students through madrasa-based education		
Description	The haor region is lagging behind in the education sector. Along with primary schools there is a need for higher educational institutions such as high schools and colleges. Being a Muslim dominated country, there is also a need for more madrasas. The Master Plan of Haor Area aims to fulfill these requirements through this project. The Master Plan has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to education, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan hopes to ensure poverty reduction and socio-economic development through attainment of education. The project will be initiated in 2022/23 and end in 2029/30. The scope of work includes finding suitable sites for new schools, colleges and madrasas; survey for identifying where they will be constructed based on the survey on flood level; design the institutions based upon the survey findings; and establishment of schools, colleges and madrasas.		
Lead Implementing Agency	Directorate of Secondary and Higher Education (DSHE)		
Supporting Agency	Local Government Engineering Department (LGED)		
Cost in BDT	33,250 lakh		

Health

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-01**	**Priority - Very High**
Project Title	**Upgradation/Development of Upazila Health Complex (UHC) and Upazila Health & Family Welfare Center (UHFWC)**		
Location	Seven haor districts		
Key Objectives	Improvement of health facilities in the haor area with provision of general health care services		
Description	There are not enough hospitals and family welfare centers in the haor districts. The condition of these facilities has remained poor mainly due to the natural settings of the haor region including its huge water area and scarcity of land. The haor people do not have good access to proper health care and so there is a need to develop these facilities to help eliminate/control diseases and reduce morbidities and mortalities, especially of women, infants and children. The haor districts have district level hospitals and the government has already established UHCs in 58 haor upazilas. However, recently 4 new upazilas have been created: Ashuganj upazila in Brahmanbaria district, Juri upazila in Maulvibazar district, Dakshin Sunamganj upazila in Sunamganj district and Dakshin Surma in Sylhet district. These new upazilas would require UHCs to be constructed. It is also necessary to set up FWCs in unions that do not have any, while rural dispensaries or MCHs in those unions would have to be upgraded as well. The 8-year project will be initiated in 2012/13 and end in 2019/20. The project activities will include upgrading of rural dispensaries to UHFWC and construction of new UHFWCs; upgrading of UHCs from 31-bed to 50-bed facilities; establishment of new 31 bed UHCs and filling up of vacant positions (doctors, nurses, technologists, and field staff) in all UHCs and UHFWCs.		
Lead Implementing Agency	DHE		
Supporting Agency			
Cost in BDT	82,190 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-02**	**Priority - Very High**
Project Title	**Maternal and Reproductive Health Development Programme**		
Location	All 69 upazilas and below level facilities of the haor region		
Key Objectives	Improvement of maternal and child health and reduction of maternal mortality		
Description	Maternal mortality is a major concern which occurs for reasons such as poor health condition and unsafe delivery by unskilled birth attendants and delay in delivery process. The majority of the women (62% to 85%) in the haor region are assisted by the traditional Birth Attendant (TBA) but delivery conducted by Community Skilled Birth Attendants (CSBA) is only 13.4% on average in the haor districts whereas the national average is 18%. Without proper assistance many infants and even their mothers succumb to death. There is an urgent need to ensure the development of the health sector and improve the nutrition status of the haor region to reduce maternal and infant mortalities and eliminate/control diseases. Reduction of maternal mortality and improvement of maternal health are major targets in the Millennium Development Goals (MDG), Outline Perspective Plan, Sixth Five Year Plan and Health, Nutrition, Population Sector Programme (HNPSP). The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The 3-year long project will be initiated in 2012/13 and end in 2014/15. The project activities will include arrangement for training to birth attendants, CSBAs and provision of delivery kits for safe delivery at home; scaling up of Demand Side Financing (DSF) at all haor upazilas; and equip all haor upazilas with comprehensive EMOC services, trained human resources, logistics supply and ambulance services.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	DGFP		
Cost in BDT	571 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-03**	**Priority - Very High**
Project Title	**Child Mortality Reduction Programme**		
Location	All 69 upazilas of the haor region and below level facilities		
Key Objectives	Improvement of child health		
Description	The average Infant Mortality Rate (IMR) and Under Five Mortality Rate (U5MR) for haor districts are 57 and 76 which is higher than the national average of 49 and 64, respectively. Child mortality in the haor area is high because of poor health facilities, inadequate communication system, lack of maternal knowledge of the haor people, unsafe delivery by unskilled birth attendants, delay in delivery process etc. There is a need to ensure the development of the health sector and improve the nutrition status of the haor region to reduce morbidities and mortalities, especially of infants and children. The situation calls for an integrated approach that holistically addresses the problems related to poor socio-economic and environmental concerns. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihoods of the poor people of the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. Reduction of infant mortality is a major target in the Millennium Development Goals (MDG), Outline Perspective Plan, Sixth Five Year Plan and Health, Nutrition, Population Sector Programme (HNPSP). The Child Mortality Reduction Programme is expected to strengthen & sustain routine immunisation to reduce child mortality. The 8-year long project will be initiated in 2012/13 and end in 2019/20. The scope of work will include routine immunisation and disease surveillance activities: AFP, NT, measles, AEFI, introduction of new and under used vaccines: Td, Pneumococcal, Rotavirus, cholera, MMR/MR, etc. It will also cover supplementary immunisation activities: observance of the National Immunisation Day (NID), measles campaign, MNT campaign, and expansion of IMCI and CBIMCI in upazilas, as well as maintenance and strengthening quality of services.		
Lead Implementing Agency	Directorate General of Health Services		
Supporting Agency	Director General of Family Planning		
Cost in BDT	16,725 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-04**	**Priority - High**
Project Title	**Training Programme on Basic Education on Nutrition**		
Location	All 60 haor upazilas and 539 unions		
Key Objectives	Improvement of the nutritional status of the haor people		
Description	The people living in the haor and adjoining areas are the most affected population by flash flood and most of them live below the poverty line. The situation calls for an integrated approach that holistically addresses the problems related to the socio-economic and environmental concerns of the haor people. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plan on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The 3-year project will be initiated on 2017/18 and end 2019/20. This project is expected to improve the nutrition status of the haor region to reduce morbidities and mortalities, especially of infants, children and mothers; eliminate/control diseases; and reduce the population growth rate. Through in service training under this project around 26950 trainees will receive training. The project activities will include teachers' training on a) Nutrition education-Breastfeeding, Weaning Diet (WD), Promotional Programme on nutrients; b) Supplementary food for school children and malnourished children; c) Mother care for severely malnourished children; d) Improvement of health and nutrition by providing comprehensive health care to school students, teachers & other staff and to maintain healthy school environment.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	DGFP and NNP		
Cost in BDT	105 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-05**	**Priority - High**
Project Title	**Development of Service Delivery System of Hospitals**		
Location	All 69 upazilas and below level facilities of the haor region		
Key Objectives	Provision of quality health care services for better health		
Description	The people living in the haor and adjoining areas are the most affected population by flash flood and most of them live below the poverty line. The situation calls for an integrated approach that holistically addresses the problems related to the socio-economic and environmental concerns of the haor people. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plan on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. There are not enough health facilities in the haor region. Moreover, the condition of the existing hospitals is very poor and the poor quality of services contributes more to spreading diseases than controlling them, which worsens the health situation. There is an immediate need for enhancing the quality of hospital services to improve health care provision. The 8-year project will be initiated in 2017/18 and end in 2024/25. The project activities will include provision of operating cost and other related expenditure under the development budget for public hospitals; timely and adequate supply of medical and surgical requisites; and improvement of management and accountability.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	CEGIS		
Cost in BDT	22,226 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-06**	**Priority - Medium**
Project Title	**Capacity Development of Non-government, Non-profit Health Care Agencies using Private-Public-Partnership (PPP)**		
Location	All 69 upazilas and below level facilities		
Key Objectives	Strengthening of NGO and non-profit health care agencies		
Description	The people living in the haor and adjoining areas are the most affected population by flash flood and most of them live below the poverty line. The situation calls for an integrated approach that holistically addresses the problems related to the socio-economic and environmental concerns of the haor people. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plan on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The government has extended an all-out effort for the development of the health sector. However, the government cannot provide all the necessary services on its own. NGO support is indispensable in this regard which can go a long way in promoting and providing health care to the rural masses. There are a number of NGO that are working in the health sector in the haor districts. This project aims at strengthening the capacity of non-government and not for profit health care agencies to ensure optimum patient care in the haor region. The 3-year project will be initiated in 2022/23 and end in 2024/25. It will include activities like: strengthening of accreditation services; training of human resources; and ensuring optimum patient care by providing logistic support and technical support to non-government facilities.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	NGO		
Cost in BDT	400 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-07**	**Priority - Medium**
Project Title	**Expansion of Alternative Medical Care Services**		
Location	All 69 upazilas and below level facilities		
Key Objectives	Improvement of health with the expansion of alternative (Unani, Ayurvedic & Homeopathic systems of medicine) health care services		
Description	The people living in the haor and adjoining areas are the most affected by flash floods and most of them live below the poverty line. The situation calls for an integrated approach that holistically addresses the problems related to the socio-economic and environmental concerns of the haor people. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plan on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. As the haor region lacks sufficient health care facilities every available health care option should be explored. Alternative medical care such as Unani, Ayurvedic & Homeopathic system of medicine is less expensive and has been encouraged and stressed in the National Rural Development Policy, 2001. This project aims at improving the health of the haor population through general health care services and by achieving treatment coverage up to 35% through Unani, Ayurvedic & Homeopathic systems of medicine. The project will include activities such as service delivery and maintenance of herbal gardens in public facilities; appointment of AMC health personnel at District Hospitals (DH) and Upazila Health Complexes (UHC); awareness building through supply of BCC materials (billboards, posters, leaflets, stickers. AV CD etc.); and strengthening of AMC services and supply of drugs.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	LGED		
Cost in BDT	1,200 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-08**	**Priority - Medium**
Project Title	**Strengthening Supervision and Monitoring System of Health Care Services**		
Location	All 69 upazilas of the haor region		
Key Objectives	Development of supervision and monitoring system to ensure quality health care services.		
Description	The people living in the haor and adjoining areas are the most affected population by flash flood and most of them live below the poverty line. The situation calls for an integrated approach that holistically addresses the problems related to the socio-economic and environmental concerns of the haor people. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. There is a lack of sufficient number of health facilities in haor area. The existing facilities also lack adequate number of health personnel such as doctors and nurses. The quality of services the patients receive, especially in the rural area, is very poor and often worsens the disease burden. A proper monitoring system needs to be in place to ensure good quality of health care services at the existing health care facilities. The project activities will include: development of a monitoring system; training on monitoring and supervision; development of a Database Management System (DBMS); supervision and regular monitoring using a standard checklist and regular feedback into the DBMS.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	Director General of Family Planning		
