

4.4 Evaluation

It is evident from the IEE study the Flood Proofing project will bring some adverse impacts on overall environment, though this project will be the milestone for the development of the neglected areas like Char and Haor. But for this a comprehensive Environmental Impact Assessment (EIA) study is necessary based on specific location(s) and definite intervention(s) plan. Through EIA major potential impacts will be identified so that appropriate measures can be taken during planning, design and implementation phases, in order to avoid or mitigate adverse effects on environment. During EIA some important issues to be addressed are (1) Involuntary settlement, (2) Increase in domestic and other waste, (3) Change in vegetation, (4) Degradation of ecosystems with bio-diversity, (5) Negative impact on important fauna and flora, (6) Destruction of wetlands, (7) Soil erosion, (8) Change in hydrology, and (9) Sedimentation.

Some major activity of the EIA would include extensive field study; monitoring of water (surface and ground) quality; situation of sanitation, survey on flora and fauna, soil fertility, fish loss, improvement in community health, etc. Analyzing the existing environmental conditions and prediction of potential losses or gains from proposed project would lead to a more objective assessment and evaluation of impacts on the environment.

Table 4.1 Checklist for Proving Initial Environmental Examination

Applicable columns with the following impact degree are marked with "X".

SEI : Significant Environmental Impact

A : The subject SEI is unquestionably induced by the Project.

B : The subject SEI is likely to be induced by the Project.

C : The SEI is not fully known.

D : There is no possibility that the subject SEI is likely to be induced by the Project.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement					
2. Involuntary resettlement					
3. Substantial changes in the way of life					
4. Conflict among communities and people					
5. Impact on native people					
6. Population increase					
7. Drastic change in population composition					
8. Changes in bases of economic activities					
9. Occupational change and loss of job opportunities					
10. Increase in income disparities					
11. Adjustment & regulation of water or fishing (riparian) rights					
12. Changes in social and institutional structures					
13. Changes in existing institutions and customs					
14. Increased use of agrochemicals					
15. Outbreak of endemic diseases					
16. Spreading of endemic diseases					
17. Residual toxicity of agrochemicals					
18. Increase in domestic and other human wastes					
19. Impairment of historic remains and cultural assets					
20. Damage to aesthetic sites					

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
21. Impairment of buried assets					
22. Changes in vegetation					
23. Negative impact on important or indigenous fauna and flora					
24. Degradation of ecosystems with biological diversity					
25. Proliferation of exotic and/or hazardous species					
26. Destruction of wetlands and peat lands					
27. Decrease of tropical rain forests and wild lands					
28. Destruction or degradation of mangrove forests					
29. Degradation of coral reefs					
30. Soil erosion					
31. Soil salinization					
32. Deterioration of soil fertility					
33. Soil contamination by agrochemicals and others					
34. Devastation or desertification of land					
35. Devastation of hinterland					
36. Ground subsidence					
37. Change in surface water hydrology					
38. Change in ground water hydrology					
39. Inundation and flooding					
40. Sedimentation					
41. Riverbed degradation					
42. Impediment of inland navigation					
43. Water contamination and deterioration of water quality					
44. Water eutrophication					
45. Sea water intrusion					
46. Change in temperature of water					
47. Air pollution					