Cost in BDT	1,650 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-09**	**Priority - Very High**
Project Title	**Establishment of Community Clinics (CC)**		
Location	A total of 580 CCs covering all haor districts (Brahmanbaria: 103, Habiganj: 60, Kishoreganj: 94, Maulvibazar: 50, Netrakona: 70, Sunamganj: 93, Sylhet: 110)		
Key Objectives	Improvement of health with the provision of general health care services and availability of services at the doorstep of the community people		
Description	Community Clinics plays a vital role in health and family welfare in rural area, as they are the venues where primary health, nutrition and population Programmes are conducted for the rural population. The government policies and plans stress the need to bring health care services at the doorstep of rural poor while the Outline Perspective Plan calls for community clinics to be established and activated in all wards of all unions. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. This project proposed in the Master Plan is expected to revitalise the community health care system in the haor districts. The poor and marginal people and the people living in remote area having no access to health services will be the main focus of this project. The government has already initiated a 5-year project titled "Revitalisation of Community Health Care Initiatives in Bangladesh" since June, 2010. The project proposed in the Master Plan will be carried out as a continuation of the government project. The 8 year long proposed project will be initiated in 2012/13 and end in 2019/20. The scope of work of the project will include: identification of suitable locations for the establishment of community clinics; construction of Community Clinics at village level; provision of necessary logistics support; provision of laptops for telemedicine services; and appointment of health personnel. The project will also support the formation of community groups comprising 9-11 people to operate and ensure effective functioning of the community clinics.		
Lead Implementing Agency	DHE		
Supporting Agency			
Cost in BDT	4,060 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-10**	**Priority - Very High**
Project Title	**Mobile Clinic and Emergency Medical Services for the Community**		
Location	All unions in all haor upazilas		
Key Objectives	Provision of health care services to the community people in remote inaccessible area and ensuring emergency services during and after disasters		
Description	The existing health services in the haor areas are not good or much accessible. Local hospitals and community clinics are located far from paras/villages and the people cannot reach the health centers easily because of poor Transportation facilities. Access to hospitals and other health institutions is heavily influenced by seasonal variation. During monsoon roads are submerged and become unfit for travel whereas in the dry season boats and other vehicles cannot be used. During Autumn the situation becomes worse as both the roads and waterways cannot be used as the roads become muddy and the waterways have insufficient water flow respectively. Lack of services in emergencies is another major pitfall of health services in the haor area. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. Under this project mobile clinics and medical teams will provide services in such areas which are outside the perimeter of the existing government health care facilities. The emergency medical teams will also give immediate assistance during and after disasters. The project will also arrange boating facilities for the field visits of government health and family planning workers and deploy boat ambulances to provide emergency services.		
Lead Implementing Agency	Director General of Health Services.		
Supporting Agency	Private Agency		
Cost in BDT	14,400 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-11**	**Priority - High**
Project Title	**Establishment of e-Health Services and Facilities up to Community Level**		
Location	All of the 69 upazilas		
Key Objectives	Access to health information for prevention/control of diseases, proper health facility planning and project management		
Description	Opportunities for access to health services and facilities in the haor region are rare. There is a need to improve health services especially in the remote and backward places where there is a lack of both health service infrastructures and resource persons. E-health services are envisioned to modernise health care facilities and bring about positive technological changes in the health information management system. In public health facilities all records for patients will be maintained electronically and tracked from other hospitals through establishment of e-Health services. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. e-health is one of the prerogatives of building a digital Bangladesh. In a country like Bangladesh, health related data are not properly collected and maintained, which is essential for proper health facility planning and project management. The project aims at establishing an e-health system at the facilities for grassroot level and providing e-health care services to the masses. The scope of work will include development of a computer and internet based information system and software; training of personnel on the operation and maintenance of the information system and dissemination of e-health information; and expansion of mobile phone based health services to community clinics.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS)		
Cost in BDT	152 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-12**	**Priority - High**
Project Title	**Strengthening Referral System of Health Care Services from Community to District Level**		
Location	All 69 upazilas		
Key Objectives	Improvement of health care service delivery system in Community Clinics (CC), Upazila Health and Family Welfare Centers (UHFWC), Upazila Health Complexes (UHC) and District Hospitals (DH)		
Description	The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The facilities and services available in the clinics and hospitals extending from community to district level vary in scale and quality. Depending on the severity of the disease, patients are often referred to take treatment at higher level institutions such as from the CC to the UHFWC, from the UHFWC to the UHC and from the UHC to the DH. Thus, this project has been proposed to ensure accessibility of the referred from the lower level to the highest level. The scope of work will include development and supply of different types of forms of the referral system; recruitment of service providers for health facilities; monitoring of the Programme; refreshing the system; and research on strengthening health services.		
Lead Implementing Agency	Director General Health Services		
Supporting Agency	Director General of Family Planning		
Cost in BDT	90 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-13**	**Priority - High**
Project Title	**Programme on Environmental and Climatic Health Hazard**		
Location	All of the unions in 69 upazilas		
Key Objectives	Control of diseases, which arise from climate change, environmental and occupational health hazard and also strengthening of information base/evidence on health hazards		
Description	Diseases both communicable and non-communicable are prevalent in the haor area. The communicable and non-communicable diseases are Asthma, Peptic ulcer, Anemia, ARI, worm infection, Hypertension, Diarrhea, malnutrition, skin diseases, Dysentery, Malaria, Pneumonia, and Fever (influenza). Emerging and re-emerging diseases due to environmental hazards, climate change and occupational health hazards need to be controlled to tackle health problems before it becomes too severe and to ensure the well-being of people. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The project will include activities like survey, data collection and developing information base on climate change related diseases and occupational health hazards; comprehensive research on climate change related diseases and occupational health hazards; hazard mapping and preparation of reports; development of a strategy to deal with climate change related diseases and occupational health hazards; awareness generation on risks, precautionary, preventive and adaptive measures against climate change related diseases and occupational health hazards		
Lead Implementing Agency	Director General of Health services		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS)		
Cost in BDT	3,664 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-14**	**Priority - High**
Project Title	**Human Resource Development Programme for Doctors and Nurses**		
Location	All unions in 69 upazilas		
Key Objectives	Development of human resources in the health sector		
Description	There is a shortage of specialised doctors and trained medical officers at the existing facilities of the haor region. Periodic training is required to develop the capacity of health personnel. Different training Programmes will be arranged including clinical training, non-clinical training, management training, IT training etc. Some basic training should be given prior to the deployment of any health personnel. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plan on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The proposed project would ensure quality health services and proper functioning of the health care facilities through capacity development of professionals namely doctors, nurses, attendants and other relevant staffs working in health institutions. The project will be initiated in 2017/18 and end in 2019/20. The project will include activities like training needs assessment; availability of training institutions, equipment and training aids from national to local levels; implementation of different clinical training, non-clinical training, management training, IT training, awareness development training regarding PHC, medical equipment operational and maintenance training, and overseas short training, specialised training, and seminars /workshops; The activities will also include monitoring and supervision of the training activities and post training performance monitoring of health service providers.		
Lead Implementing Agency	Director General of Health services		
Supporting Agency	DGFP		
Cost in BDT	250 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-15**	**Priority - Medium**
Project Title	**Medical Waste Management in District Hospitals and Upazila Health Complexes**		
Location	All 7 District Hospitals and 62 Upazila Health Complexes (except for sadar upazilas).		
Key Objectives	Ensuring safe, environment friendly and cost-effective management of waste collected from different health facilities		
Description	Medical waste is hazardous for human health and in many cases has a toxic or carcinogenic effect. Open dumping in the river system or water bodies contaminates and pollutes the water and the surrounding environment. It may also contaminate the food chain or spread communicable diseases. Hence, establishment of health care institutions should be backed up by a well-developed waste management plan to avoid any type of health hazard. The haor area is most vulnerable in this aspect due to regular flooding in the rainy season. So, it is important to manage medical waste in a proper way. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The project will be initiated in 2022/23 and end in 2029/30. The project activities will involve the development of a medical waste management system in all health care institutions including a) Identification of the type of waste, b) Waste segregation by type into 3 containers coloured Green, Yellow and Red, and c) Disposal of waste through burying or incineration. Other activities will include incorporating local government institutions in medical waste management activities using modern techniques and awareness building Programmes on waste collection and disposal.		
Lead Implementing Agency	Director General of Health Services		
Supporting Agency	Director General of Family Planning and City corporation		
Cost in BDT	1,065 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Health**	**HE-16**	**Priority - Medium**
Project Title	**Development of GIS-based Haor Health Information System (HHIS)**		
Location	All upazilas and unions of the haor region		
Key Objectives	Fulfillment of the requirement of health related spatial data for prevention/control of diseases and proper health facility planning and project management		
Description	The spatial location of health facilities at the union level is not available. Accordingly, disease profile data at upazila level, spatial data on diseases, mortality, and morbidity at union level are missing. Exact information on the existing health facilities, their condition, availability and locations, and disease profile is a pre-requisite for detailed planning. Such information will help decision makers to determine the future requirement for more facilities based on the area and population that each facility covers. Spatial information on diseases prevalent in the haor area will help delineate the pattern and identify the source and cause of the diseases thus helping to control them at source by taking effective measures. The GIS database will help identify the gaps and provide direction in building additional infrastructures. The Master Plan of Haor Area has been prepared to ensure food security, social safety nets and health care to improve the livelihood of the poor people in the haor region. As a part of the Master Plan, sectoral development plans on health and nutrition have been prepared and project portfolios have been formulated so that projects can be initiated to pursue the development of the haor region. The proposed project will be initiated in 2022/23 and end in 2024/25. It will include a survey of all the health facilities to collect their GPS locations and current status including structural condition, human resources, logistics, other infrastructures, as well as a household based sample survey to identify the prevalence of diseases including types, occurrence, number of deaths etc.; preparation of GPS corrected GIS maps of the health facilities; and preparation of GPS corrected GIS maps on diseases.		
Lead Implementing Agency	Director General of Health services		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS)		
Cost in BDT	295 lakh		