Table 4.2 Definition of Environmental Impact Categories

Categories of Environmental Impact	Definition
Social Environment	
(1) Socio-economic issues	
(1)-1 Social issues	
1. Planned residential settlement	A first type of planned residential settlement is new land settlement implemented in agriculture and rural development projects such as land clearing and leveling, sea/swamp reclamation and irrigation development. A second type of planned residential settlement is exemplified by the estate project approach with settlement schemes for nomad, landless farmers or shifting cultivators.
2. Involuntary resettlement	Involuntary resettlement is defined as forced resettlement to move inhabitants away from their original dwelling places in areas that will be inundated as part of development projects.
3. Substantial changes in the way of life	Substantial change in the way of life is defined as change in the way of life of the affected people, and in particular changes in the role of women in family and society brought about by agricultural and rural development.
4. Conflict among communities and people	Conflict among communities and peoples refer friction due to conflicting interests between beneficiaries and non-beneficiaries, people in favor of and those against development, new settlers and host people, people involved in development and outsiders, people in a project area and those affected in the surrounding area.
5. Impact on native people	Impact on native peoples refers to adverse effects of development on local communities composed partly or entirely of indigenous people (including tribal groups), low-caste groups, ethnic minorities, or nomads.
(1)-2 Demographic issues	
6. Population increase	Population increase is defined as significant population increase in a project or surrounding area due to development.
7. Drastic change in population composition	This term is defined as drastic change in population composition in a project or surrounding area due to development.
(1)-3 Economic activities	
8. Changes in bases of economic activities	Changes in bases of economic activities refers to forced or involuntary relocation of economic bases or means such as farmland, fishing grounds, etc., under a project due to land acquisition, changes in land use regulation, and deterioration or depletion of bases or means for economic activities.
9. Occupational change and loss of job opportunities	This term is defined as forced or involuntary occupational change due to land acquisition and loss or deterioration of means or bases of economic activities; it includes loss of job opportunities due to farm mechanization.
10. Increase in income disparities	This term is defined as the increase in income disparities among groups brought about by the development; it implies relative impoverishment of the economically weak.
(1)-4 Institutional and custom related issues	
11. Adjustment & regulation of water or fishing (riparian) rights	This term is defined as adverse development effects on water or fishing (riparian) rights and necessary adjustments or regulations to rectify the same.
12. Changes in social and institutional structures	This term is defined as changes in social and institutional structures as a result of establishment of new, or modification of existing, rural organizations caused by development.
13. Changes in existing institutions and customs	This term is defined as changes in existing institutions and customs involved in or induced by development activities.

Categories of Environmental Impact	Definition
(2) Health and sanitary issues	
14. Increased use of agrochemicals	Increased use of agrochemicals refers to increased use of chemical pesticides due to intensification of agriculture; introduction of high-yielding species and new crops and irrigation development.
15. Outbreak of endemic diseases	Outbreak of endemic diseases is defined as the spreading of endemic diseases as a result of the adverse effects of development.
16. Spreading of endemic diseases	Spreading of epidemic diseases is defined as spreading of endemic diseases attributable to the adverse effects of development.
17. Residual toxicity of agrochemicals	Residual toxicity of agrochemicals is defined as accumulation in the natural environment (soil, water, etc.) of agrochemicals or chemical substances with high residual toxicity such as organo-chloric insecticides, etc.
18. Increase in domestic and other human wastes	This term is defined as the increase in domestic and other human wastes due to the consequences of development such as population increase.
(3) Cultural asset issues	
19. Impairment of historic remains and cultural assets	Impairment of historic remains and cultural assets is defined as direct or indirect impairment or destruction of sites, structures, and remains of archaeological, historical, religious, cultural, or aesthetic value as result of development.
20. Damage to aesthetic sites	Damage to aesthetic sites is defined as direct or indirect negative effects on aesthetic features as a result of development.
Natural Environment	
(4) Biological and ecological issues	
21. Changes in vegetation	Changes in vegetation are defined as direct or indirect deterioration or degradation of vegetation due to development activities including removal of vegetation cover, alternation of land use, encroachment into forest, alteration of environmental conditions, etc.
22. Negative impact on important or indigenous fauna and flora	Negative impact on important or indigenous fauna and flora are defined as adverse effects on important or indigenous animal & plant species due to destruction of or changes in habitats.
23. Degradation of ecosystems with biological diversity	Degradation of ecosystems with biological diversity refers to the varieties of biological resources and living organisms. Biological diversity is the characteristic of wild species and natural ecosystems with biological diversity is, therefore, a form of natural resources management which has, as its primary goal, to maintain the long – term potential of biological resources to meet the needs and aspirations of future generations.
24. Proliferation of exotic and/or hazardous species	Proliferation of exotic and/or hazardous species is defined as introduction of pathogenic agents or spreading of hazardous species due to creation of environment conducive to their propagation.
25. Destruction of wetlands and peatlands	Destruction of wetlands and peatlands is defined as extinction of wetlands or peat lands due to direct destruction caused by development activities such as large-scale earth filling, or extinction due to indirect effects such as drying and decomposition due to changes in hydrological regime.
26. Encroachment into tropical rain forests and wildlands	Encroachment into tropical rain forests and wildlands is defined as decrease or disappearance of tropical rain forests due to direct or indirect effects of development.
27. Destruction or degradation of mangrove forests	Destruction or degradation of mangrove forests refers to disappearance of mangrove forests attributable to direct destruction, or deterioration of supporting environmental conditions.
28. Degradation of coral reefs	Degradation of coral reefs is defined as encroachment due to direct destruction, or damage to and deterioration of the supporting environment caused by sedimentation, etc.

Categories of Environmental Impact	Definition
(5) Soil and land resources	
(5)-1 Soil resources	
29. Soil erosion	Soil erosion is defined as the washing or blowing away of soil from the earth surface by the action of water or wind. Soil erosion is a smoothing or leveling process, with soil particles being carried, rolled, or washed down by the force of gravity. The main agents which loosen and break down the soil particles are wind and water (differentiated into water erosion or wind erosion according to the agent involved); Soil erosion is aggravated by artificial impacts.
30. Soil salinization	Soil salinization is defined as phenomena in which soluble salts accumulate in the surface layer of soil and crops growth is consequently adversely affected. According to FAO guidelines, soils with EC (electric conductivity of saturated soil moisture) higher than 4 ds are defined as saline soils.
31. Deterioration of soil fertility	Deterioration of soil fertility is defined as deterioration of soil productivity due to leaching and decomposition of nutrients, nutrient absorption by plants, surface soil erosion, salinization, failure in soil management, etc.; Tropical forests maintain high bio-mass productivity based on a delicately balanced plan and soil nutrient cycle; Removal of vegetation will result in rapid deterioration of soil fertility due to leaching of nutrients, decomposition of organic matter, and erosion of surface soil.
32. Soil contamination by agrochemicals and others	Soil contamination by agrochemicals and others is defined as accumulation of agrochemicals in soil with high residual toxicity.
(5)-2 Land resources	
33. Devastation or desertification of land	Devastation or desertification of land is defined as deterioration of land productivity or desertification caused by artificial or natural impacts; Accelerated and irreversible devastation of lands constitutes an important global environmental issue.
34. Devastation of hinterland	Devastation of hinterland is defined as devastation of areas surrounding a project area as a result of secondary or indirect impacts of development.
35. Ground subsidence	Ground subsidence is defined as settlement of ground caused by the dehydration or drying of wetlands, peat swamp, or reclaimed lands, or excessive exploitation of groundwater.
(6) Hydrology and air and water quality	
(6)-1 Hydrology	
36. Changes in surface water hydrology	Changes in surface water hydrology is defined as alteration of river discharge or water level as the effects of reservoir construction, irrigation water intake, or drainage.
37. Changes in groundwater hydrology	Changes in groundwater hydrology is defined as changes in the groundwater recharge mechanism or groundwater table caused by infiltration of irrigation water and exploitation of groundwater.
38. Inundation and flooding	Inundation and flooding are defined as overflowing of a river onto the surrounding land or the surrounding of seawater onto the coastal land. Inundation or flooding are caused by increased river or run-off discharge or poor water management.
39. Sedimentation	Sedimentation is defined as settlement of transported sediment in river, estuaries and reservoir.
40. Riverbed degradation	Riverbed degradation is defined as degradation of riverbeds in lower basin areas due to insufficient sediment load to maintain riverbed level.

Categories of Environmental Impact	Definition
41. Impediment of inland navigation	Impediment of inland navigation is defined as adverse impacts on navigation due to development activities.
(6)-2 Water quality and temperature	
42. Water contamination and deterioration of water quality	Water contamination and deterioration of water quality is defined as deterioration of water quality due to development activities.
43. Water eutrophication	Water eutrophication is defined as accumulation in water of nutritive soluble salts such as nitrate and phosphate.
44. Sea water intrusion	Sea water intrusion is defined as intrusion of a salt water wedge along the riverbed.
45. Change in temperature of water	Change in temperature of water is defined as adverse impact of low temperate irrigation water on crops.
(6)-3 Atmosphere	
46. Air pollution	Air pollution is defined as diffusion of agrochemicals, sand dust and odoriferous particles such as exhaust from vehicles and machinery into the air.
(7) Landscape and mining resources	
47. Damage to landscape	Damage to landscape is defined as direct or indirect negative effects on features of landscape as a result of development.