Housing and Settlement

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Housing and Settlement**	**ST-01**	**Priority - High**
Project Title	**Eco Village Platform Development for Mitigating Future Housing and Settlement Demand**		
Location	Haor upazilas		
Key Objectives	Provision of suitable and safe places for housing and settlement		
Description	The proposed village platforms have been developed by using dredge materials. In designing the Eco-Village Model, the use of indigenous techniques practised in the haor area for protecting settlement erosion due to wave attack and the average expansion rate of settlement (rate: 0.01 ha/Yr) have been considered. This rate has been estimated by using image analysis tools and techniques along with current societal facilities in the haor area; use of biogas plant technology for energy saving and prevention of deforestation of the haor area; use of solar energy for sustainable use of renewable resources in haor area; and practice of economic activities such as duck farming, cottage industry etc. The flora and fauna ecosystem of the haor region, area planning technique and planning standard, and all types of standard village features such as walkways, market facilities, graveyards, ghats and other facilities have also been considered in the project.		
Lead Implementing Agency	LGRD		
Supporting Agency	Bangladesh Haor and Wetland Development Board (BHWDB)		
Cost in BDT	9,100 lakh		

Social Services

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Social Services**	**SS-01**	**Priority - High**
Project Title	**Construction of Growth Centers/Rural Markets at upazila level**		
Location	Brahmanbaria district (Upazila: Akhaura, Ashuganj, Brahmanbaria Sadar), Habiganj district (Upazila: Ajmiriganj, Baniachong, Habiganj Sadar), Kishoreganj district (Bhairab, Kuliar Char), Maulvibazar district (Upazila: Maulvibazar Sadar), Sunamganj district (Upazila: Sunamganj Sadar), Sylhet district (Upazila: Jaintapur, Sylhet Sadar)		
Key Objectives	Increasing market facilities for local people and creating opportunity for quick purchase of local products		
Description	Infrastructural development of local markets is very essential for the haor region which is not properly done yet in all upazilas. Farmers in the haor area cannot get proper price of their products due to the lack of marketing facilities. Local consumers are also deprived of quality product. Paddy and fish are the two main products of the haor area but are sold at low price due to the unavailability of customers. Construction of Growth centers and rural markets will attract local and non-local businessmen for establishing big markets. Transaction flow of daily commodities and products will be increased. Development of local infrastructure for purchasing local products is essential for economic development. Most of the haor upazilas have very poor infrastructure. As a result, local producers are deprived from getting the correct price of their products. Most of the catch from capture fisheries comes from the haor area, so the region has huge potentials if growth centers at upazila level could be established to ensure smooth marketing of haor products. Hence, the Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to local market facilities, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project proposed in the Master Plan aims to ensure employment generation, and socio-economic and structural development through increase of market facilities. The project will be initiated in 2014/15 and end in 2031/32. The scope of work will involve identification of the locations for establishing growth centers; construction of infrastructure; and handover of responsibilities related to operation and maintenance to the local government. A total of 38 and 68 growth centers/rural markets will be set up at upazila level by the year 2020 and 2030, respectively.		
Lead Implementing Agency	Local Government Engineering Department (LGED)		
Supporting Agency	Private companies through PPP		
Cost in BDT	694 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Social Services**	**SS-02**	**Priority - Medium**
Project Title	**Construction of Food Godowns**		
Location	Brahmanbaria district (Upazila: Ashuganj, Bancharampur, Brahmanbaria Sadar, Kasba, Nabinagar, Nasirnagar, Sarail), Habiganj district (Upazila: Ajmiriganj, Bahubal, Baniachong, Chunarughat, Habiganj Sadar, Lakhai, Madhabpur, Nabiganj), Kishoreganj district (Austagram, Bajitpur, Bhairab, Hossainpur, Itna, Karimganj, Katiadi, Kishoreganj Sadar, Kuliar Char, Mithamoin, Nikli, Pakundia, Tarail), Maulvibazar district (Upazila: Barlekha, Juri, Kamalganj, Kulaura, Maulvibazar Sadar, Rajnagar, Sreemangal, Netrakona district (Upazila: Atpara, Barhatta, Durgapur, Kalmakanda, Kendua, Madan, Mohanganj, Netrakona Sadar, Purbadhala), Sunamganj district (Upazila: Bishwambharpur, Chhatak, Dakshin Sunamganj, Derai, Dharampasha, Dowarabazar, Jagannathpur, Jamalganj, Sulla, Sunamganj Sadar, Tahirpur), Sylhet district (Upazila: Balaganj, Beani Bazar, Bishwanath, Companiganj, Dakshin Surma, Fenchuganj, Golapganj, Gowainghat, Kanaighat, Sylhet Sadar, Zakiganj)		
Key Objectives	Increase storage facilities and helping the government to collect food grain for national reserve		
Description	Construction of food godown is essential for storage of local food grains both at local and national levels. However there are not enough storage facilities in the haor area. Boro production in the haor region is higher than any other part of the country, but local farmers cannot preserve their food grain properly in the harvest season due to insufficient storage facilities. As a result they have to sell their products at low price. In many cases their crops are damaged for not being sold on time. The local people also cannot get products as per their requirement. So construction of food godowns is essential in the haor districts for preservation of food grain and other valuable agricultural products and for the government to collect a huge amount of food grain to reach the target of the 'Food grain Collection Programme'. The Master Plan of Haor Area has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to Social Services, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project proposed in the Master Plan aims to ensure food security, ascertain right price to local farmers, and improve socio-economic development through development of facilities. Adequate storage facilities will ensure fair crop price and at the same time provide food security during and after disasters. Consequently, local people will get necessary products and the government would be able to collect a huge amount of food grain. The project will be initiated in 2022/23 and end in 2029/30. The scope of work will include identification of locations for construction of Food godowns and other storage infrastructure, and hand over of operation and maintenance responsibilities to the Food Department. Under this project initially 200 food godowns will be constructed out of the required 222 godowns.		
Lead Implementing Agency	Department of Food		
Supporting Agency			
Cost in BDT	10,000 Lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Social Services**	**SS-03**	**Priority - Very High**
Project Title	**Upgradation/Construction of Religious Prayer Houses, Graveyards and Cremation Grounds**		
Location	Selected locations in all haor districts		
Key Objectives	Create congenial environment for people of every religion and ensuring proper burial of the deceased		
Description	Most of the religious establishments in the haor areas are vulnerable and undeveloped. During the rainy season, the local inhabitants have to face various problems in burying or cremating the deceased due to inundation or near inundation of these religious grounds, inadequate space etc. Hence, a Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to religious infrastructural development, proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure religious facilities through upgradation or construction of religious infrastructures. The project will be initiated in 2012/13 and end in 2019/20. The scope of work will include identification of places for development of new religious infrastructures and existing religious infrastructures that requires immediate repair or upgrading; upgradation/construction of infrastructures and connecting roads; construction of new graveyards and cremation grounds; and handing over of responsibilities for operation and maintenance to local communities. Through this project 100 religious structures will be upgraded or newly constructed and 200 graveyards and cremation grounds will be built.		
Lead Implementing Agency	LGED		
Supporting Agency			
Cost in BDT	3,000 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Social Services**	**SS-04**	**Priority - High**
Project Title	**Awareness Generation Programme for Spiritual Leaders**		
Location	Selected unions in all upazilas of the haor districts		
Key Objectives	Orientation of spiritual leaders on important issues like basic education and health care, social behaviour, natural resource management, gender equity, child marriage, dowry, etc.		
Description	The haor area is endowed with many natural resources like fishes, crops, water, forests etc. Many of these natural resources are deteriorating due to over extraction, pollution etc. Moreover, as the haor area is detached from the mainland there most service facilities are unavailable. Poverty, illiteracy, lack of self-awareness coupled with gender discrimination lead to crime and violence thereby creating social disorder and even result in death. Spiritual leaders can play an important role in bringing social peace and generating mass awareness as the people of Bangladesh are religious minded. Especially in rural area, there is a tendency of seeking advice and guidance from spiritual leaders. Therefore, spiritual leaders can easily contribute in sensitising local people about sustainable use of natural resources, basic education and health care, social behavior, gender equity, child marriage, dowry and other issues of contemporary importance. The Master Plan has been prepared to achieve the set goals of government policies, outlining strategies to fulfill the gaps pertaining to social services, proposing sectoral reforms and projects with a special focus on remote and illiterate area. The project under the purview of the Master Plan aims to ensure sustainable management through increased awareness among spiritual leaders as well as local people. The project will be initiated in 2017/18 and end in 2024/25. The scope of work will include an awareness campaign for local spiritual leaders and distribution of relevant literatures and necessary materials.		
Lead Implementing Agency	Islamic Foundation, Bangladesh		
Supporting Agency	NGO		
Cost in BDT	126 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Social Services**	**SS-05**	**Priority - Medium**
Project Title	**Construction of Playgrounds and Supply of Sports Gears**		
Location	Selected unions in all haor upazilas		
Key Objectives	Provision for conducting sports activities for physical exercise and mental refreshments		
Description	There are little recreational sites and playgrounds in the haor area. This is partly due to inundation of land during the wet season and partly because haor people are too poor to afford the costs involved in maintaining recreational centers without supply of sports gear. Hence, the Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to sports and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure physical and mental development of the haor people. The project will be initiated in 2022/23 and end in 2029/30. The scope of work will involve identifying locations for construction of playgrounds; land development for construction of playgrounds; and arrangement of logistics to local clubs and recreational centers.		
Lead Implementing Agency	LGI		
Supporting Agency	National Sports Council		
Cost in BDT	1,380 lakh		