Table 4.3 Survey Areas for IEE

No.	Name of the District	Name of the Upazila
<i>Char Area</i>		
1	Gaibandha	Sadar
2	Gaibandha	Fulchari
3	Jalpur	Dewanganj
4	Jalpur	Sarishabari
5	Kurigram	Kurigram Sadar
6	Kurigram	Chilmari
7	Kurigram	Nageshwari
8	Sirajganj	Belkuchi
9	Sirajganj	Sirajganj Sadar
<i>Haor Area</i>		
10	Habiganj	Ajmariganj
11	Habiganj	Habiganj Sadar
12	Habiganj	Baniachang
13	Kishoreganj	Tarail
14	Kishoreganj	Bajitpur
15	Kishoreganj	Mithamain
16	Netrokona	Madan
17	Netrokona	Barhatta
18	Sunamganj	Sunamganj Sadar
19	Sunamganj	Derai
20	Sunamganj	Jamalganj

Table 4.4 Environmental Impact Identification on Sadar Upazila in Gaibandha District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Gaibandha		Upazila: Sadar				Evaluation Basis
Categories of Environmental Impact		A	B	C	D	
1.	Planned residential settlement			X		No such initiatives
2.	Involuntary resettlement			X		No such initiatives
3.	Substantial changes in the way of life		X			Social Mobilization for new initiatives.
4.	Conflict among communities and people			X		Unknown
5.	Impact on native people			X		Not known
6.	Population increase			X		Not known
7.	Drastic change in population composition			X		Not known
8.	Changes in bases of economic activities			X		Not known
9.	Occupational change and loss of job opportunities		X			New opportunities are being created.
10.	Increase in income disparities			X		Unknown
11.	Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12.	Changes in existing institutional structures		X			CBO, Cooperatives.
13.	Changes in existing institutions and customs		X			Informal judgment. Superstition.
14.	Increased use of agrochemicals		X			Present cropping intensity is high future will be high. Use of agro-chemical will increase
15.	Outbreak of endemic diseases			X		Unknown
16.	Spreading of endemic diseases			X		Unknown
17.	Residual toxicity of agrochemicals			X		Some increase of toxicity if vegetable crops area increase.
18.	Increase in domestic and other human wastes			X		Unknown
19.	Impairment of historic remains and cultural assets			X		Unknown
20.	Damage to aesthetic sites			X		Unknown
21.	Impairment of buried assets			X		Unknown
22.	Change in vegetation		X			Sediment accumulation on a particular area in every year be hampered the successional habitat and altimeter the vegetation be changed
23.	Negative impact on important or indigenous fauna and flora			X		Established plant communities are vanished by natural cause and wild life and fishes loss their

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
and flora					special breeding ground.
24. Degradation of ecosystems with biological diversity			X		Indiscriminate use and gather of natural resources be degrade the biological diversity
25. Proliferation of exotic and/ or hazardous species			X		Information not available.
26. Destruction of wetlands and peat lands			X		Embankment depletion, Oil reservoir and water vehicles movement destruction of wetland and peat lands.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water flow inside will be reduced but will in crease outside
31. Soil salinization				X	There is no salinity in the soil and water in the area
32. Deterioration of soil fertility	X				Char soil is light textured and low in Plant nutrients, Silt enrich soil but water proofing will deprive silt
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals will be foliar little chance of mixing with the soil
34. Devastation or desertification of land		X			Nutrient enriched silt deposition will be low inside
35. Devastation of hinterland		X			Silt deposition will in crease and this may cause water logging
36. Ground subsidence				X	The Project will not Cause drying of soil and no change of ground subsidence.
37. Change in surface water hydrology				X	For this project there will be no change in surface water hydrology
38. Change in groundwater hydrology			X		Will depend on future use and recharge characteristics
39. Inundation and flooding				X	No inundation and flooding is anticipated after implementation of the project
40. Sedimentation		X			Sedimentation will be low inside but will be high outside.
41. Riverbed degradation				X	High turbide river water, so no possibility river bed degradation
42. Impediment of inland navigation				X	No impediment of inland navigation for this project
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with nutrients will cause eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Little possibility of changing water temperature
47. Air pollution				X	During implementation, otherwise no remarkable air pollution for the project

**Table 4.5 Environmental Impact Identification on Fulchhari Upazila
In Gaibandha District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Gaibandha