Strategic Thematic Area	**Social safety net and improved standard of living**		
Development Area	**Social Services**	**SS-06**	**Priority - Very High**
Project Title	**Upgradation and Construction of Police Stations**		
Location	Selected upazilas in all haor districts		
Key Objectives	Ensuring good law and order situation in the haor area		
Description	Most area of the haor region are located far from the district headquarters. The distance as well as manpower shortage lack of police stations makes it difficult for the local administration to maintain law and order in remote haor area. Therefore, it is necessary to recruit sufficient manpower and establish additional police stations. The Master plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to local law and order situation, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure controlled law and order situation through upgradation of existing infrastructures and construction of new police stations where needed. The project will be initiated in 2012/13 and end in 2019/20. The scope of work will include selection of locations and construction of new police stations; investigation centers and repair and maintenance of selected police stations.		
Lead Implementing Agency	Local Government institution (LGI)		
Supporting Agency			
Cost in BDT	400 lakh		

Tourism

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-01**	**Priority - Very High**
Project Title	**Development of Mega Eco-parks**		
Location	Bholaganj, Companiganj, Sylhet, Sonarai-Champarai Bashmahal, Kamalganj, Maulvibazar		
Key Objectives	Enhancement of eco-tourism based development in the haor area and preservation of biodiversity		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. The haor area has a great scope and potentials for developing of eco-parks. For example, Madhabkunda waterfall and eco-park in Sylhet, generates nearly 100,000 tourists each year. The eco-park developed under this project will help preserve ecological components along with providing tourism facilities. The project is expected to be initiated in 2012/13 and end in 2019/20. The scope of work will involve primary selection of location; EIA & SIA studies prior to setting up the eco-park; preparation of an Eco-park Development Plan; construction of the eco-park as per the plan and construction of necessary infrastructures including roads, ropeway etc.; and preservation of bio-diversity.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	Bangladesh Forest Department and Private organizations		
Cost in BDT	200 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-02**	**Priority - High**
Project Title	**Establishment of War Museums**		
Location	Chhatak upazila in Sunamganj and Brahmanbaria Sadar upazila in Brahmanbaria district		
Key Objectives	Preservation of sites bearing historical significance related to the 1971 Liberation War for upholding its values to the future generation		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access to the spots. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. The project is expected to be initiated and end in 2017/18. The scope of work will involve identification of project site considering the physical and environmental settings of the area; collection of war memorabilia; compilation of related information in brochure form; detailed design of the war museums and construction of the museums.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	LGED		
Cost in BDT	60 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-03**	**Priority - High**
Project Title	**Establishment of Amusement Parks**		
Location	Two locations in Sylhet		
Key Objectives	Development of recreational area considering the environmental sensitivity of haor region; ensuring access of local people to the tourist facilities; generating employment; and increasing local earning and foreign exchange through tourism activities		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. The project is expected to be initiated in 2017/18 and end in 2024/25. The scope of work will involve activities like preparation of detailed design of the parks; EIA & SIA studies prior to setting up the parks; procurement of rides and fun features; construction of the parks as per design; and provision of necessary facilities for the parks, dissemination of information about the establishment.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	Private agency		
Cost in BDT	1,000 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-04**	**Priority - High**
Project Title	**Development of Tourist/Picnic Spots**		
Location	Six locations: Itna, Kishoreganj; Kuliar Char, Kishoreganj; Jamalganj, Sunamganj; Maulvibazar Sadar; Kalmakanda, Netrakona and Mohanganj, Netrakona		
Key Objectives	Development of recreational facility especially for local tourists considering the environmental sensitivity of the haor region; ensuring access of local people to the tourist facilities; generating employment; and increasing local earning and foreign exchange through tourism activities		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. The project is expected to be initiated in 2017/18 and end in 2024/25. The scope of work will include preliminary selection of spots; detailed EIA & SIA studies to finalise spot selection; and development of tourist/picnic spots and dissemination of information about the spots.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	Private agency		
Cost in BDT	60 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-05**	**Priority - Very High**
Project Title	**Construction of Bird Watch Towers**		
Location	Tanguar Haor, Sunamganj; Hakaluki Haor, Barlekha, Maulvibazar and Hakaluki Haor, Kulaura, Maulvibazar		
Key Objectives	Attracting tourists and bird watchers, and preservation of biodiversity of birds through conservation of bird habitats.		
Description	The haor area is a very important resting place for over wintering migratory birds flying in from the north. The proposed bird watch towers will be five storied with an open view at the top floor. A wooden base will connect the tower with the dry land. There will be staircases to reach the top. The top floor will be hexagonal in shape with an elongated rooftop. Therefore, the towers will stand on six columns. There will be seating arrangements at the top. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to preserve biodiversity through investing in the birds of the haor region. The project is expected to be initiated in 2012/13 and end in 2019/20. The scope of work will include preliminary selection of spots around Tanguar haor and Hakaluki haor; detailed EIA & SIA studies to finalise spot selection; construction of bird watch towers; and provision of other necessary facilities (car park, food court, binoculars, leaflets) for the towers.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	LGED		
Cost in BDT	60 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-06**	**Priority - Medium**
Project Title	**Renovation of eminent Zamindar Palaces**		
Location	Satyajit Ray homeland, Katiyadi, Kishoreganj; Ray Bahadur Shaheb House, Dakshin Surma; Khan Bahadur Shaheb House, Dakshin Surma; House of Poet Munshi Abdur Rahman, Hossainpur, Kishoreganj; House of Pir Shaheb, Netrakona Sadar and House of Rammohan Dutta, Jagannathpur, Sunamganj		
Key Objectives	Preservation of the historical places of the haor region; attracting both local and foreign tourists; and increasing tourism earnings		
Description	Zamindar palaces bear evidence of the glorious past history. They depict the story of the era when Zamindars (landlords) used to rule over the land. The year old palaces/houses of the then Zamindars are now in deplorable condition. These palaces or buildings need to be renovated or repaired and preserved as part of our historical significance. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to renovate and preserve historical sites such as zamindar palaces in the haor area. The project is expected to be initiated in 2022/23 and end in 2024/25. The scope of work will include identification of zamindar palaces that can be developed as tourist spots; repair or renovation of structures if needed; and establishment of structures (roads, car parks, refreshment corners, souvenir shops) necessary for tourist comfort without disturbing the surrounding area.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	LGED		
Cost in BDT	72 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-07**	**Priority - Very High**
Project Title	**Dolphin Sighting Tour Programme**		
Location	Dolphin track, Sylhet		
Key Objectives	Making arrangements for developing the Dolphin track as a major tourist attraction without hampering its migration route and habitat		
Description	Ganges River Dolphins (*Platanista gangetica gangetica*) occur in the Ganges-Brahmaputra river system and the Barak-Surma- Kushiyara river system of Bangladesh. The Ganges Dolphin was one of the most commonly sighted aquatic mega-fauna in the Surma-Kushiyara River system. They are listed as "endangered" by the IUCN due to probable population decline of at least 50% over the last 50 years and projected future population declines. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to promote tourism by enabling tourists to observe this rare and magnificent dolphin species. The project is expected to be initiated in 2012/13 and end in 2029/30. The scope of work will include activities like occasional arrangement of boating services along the Dolphin sighting path (without disturbing the dolphin migration path and breeding ground).		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	Private Agency		
Cost in BDT	360 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-08**	**Priority - Very High**
Project Title	**Hakaluki Haor Sightseeing Tour Programme**		
Location	Ghillecherra Bazar, Fenchuganj, Sylhet		
Key Objectives	Attracting tourists to observe the scenic beauty of Hakaluki haor		
Description	Hakaluki haor falls under the two administrative districts (Maulvibazar and Sylhet) and five upazilas (Barlekha, Kulaura, Fenchuganj, Golapganj and Juri). Some 190,000 people live in the area surrounding this haor. Its total area is approximately 18,000 ha of which beels (permanent wetlands) cover 4,635 ha. This haor represents an area demarcated as an Ecologically Critical Area and Important Bird Area declared by the Government of Bangladesh and Birdlife International for Hakaluki Haor. The ecosystem of this haor is complex, containing more than 238 interconnecting beels/Jalmohals and serving as a very important resting place for migratory birds. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to promote tourism by attracting tourists to the beauty of Hakaluki haor. Scopes of the project include guided tours by boat during monsoon and winter season without affecting the sanctity of the Hakaluki haor, migratory birds and the habitat of the Dolphins.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	Private Agency and LGI		
Cost in BDT	540 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-9**	**Priority - High**
Project Title	**Establishment of Fish Park**		
Location	Jaintapur, Sylhet		
Key Objectives	Attracting tourists to increase local and foreign earnings and preservation of fish biodiversity.		
Description	Haors are endowed with a variety of fisheries resources. A fish park, established in the haor region could help preserve biodiversity and encourage research work on and development of fisheries product. The fish park is expected to attract tourists comprising mainly researchers and scientists from home and abroad. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to help preserve biodiversity and encourage research work on and development of fisheries product. The project is expected to be initiated and end in 2017/18. The scope of work will include preliminary selection of spots; detailed EIA & SIA studies to finalise spot selection; development of artificial lake and fish park; and provision of necessary related facilities for the park.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	Department of Fisheries and Bangladesh Fisheries Research Institute		
Cost in BDT	20 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-10**	**Priority - Very High**
Project Title	**Establishment of Wildlife Sanctuary**		
Location	Companiganj, Sylhet		
Key Objectives	Preservation of wildlife biodiversity; establishment of potential tourist spots considering the environmental sensitivity of the haor area; attracting local and foreign tourists; and increasing earning from tourism		
Description	Haor areas are important natural heritage which is threatened from indiscriminate exhaustion of its resources. Swamp forests are endemic to haor area and they grow along the periphery of the haors. Such forest harbours a number of flora and fauna of ecological importance. Destruction of swamp forests outpaces the species, reduce their diversity and make them endangered. Establishment of wildlife sanctuary can help to protect the forests and its associated biodiversity. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to. The project is expected to be initiated in 2012/13 and end in 2013/14. The scope of work will include preliminary selection of spots; detailed EIA & SIA studies to finalise spot selection; establishment of wildlife sanctuary; and provision of necessary facilities for the wildlife sanctuary		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	FD		
Cost in BDT	100 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-11**	**Priority - High**
Project Title	**Promotional Programmes on Haors in Electronic and Print Media**		
Location	Most attractive tourist spots in the haor districts		
Key Objectives	Attracting tourists for increasing revenue earning		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. The project team will arrange visiting some of the most exciting and beautiful sites spread over the haor region. The amazing features and characteristics of the region will be captured through photography and filming. The project is expected to be initiated and end in 2017/18. The scope of work will include activities like creating promotional Programmes for TV and radio; making advertisements for TV, radio and newspapers; preparing and setting up billboards at certain places.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	LGED, City Corporations and LGI		
Cost in BDT	100 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-12**	**Priority - High**
Project Title	**Construction of Tourism Infrastructures**		
Location	As per requirement		
Key Objectives	Improvement of facilities for tourists		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. Through this project the facilities necessary for tourism will be developed. The project is expected to be initiated in 2014/15 and end in 2031/32. The scope of work will include accommodation facilities for tourists; ensuring secured stay and parking facilities; construction of other support structures.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	LGED		
Cost in BDT	1,000 lakh		