Upazila: Fulchhari

Category of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement			X		No Such Program
2. Involuntary resettlement		X			On the Embankment
3. Substantial changes in the way of life		X			Females Participation in dev. Projects.
4. Conflict among communities and people	X				Conflict due to the embankment regarding position on the dam.
5. Impact on native people		X			They are being afraid of conflict with the new settler on the dam.
6. Population increase		X			On the Dam
7. Drastic change in population composition		X			Increases of poor people on the demand surrounding area.
8. Changes in bases of economic activities		X			New activities are there for good craning
9. Occupational change and loss of job opportunities		X			Few loosing opportunity but more new opportunity.
10. Increase in income disparities			X		Not known
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education, Vol.org, CBOS
13. Changes in existing institutions and customs			X		Some changes are there but not fully known
14. Increased use of agrochemicals			X		Present Gapping intensity is high but use of agrochemicals is low
15. Outbreak of endemic diseases		X			Goiter are there
16. Spreading of endemic diseases			X		Not known.
17. Residual toxicity of agrochemicals			X		There may be some toxicity of vegetables are grown.
18. Increase in domestic and other human wastes		X			Increasing, people use for composed.
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Not known
21. Impairment of buried assets			X		Not known
22. Change in vegetation		X			Sediment deposition and river embankment erosion may be change the vegetation
23. Negative impact on important or indigenous fauna and flora			X		Destruction of success ional habitat of plant and declination of natural fishes and wildlife can be negative

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
flora					impact.
24. Degradation of ecosystems with biological diversity			X		Some natural causes and multifarious anthropogenic activities may degrade the ecosystem with biodiversity
25. Proliferation of exotic and/ or hazardous species			X		Information not available
26. Destruction of wetlands and peat lands		X			Embankment depletion and water vehicles movement may be destroy the wetlands and peat lands.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water flow inside will be reduced but will increase outside
31. Soil salinization				X	There is no salinity in the soil and water in the area.
32. Deterioration of soil fertility	X				Char Soil is low in plant nutrients, Silt enrich soil but water proofing will deprive silt
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals will be foliar little chance of mixing with soil
34. Devastation or desertification of land		X			Nutrient enriched silt deposition will be low inside
35. Devastation of hinterland		X			Silt deposition will increase and this may cause water-logging
36. Ground subsidence				X	The project will not cause drying of soil and no change of ground subsidence
37. Change in surface water hydrology				X	Due to this project surface water hydrology will not change
38. Change in groundwater hydrology			X		Depends on future water use as well as change in recharge
39. Inundation and flooding			X		May cause inundation and flooding within the flood proofing areas
40. Sedimentation		X			Sedimentation will be low inside but will be high outside.
41. Riverbed degradation				X	Less possibility of river bed degradation
42. Impediment of inland navigation				X	No impact will be on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on water logging, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with high nutrient may cause eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Little possibility of change in water temperature
47. Air pollution				X	Less air pollution due to the project is anticipated

Table 4.6 Environmental Impact Identification on Dewanganj Upazila in Jamalpur District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Jamalpur

Upazila: Dewanganj

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement	X				Asrayon Prokolpo & Guccho Gram
2. Involuntary resettlement	X				Horin Dhora embankment
3. Substantial changes in the way of life		X			Femalis involvement in Dev. Initiatives.
4. Conflict among communities and people		X			Conflict in Horin Dhora Dam as a result of resettlement.
5. Impact on native people		X			Some conflict. On the other hand. They are getting more opportunity.
6. Population increase			X		Unknown
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities		X			Economically solvent, change in life style.
9. Occupational change and loss of job opportunities				X	River Erosion.
10. Increase in income disparities			X		Unknown
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education. Small cooperatives.
13. Changes in existing institutions and customs		X			Marriage, Child marriage, Superstition.
14. Increased use of agrochemicals			X		Present CI is high and use of agro-chemical is low. That may be some increase of use of agro-chemicals.
15. Outbreak of endemic diseases			X		Unknown
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals			X		If vegetable growing area increase. These may be residual toxicity
18. Increase in domestic and other human wastes			X		Unknown
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Incorporation of sediment on a particular area in each year may be change the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		One year established plant communities be damage due to sediment and over flow of water and fishes and wild life be decline by some over exploitation habit of local people.
24. Degradation of ecosystems with biological diversity			X		Illegal and indiscriminate use of natural resources may degrade the biodiversity of char area
25. Proliferation of exotic and/ or hazardous species			X		Information not available.
26. Destruction of wetlands and peat lands			X		Embankment erosion and agro-chemicals use may be destructed the wetland and peat land.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion			X		Reduction of water flowing side will be reduced but will increase out side
31. Soil salinization				X	There is no salinity is soil and water in the area.
32. Deterioration of soil fertility	X				Soil enrichment by silt deposition will be reduced
33. Soil contamination by agrochemicals and others			X		Use of agro-chemicals is foliar and little chance of mixing with the soil
34. Devastation or desertification of land		X			Enriched silt deposition will be low inside
35. Devastation of hinterland		X			Silt deposition will increase and this may cause water logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence.
37. Change in surface water hydrology				X	Will not change surface water hydrology significant
38. Change in groundwater hydrology			X		Will depend on future ground water use and recharge pattern
39. Inundation and flooding			X		May cause flooding and inundation within flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but will be high outside.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with martinets may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Will not change water temperature significantly
47. Air pollution				X	No significant air pollution