Strategic Thematic Area	**Improved physical infrastructure**		
Development Area	**Tourism**	**TS-13**	**Priority - Medium**
Project Title	**Training Programmes in Hotel Management and Food Catering**		
Location	National Hotel & Tourism Training Institute (NHTI) situated in Dhaka		
Key Objectives	Capacity development of human resources engaged in tourism sector		
Description	Tourism is a potential sector for socio-economic development of the haor area, but it is yet to be properly explored. There are a number of locations in the haor districts which can be developed for tourism. In order to draw tourists from both home and abroad, the tourist attraction sites needs to be identified and developed. Tourism facilities like hotels, motels and roads also need to be properly located to provide easy access. Although the government and the private sector are investing in this sector, more initiatives are needed for the development of tourism in this region. The Master Plan has been prepared to achieve the goals of government policies, outlining strategies to fulfill the gaps pertaining to different sectors, and proposing sectoral reforms and projects with a special focus on remote and poverty ridden area. The project under the purview of the Master Plan aims to ensure employment generation, socio-economic and structural development through tourism development. The project is expected to be initiated in 2014/15 and end in 2031/32. The scope of work will include selection of trainees; preparation of training materials; training Programmes on hotel management including food catering& beverage services and housekeeping; and travel & tour operation.		
Lead Implementing Agency	Bangladesh Parjatan Corporation		
Supporting Agency	National Hotel & Tourism Training Institute (NHTI)		
Cost in BDT	720 lakh		

Industry

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-01**	**Priority - High**
Project Title	**Canned Food Industry**		
Location	Seven upazilas under seven haor districts		
Key Objectives	Food process, preserve and export		
Description	Food processing is a set of methods and techniques used to transform raw ingredients into food or food into other forms for consumption. Food processing typically takes clean, harvested crops or butchered animal products and uses these to produce attractive, marketable food products often with long shelf-life. Similar processes are used to produce animal feed. Raw materials for the canned food industry are mainly fish. In the haor area, about 3.59 lakh M. ton of fish are produced every year. These resources can be used for the canned food industry. The activities to be carried out under the project will include selection of site in haor upazilas, collection of fish from fish processing or fish landing centers, encouraging Bangladeshi expatriates to invest, ensuring tax holidays as well as tax exemptions for industrial machineries as per regulation, and equal treatment of both local and foreign investments.		
Lead Implementing Agency	Bangladesh Chamber of Commerce and Industry (BCCI)		
Supporting Agency			
Cost in BDT	10,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-02**	**Priority - High**
Project Title	**Beverage Industry**		
Location	Seven Haor districts		
Key Objectives	Increasing foreign earning through export of pineapple juice		
Description	The beverage industry uses a set of techniques to bottle fruit juice for consumption. Drink manufacturing in Bangladesh involves one of the most efficient manufacturing processes in the world. With these types of industries, a lot of backward and forward economic activities have developed in Bangladesh facilitating the fulfillment of the 2010-2021 vision for the industrial sector. Pineapple and orange is the main economic horticulture crop of the haor region and the raw materials of the beverage industry. About 4000 acres of land are under Orange and Pineapple cultivation with production of about 9090 M. ton. The average Pineapple production is 7893 M. tons, which is the third highest production in Bangladesh. The production trend of these fruits is rising, which indicates a promising future for the beverage industry in this region. Three proposed beverage industries will be established in 2017/18 in three haor districts, Sylhet, Maulvibazar and Habiganj, and completed within 2019/20.The scope of employment generation under these industries would be 2400 persons, which will fulfill the 2010-2021 Outline Perspective Plan of Bangladesh. The activities to be carried out under the project will include site selection, encouraging Bangladeshi expatriates to make investments, ensuring tax holidays as well as tax exemptions for industrial machineries, and equal treatment of both local and foreign investments, creation of linkage industries.		
Lead Implementing Agency	Bangladesh Industrial and Technical Assistance center (BITAC)		
Supporting Agency	Private agency		
Cost in BDT	1,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-03**	**Priority - Very High**
Project Title	**Small and Cottage Industries Development Programme for destitute women in haor area**		
Location	Unions of deeply flooded upazilas (51 nos.) of the haor region		
Key Objectives	Women empowerment in the haor area using local natural resources		
Description	The overall economic development of Bangladesh is closely linked with rural development. There are certain articles in the Constitution of Bangladesh that uphold commitments to improve the quality of life of rural people, alleviate poverty, ensure women's empowerment and bring prosperity in rural life. The proposed project would be implemented to achieve destitute women's empowerment to fulfill the constitutional demand of Bangladesh. The activities to be carried out under the project will include ensuring institutional and infrastructure support from the government in deeply flooded villages, technical and vocational training for destitute women, formation of union-wise small and medium enterprises with the help from the chairman of union parishad, awareness building among the people of deeply flooded area and arranging courses on handicrafts.		
Lead Implementing Agency	Bangladesh Small and Cottage Industries Corporation (BSCIC)		
Supporting Agency	Union Parishad		
Cost in BDT	1,500 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-04**	**Priority - Medium**
Project Title	**Establishment of Swamp Water Processing Industry**		
Location	Sunamganj District Head Quarter		
Key Objectives	Sustainable use of swamp water		
Description	Water is an essential element in the life cycle. In the haor area, scarcity of drinking water is becoming a growing concern due to declination of groundwater table. Arsenic contamination is also another problem in the haor area. Establishment of the swamp water processing industry is proposed under the Master Plan as an answer to these problems. It will also help in earning local and foreign exchange by exporting potable drinking water. The scope of employment generation under the industry would be 1000 persons. The establishment will be constructed beside the Sylhet-Sunamganj highway by 2022/23 and completed in 2023/24. The implementing authority would be the Sunamganj Paurashava with assistance of foreign donors. The executing and monitoring agency would be the Department of Public Health Engineering (DPHE) with assistance of the DC, Sunamganj. The activities to be carried out under the project will include encouraging Bangladeshi expatriates for making investments, ensuring tax holidays as well as tax exemptions for industrial machineries as per regulations, and equal opportunity for both local and foreign investments.		
Lead Implementing Agency	Bangladesh Small and Cottage Industries Corporation (BSCIC)		
Supporting Agency	DPHE		
Cost in BDT	10,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-05**	**Priority - High**
Project Title	**Establishment of Tea Processing Industry**		
Location	Tea states		
Key Objectives	Increasing empowerment of tribal people/Adibashi of the haor area through income generation		
Description	Tea is one of the most important non-alcoholic beverage drink and has been gaining further popularity as an important 'health drink' in view of its purported medicinal value. It is served as morning drink for nearly 2/3rd of the world population daily. The Tea industry in Bangladesh is one of the major sources of income for the national exchequer. World tea production has been showing an annual increment of 3% while in Bangladesh the production has increased by 1.84 % and contributes 1.37 in export in the world tea trade, earning near about 1775 million taka every year. Bangladesh produces more than 54 million kg of tea annually from about 49000 hectares of land. Tea cultivation in Bangladesh is spread over the hilly zones in the eastern part mainly in four districts (Sylhet, Maulvibazar, Habiganj and Chittagong). About 96% annual production (of which 63% is from Maulvibazar district) is contributed by Sylhet division that account for 93% (of which 62% is from Maulvibazar district) of plantation area. According to the PCMs in Sylhet, Maulvibazar and Habiganj districts, there is a lot of scope for creating tea processing industries in the country. In view of the people's opinions, three tea processing industries have been proposed in the above-mentioned districts of the haor area. The scope of employment generation under the industries would be 3000 persons, which will fulfill the vision of the 2010-2021 Outline Perspective Plan of Bangladesh. The entire establishment of the proposed industries should be started in 2017/18 and finished by 2019/20. The Bangladesh Tea Board will implement the project with assistance of the local revenue. After the construction, the industry will be handed over to the Bangladeshi born British immigrant businessman after the signing of a MoU between the Bangladesh Government and private investors (Bangladeshi British Immigrant Businessman). The activities under the project will include encouraging Bangladeshi immigrants for making investments, ensuring tax holidays as well as tax exemptions for industrial machineries as per rule, and equal treatment of both local and foreign investments.		
Lead Implementing Agency	Bangladesh Small and Cottage Industries Corporation (BSCIC)		
Supporting Agency	Private Agency		
Cost in BDT	10,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-06**	**Priority - High**
Project Title	**Establishment of Gas Cylinder Industry**		
Location	Sylhet, Maulvibazar and Habiganj District Head Quarter		
Key Objectives	Production and distribution of gas cylinders		
Description	Compressed Natural Gas (CNG) is a fossil fuel substitute for gasoline (petrol), diesel, or propane/LPG. Although its combustion produces greenhouse gases, it is a more environmentally clean alternative to those fuels, and much safer than other fuels in the event of a spill (natural gas is lighter than air, and disperses quickly when released). CNG may also be mixed with biogas, produced from landfill or wastewater, which does not increase the concentration of carbon in the atmosphere. It is made by compressing natural gas (which is mainly composed of methane [CH4]), to less than 1% of the volume it occupies at standard atmospheric pressure. It is stored and distributed in hard containers, at a pressure of 200–248 bar (2900–3600 psi), usually of cylindrical or spherical shapes. Natural gas is a major mineral resource in Bangladesh. It refers to the naturally occurring hydrocarbon gas predominantly composed of methane. There are 23 natural gas fields so far discovered in Bangladesh. Among these gas fields, 10 are located in the haor districts. At present, about 16812.9 billion cubic feet gas has been reserved in the Master Plan of Haor Area. The availability of gas resources and also sustainable use of natural gas in three gas cylinder industries have been proposed under the Master Plan for three districts, Sylhet, Maulvibazar, and Habiganj. The scope of employment generation would be about 3000 persons, which will fulfill the vision of the 2010-2021 Outline Perspective Plan of Bangladesh and improve the economic status of the haor people. The establishment of the proposed industries should be started in 2017/18 and finished by 2020/21. The Ministry of Industries will implement the project with assistance from the Bangladeshi expatriates if interested. The activities under the project will include exploring scopes for the industry, encouragement to Bangladeshi expatriates for making investments, ensuring tax holidays as well as tax exemptions for industrial machineries as per regulations, and equal treatment of both local and foreign investments.		
Lead Implementing Agency	Bangladesh Small and Cottage Industries Corporation (BSCIC)		
Supporting Agency	Private Agency		
Cost in BDT	30,000 Lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-07**	**Priority - Medium**
Project Title	**Establishment of Industrial Park**		
Location	Sylhet District		
Key Objectives	Establishment of an industrial zone with required facilities		
Description	The Bangladesh-British Chamber of Commerce (BBCC) has urged the government to establish an industrial park in Sylhet to attract more investment from the UK-based expatriate Bangladeshis. The BBCC at a meeting with the leaders of the Federation of Bangladesh Chambers of Commerce and Industry (FBCCI) also urged them to set up a platform that can work to attract more investment from the non-resident Bangladeshis (NRBs). The activities to be carried out under the project include site selection, layout preparation for plot, internal roads, and internal utilities as well as plot selection for central ETP.		
Lead Implementing Agency	City Corporation		
Supporting Agency			
Cost in BDT	10,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-08**	**Priority - Very High**
Project Title	**Establishment of Charcoal Industry**		
Location	69 upzilas of the haor area		
Key Objectives	Processing charcoal and extraction of usable by-products		
Description	Charcoal industry is a growing industrial sector in Bangladesh. Recently, this industrial development has been flourished in the southwest region of Bangladesh due to scarcity fuel wood and abundance of rice husk. Haor area is one of the major producers of Boro where about 2.53 million metric tons of rice husk are produced in each year. However, farmers sell most of the rice husks to the traders who took them out of the haor area for producing charcoal. As a result, inhabitants of haor area cannot use the husk for cooking, rather face scarcity of fuel wood in wet season. Moreover, they have to pay more to buy charcoal produced elsewhere. This also results in destruction of swamp forests for fuel wood which is not environmentally friendly. Production of charcoal from rice husks in the haor area and their use can be a suitable substitute for fuel wood in the area. Establishing charcoal industries in haor area can be useful in order to utilize the rice husks produced in the localities. This will increase income of the haor people especially women. At the same time, it will contribute in maintaining environment of the area by safeguarding swamp forests around the haors.		
Lead Implementing Agency	Bangladesh Small and Cottage Industries Corporation (BSCIC)		
Supporting Agency			
Cost in BDT	200 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Industry**	**IN-09**	**Priority - Very High**
Project Title	**Establishment of Boat Manufacturing Industry**		
Location	17 upzilas of the haor area (according to PCM)		
Key Objectives	Manufacturing different types of boats		
Description	The haor region is an area where flash flood water from India is a regular phenomenon. In the wet season, the area is inundated about seven months which gives it the appearance of an island. Communication is especially bad in the area during this time. As only boats can be used for transportation, many boats are needed every year for sustaining the haor people's livelihoods. The boat industry thus needs to be improvement in this region. The activities that will be carried out under the project include site selection, layout preparation for boat manufacturing industry, and ensuring availability of timber wood through afforestation or social forestry.		
Lead Implementing Agency	Bangladesh Small and Cottage Industries Corporation (BSCIC)		
Supporting Agency			
Cost in BDT	17 lakh		

Power and Energy

Strategic Thematic Area	**Enterprise and Technology Development**
Development Area	**Power and Energy** **PW-01** **Priority - Very High**
Project Title	**Expansion of Electricity Distribution Systems in Haor Districts**
Location	Selected upazilas of haor districts
Key Objectives	Increasing the coverage of electricity supply to ensure electricity for every house

Description

The haor area of Bangladesh is economically depressed because of which all the factors that retard growth are there. Energy is one of them, and a part of it is provided by electricity. The Rural Electrification Board (REB), which is entrusted with the distribution of electricity in the rural area of Bangladesh, is supposed to sponsor all Programmes of electrification in Sylhet and Mymensingh through electric cooperatives called the Palli Bidyut Samity (PBS). The homesteads are however, subject to some criteria that deprive poor villages (who do not qualify for certain revenue) from receiving electricity connection.

Under the Area Coverage Rural Electrification (ACRE) Programme the total number of villages getting electricity connection were 6740 out of 15374 accounting for about 44% by 2010 as compared to about 72% nationwide. The intensity of electrification has remained even lower. In 2010 the intensity of electrification as seen from percentage of household receiving connection was only 20% on average across the seven districts. Compared to the nationwide average consumption of about 200 kWh per capita (2010), the project area had only 47 kWh in 2010. Sunamganj had the lowest use of electricity with only about 17 kWh per capita followed by Kishoreganj and Netrakona. The total demand by 2010 has been estimated to be 185 MW.

The Government of Bangladesh has announced a policy to take electricity to all rural homes by 2021. Accordingly, the REB has already prepared a long range plan up to 2021 to fulfill the target. Under the Master Plan of Haor Area this long range plan has been reviewed to verify its adequacy. The REB forecast has been found to be very close to the mid-scenario projection by the Master Plan.

Proposed Programme for Electrification from 2021 to 2030 under MPHA

District	33/11 KV Sub station	Distribution lines (Km)		Addl Villages by 2030	Addl. Housholds (in lakh)
		11 KV, 6.35 KV	0.4KV, 0.23KV		
Sunamganj	8	3515	1525	2414	4.36
Sylhet	20	1917	1349	4207	4.58
Habiganj	11	2302	1321	950	3.09
Kishoreganj	11	3476	1490	1058	4.89
Netrakona	10	3651	2083	1151	4.00
Maulvibazar	13	2520	1680	1057	2.66
Brahmanbaria	13	1952	1303	593	4.05
Total	86	19333	10750	11430	27.63

The demand forecast up to 2030 has been used to develop this project to support the projected overall development of haor area. Under this project 33 KV and 11 KV lines and substations will be constructed, and consumer connection will be provided to all homes by 2030. As the REB has a Master Plan to extend the electric supply system in the entire area up to 2020, the Master Plan of Haor Area may include the remaining Programme from 2021-2030. Therefore, the net Programme for the Master Plan is to take care of the incremental demand of 378 MW beyond 2020. Of this total, 340 MW will be available from grid and the balance of 38 MW from the solar electrification Programme.

Lead Implementing Agency	Rural Electrification Board (REB)
Supporting Agency	
Cost in BDT	255320 lakh

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Power and Energy**	**PW-02**	**Priority - High**
Project Title	**Expansion of Solar Power Generation Systems**		
Location	All 69 haor upazilas		
Key Objectives	Ensuring power supply in remote area of the haor region that are beyond reach of grid lines as well as reducing pressure on the use of non-renewable energy sources and utilising renewable sources like solar for power generation		
Description	Remote villages situated within the haor areas are not connected with the electricity grid and therefore face acute power crisis. The project has been formulated to uplift the socio-economic condition of the people as well as facilitate industrial development through the growth of the energy sector. The REB is active in the area with its restricted area coverage electrification Programme. Rural cooperatives called the Palli Bidyut Samity (PBS) are in place to implement the rural electrification Programme. There are 8 PBS operating in the haor region. Under the Master plan, mid scenario power demand is stipulated to be 564 MW by 2020. Out of this only 5% of incremental demand from 2010 to 2020 has been planned to be met by solar panels of 18 MW capacity. From 2020 to 2030 about 47 MW will be provided additionally through solar panels to meet 10% of incremental demand of the haor area. This is estimated to cover one million households (SHS) each with 20 Watt, 5000 rural clinics each with 50 Watt, 2000 schools each with 500 Watt, 2000 rural shops each with 20 watt and 11000 low lift irrigation pumps each with 1cfs. The REB has a project titled “Electrification for Educational and Religious Institutions through Solar Energy” which is expected to be included under this Programme. The cost of the solar electricity project has been estimated at 2010 prices (@ US$ 8.00 per Watt). Effort should be made to reduce the cost which compares very unfavorably with US$4 per Watt investment required for the development of the grid supply system in the haor area.		
Lead Implementing Agency	Rural Electrification Board (REB)		
Supporting Agency	Private Agency, NGO, Grameen Shakti and BRAC		
Cost in BDT	84600 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Power and Energy**	**PW-03**	**Priority - Medium**
Project Title	**Pre-feasibility Study on Renewable Energy Potentials and Power Generation Possibilities in Haor Area**		
Location	Sunamganj and Sylhet		
Key Objectives	Assessment of power/energy supply need for households and the agriculture, commercial, industrial and other sectors in remote area through harnessing water, solar, wind and hybrid power		
Description	The people of the haor areas are more poverty stricken than any other region in Bangladesh. More than 28% of the total population in the area lives below the Lower Poverty Line (LPL). They are also amongst those most deprived of energy including electricity. The distinct topography of the haor area does not permit large hydropower development. The huge potential of Bangladesh in hydropower is also still untapped. The activities under this project will include collection of data on insolation and duration of sunshine, assessment of site specific solar power that could be developed economically using data on insolation, and duration of sunshine as well as Identification of suitable locations for setting up solar power system and solar power system based power generation facility. The project will start in 2022/23 and end in 2031/32.		
Lead Implementing Agency	Bangladesh Haor & Wetland Development Board (BHWDB)		
Supporting Agency	Center for Environmental and Geographic Information Services (CEGIS)		
Cost in BDT	89.36 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Power and Energy**	**PW-04**	**Priority - Medium**
Project Title	**Development of Mini Hydropower Schemes**		
Location	Rangapani gang, (Sreepur chara), Sylhet		
Key Objectives	Increasing power generation through renewable sources like small hydropower plants		
Description	The people of the haor areas are more poverty stricken than any other regions in Bangladesh. More than 28% of the total population in the area lives below the Lower Poverty Line (LPL). They are also amongst those most deprived of energy including electricity. The use of renewable sources like solar, wind and water should be explored to minimise dependency on non-renewable sources of energy. The haor area also has some untapped water resources that could be harnessed to generate hydro-electricity. Under this project, hydropower should be developed followed by a feasibility study. The project will be initiated in 2022/23 and end in 2031/32. During reconnaissance survey it was found that Rangapani gang (Sreepur chara) was still a prospective site for developing a mini hydropower plant of about 600 kw which was identified initially through a study 'The Prospect of Mini-hydro in Sylhet district' conducted in 1981.		
Lead Implementing Agency	Bangladesh Power Development Board (BPDB)		
Supporting Agency			
Cost in BDT	980 Lakh (including feasibility)		

Mineral Resources

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Mineral Resources**	**MR-01**	**Priority - High**
Project Title	**Seismic Survey, Exploration and Drilling in the Haor Districts to Explore New Gas Fields**		
Location	All upazilas of the haor districts		
Key Objectives	Exploration of new gas fields		
Description	Due to favourable geological settings and formations, the haor districts have a lot of potentials for oil and gas reserve. More investigation is required to explore new gas fields as there is increasing shortage of natural gas. The following tasks will be carried out under the project: 2D and 3D seismic survey in the whole haor area and digging of exploration wells.		
Lead Implementing Agency	Energy and Mineral Resources Division, Petrobangla		
Supporting Agency			
Cost in BDT	200,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Mineral Resources**	**MR-02**	**Priority - High**
Project Title	**Expansion of Mines for Gravel, White clay, Glass Sand, Coal and Peat Extraction from Haor Districts**		
Location	All upazila of the Haor districts		
Key Objectives	Extraction of minerals from the haor area		
Description	The current method of extraction of gravel, white clay, glass sand, coal and peat is not scientific or environment friendly. Consequently, the government is losing a huge amount of revenue each year. It is therefore necessary to implement an effective mining system to protect the environment and properly manage the mineral resources of the haor area. The project activities will include detailed exploration survey for estimating mineral resources, development of rules and regulations on mine development for the protection of the environment and proper use of minerals.		
Lead Implementing Agency	Bureau of Mineral Development (BoMD)		
Supporting Agency			
Cost in BDT	15,000 lakh		

Strategic Thematic Area	**Enterprise and Technology Development**		
Development Area	**Mineral Resources**	**MR-03**	**Priority - Very High**
Project Title	**Strengthening Capacity of Miners and Mining Labourers in Haor Districts**		
Location	All upazilas of the haor districts		
Key Objectives	Capacity development of miners and labourers		
Description	The current method of extraction of gravel, white clay, glass sand, coal and peat is not scientific or environment friendly. Most of the mine labourers (90%) are from the haor area and are not trained enough or follow safety rules. They are not aware about the importance of hygiene and therefore suffer from various types of diseases and accidents. In some cases they are not properly compensated because of their lack of experience. It is necessary to train the labourers to improve the livelihoods of the haor people. This project will also add a significant amount of revenue. The activities performed under the project will include skilled labour development Programme, awareness campaigns on occupational health, and awareness Programmes on hazards and risks associated with mining operations as well as safety issues and legal aid.		
Lead Implementing Agency	LGI		
Supporting Agency	BMD		
Cost in BDT	500 lakh		

Glossary

Afal	High waves generated due to wind in the haor are locally known as Afal
Aman	Monsoon rice crop cultivated during July-September and harvested in mid-December-January
Aus	Pre-monsoon rice crop grown in Kharif I season, transplanted during mid-April-mid May and harvested during mid-July-mid August
B Aman	Broadcast or deep-water Aman
Baor	Baors are oxbow lakes, formed by dead arms of rivers
Beel	Beels are shallow lakes, which form in the lowest parts of the haor; sometimes these are perennial but more often seasonal. The water surfaces are contiguous with the groundwater table and beels that are sustained from groundwater to a large extent. Surface water accumulates in the beels during wet season, often spilling out into the main river system through khals.
Bondh	Crop land
Boro	Rice grown during the dry winter season, transplanted during January-mid February and harvested during mid-May
Country boat	Wood hull boat of traditional design capacity usually not more than 500 maunds (19 ton)
District	An administrative unit comprising several thanas/upzilas
Division	An administrative unit comprising several administrative districts
Duar	Scour hole in river bed which provides habitat for fish and river dolphins
Haat	Riverine landing market or assembly place
Haor	Haor are bowl-shaped depressions of considerable aerial extent lying between the natural levees of rivers or high lands of the northeast region of Bangladesh. In most cases, haor have formed as a result of peripheral faulting leading to the depression of haor areas. During the wet season, the haor are full of water, but during the dry season, they dry up except for the beels.
Hijal	Type of a water tolerant tree grown in swamps & forests
Household	Family unit that shares common resources for cooking and eating
Jalmohal	Waterbody used for fishery
Kanda	Highland on the haor, used for cattle grazing, cropping or rice threshing
Kharif season	Monsoon crop season. Cropping season from 15 March-15 October, often divided into Kharif I (March-June) and Kharif II (July-October).
Khal	Local name for a drainage channel connecting beels
Khas	Government owned land or waterbodies
Koroch	A type of water-tolerant tree grown in swamp forests
Mauza	Land revenue boundary consisting of land plots
Rabi season	Cropping season between 16 October and 15 March
T. Aman	Transplanted Aman
Taka (Tk)	Unit of Bangladeshi currency
Union	Geo-administrative unit under an upazila comprising several villages/wards

Acronyms and Abbreviations

ADP	Annual Development Programme
FCD	Flood Control and Drainage
AEZs	Agro-Ecological Zones
AH	Asian Highway
AIDS	Acquired Immune Deficiency Syndrome
AIGAS	Alternate Income Generating Activities
ARI	Acute Respiratory Infection
BADC	Bangladesh Agricultural Development Corporation
BARI	Bangladesh Agricultural Research Institute
BARC	Bangladesh Agricultural Research Council
BBS	Bangladesh Bureau of Statistics
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BDT	Bangladeshi Taka
BFDC	Bangladesh Fisheries Development Corporation
BFRI	Bangladesh Fisheries Research Institute
BHWDB	Bangladesh Haor and Wetland Development Board
BIWTA	Bangladesh Inland Water Transport Authority
BJRI	Bangladesh Jute Research Institute
BMD	Bangladesh Meteorological Department
BNH	Bangladesh National Herbarium
BPC	Bangladesh Parjatan Corporation
BPDB	Bangladesh Power Development Board
BRRI	Bangladesh Rice Research Institute
BSCIC	Bangladesh Small and Cottage Industries Corporation
BUET	Bangladesh University of Engineering and Technology
BWDB	Bangladesh Water Development Board
CBD	Convention on Biological Diversity
CC	Community Clinic
CEGIS	Center for Environmental and Geographic Information Services
CFB	Community Food Bank
CHT	Chittagong Hill Tracts
CNG	Compressed Natural Gas
CSBA	Community-based Skilled Birth Attendant
CSP	Concentrating Solar Power
DAE	Department of Agricultural Extension
DAM	Department of Agricultural Marketing
DA	Development Area
DEM	Digital Elevation Model
DLS	Department of Livestock Services
DMB	Disaster Management Bureau

DoE	Department of Environment
DoF	Department of Fisheries
DPE	Directorate of Primary Education
DPHE	Department of Public Health Engineering
DPP	Development Project Proforma
DSC	District Steering Committee
DSF	Demand Side Financing
DSS	Department of Social Services
DTWs	Deep Tube Wells
ECA	Ecologically Critical Areas
ECNEC	Executive Committee of the National Economic Council
ECNWRC	Executive Committee of the National Water Resources Council
EIA	Environmental Impact Assessment
EPZ	Export Processing Zone
ERD	Economic Relations Division
ESRP	Earth Stabilised Raised Pit
FAO	Food and Agriculture Organization
FAP	Flood Action Plan
FCDI	Flood Control Drainage and Irrigation
FD	Forest Department
FGD	Focus Group Discussion
FWC	Family Welfare Center
GDP	Gross Domestic Product
GIS	Geographic Information System
GBM	Ganges- Brahmaputra- Meghna
GoB	Government of the People's Republic of Bangladesh
GPI	Gender Parity Index
GRP	Gross Regional Product
GWP	Global Water Partnership
HFO	High-density Fuel Oil
HIV	Human Immunodeficiency Virus
HMG	Haor Management Group
HQ	Head Quarter
HYV	High Yielding Varieties
ICRD	Integrated Coastal Resources Database
ICT	Information and Communication Technology
ICT	Inland Container Terminal
ICZMPP	Integrated Coastal Zone Management Plan Project
IFCDR	Institute of Flood Control and Drainage Research
IHWRD	Integrated Haor and Water Resources Database
IMED	Implementation, Monitoring and Evaluation Division
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature

IWFM	Institute of Water and Flood Management
IWM	Institute of Water Modelling
IWRM	Integrated Water Resource Management
IWT	Inland Water Transport
JRC	Joint Rivers Commission
KCG	Key Contact Group
KII	Key Informant Interview
kW	kilowatt
LAD	Least Available Depth
LGD	Local Government Division
LGED	Local Government Engineering Department
LGI	Local Government Institutions
LLP	Low Lift Pumps
LPL	Lower Poverty Line
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreements
MIS	Management Information System
MMR	Maternal Mortality Rate
MoEF	Ministry of Environment and Forest
MoF&DM	Ministry of Food and Disaster Management
MOFL	Ministry of Fisheries and Livestock
MOH&P	Ministry of Housing and Public Works
MOHFW	Ministry of Health and Family Welfare
MOI	Ministry of Industries
MoWR	Ministry of Water Resources
MPO	Master Plan Organization
MT	Metric Ton
MW	Megawatt
NBSAP	National Biodiversity Strategy and Action Plan
NCA	Net Cultivated Area
NCS	National Conservation Strategy
NE	North East
NEC	National Economic Council
NEMAP	National Environmental Management Action Plan
NERP	Northeast Regional Water Management Plan
NGO	Non-governmental Organization
NHP	National Health Programme
NNP	National Nutrition Programme
NWMP	National Water Management Plan
NWPo	National Water Policy
NWRC	National Water Resources Council
NWRD	National Water Resources Database
O&M	Operation & Maintenance

ODP	Organizational Development Plan
OPP	Outline Perspective Plan
PA	Protected Area
PAPD	Participatory Action Plan Development
PBS	Palli Bidyut Samitie
PCM	Public Consultation Meeting
PCP	Project Concept Paper
PCU	Project Co-ordination Unit
PGCB	Power Grid Company of Bangladesh
PPP	Public Private Partnership
PRA	Participatory Rural Appraisal
PRM	Participatory Resource Mapping
PRSP	Poverty Reduction Strategy Paper
PSF	Pond Sand Filter
PSMP	Power System Master Plan
RD	Rural Dispensary
REB	Rural Electrification Board
RHD	Roads and Highways Department
RRA	Rapid Rural Appraisal
RS	Remote Sensing
RWH	Rainwater Harvesting System
SB	Surma Basin
SEL	Sand Enveloped Latrine
SERP	Sand Enveloped Raised Pit
SIA	Social Impact Assessment
SME	Small and Medium Enterprise
SRDI	Soil Resources Development Institute
SRP	System Rehabilitation Project
SSP	Survey and Study Project
STW	Shallow Tube Well
TAPP	Technical Assistance Project Proforma
TBA	Traditional Birth Attendant
U5MR	Under-5 Child Mortality Rate
UHC	Upazila Health Complex
UHFWC	Upazila Health & Family Welfare Center
ULSC	Union Livestock Service Center
UP	Union Parishad
UZP	Upazila Parishad
VSC	Village Sanitation Center
WARPO	Water Resources Planning Organization
WRE	Water Resources Engineering
ZP	Zila Parishad

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