**Table 4.7 Environmental Impact Identification on Sarishabari Upazila
in Jamalpur District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
A : The subject SEI is unquestionably induced by the project
B : The subject SEI is likely to be induced by the project
C : The SEI is not fully known
D : There is no possibility that the subject SEI is likely to be induced by the project

Categories of Environmental Impact		Evaluation				Evaluation Basis
		A	B	C	D	
1.	Planned residential settlement	X				Ashrayon Prokolpo
2.	Involuntary resettlement	X				Embankment
3.	Substantial changes in the way of life		X			Involvement of woman in NGOs. Finale mobility.
4.	Conflict among communities and people			X		Unknown
5.	Impact on native people			X		Not known
6.	Population increase		X			Around fertilize factory for job.
7.	Drastic change in population composition			X		More male than females in the urban and communal.
8.	Changes in bases of economic activities		X			Being self-Reliant areas.
9.	Occupational change and loss of job opportunities		X			Income increase due to the loosing job-very few fertilizer. Rather getting more factory.
10.	Increase in income disparities			X		Unknown
11.	Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12.	Changes in existing institutional structures		X			Education, Vol org. Peoples initiatives.
13.	Changes in existing institutions and customs		X			Marriage child marriage, Hospitality due poverty in some area.
14.	Increased use of agrochemicals			X		Present CI is high and use agro-chemicals is low. Some increase of use of agro-chemicals is possible
15.	Outbreak of endemic diseases	X				Due to Amonia Gas Fertilizer factory
16.	Spreading of endemic diseases			X		Unknown
17.	Residual toxicity of agrochemicals			X		If vegetable growing area increases, these may be residual toxicity.
18.	Increase in domestic and other human wastes			X		Unknown
19.	Impairment of historic remains and cultural assets			X		Unknown
20.	Damage to aesthetic sites			X		Unknown
21.	Impairment of buried assets			X		Unknown
22.	Change in vegetation		X			Sediment deposition and agricultural practice may be change the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		Destruction of successional habitat of plant and over-exploitation of fishes and wild life will be negative impact.
24. Degradation of ecosystems with biological diversity			X		Illegal and indiscriminate use of natural resources may degrade the ecosystems with biological diversity.
25. Proliferation of exotic and/ or hazardous species			X		Not known.
26. Destruction of wetlands and peat lands			X		Sediment accumulation and agro-chemicals use may be destroy the wet land and peat lands.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion			X		Reduction of water flowing side will be reduced but will increase outside
31. Soil salinization				X	These is no salinity in soil and water in the area.
32. Deterioration of soil fertility	X				Soil enrichment by silt will be reduced.
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals is foliar and little chance of mixing with soil.
34. Devastation or desertification of land		X			Enriched silt deposition will be low inside
35. Devastation of hinterland		X			Silt deposition will in crease and this may cause water logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence.
37. Change in surface water hydrology				X	Will not change surface water hydrology significant
38. Change in groundwater hydrology			X		Will depend on future ground water use and recharge pattern
39. Inundation and flooding			X		May cause flooding and inundation within flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but will be high outside.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with martinets may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Will not change water temperature significantly
47. Air pollution				X	No significant air pollution

**Table 4.8 Environmental Impact Identification on Kurigram Sadar
Upazila in Kurigram District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Kurigram

Upazila: Sadar

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			Asrayon Prokolpo.
2. Involuntary resettlement			X		Nothing Happened.
3. Substantial changes in the way of life		X			Materialistic improvement. Females mobility in creasing.
4. Conflict among communities and people			X		Unknown.
5. Impact on native people		X			Positive impact on thana getting better
6. Population increase			X		Could not predicted
7. Drastic change in population composition			X		Not known
8. Changes in bases of economic activities		X			Tes, People are getting more scope of occupation. Easing more.
9. Occupational change and loss of job opportunities				X	Doesn't seem so.
10. Increase in income disparities			X		Unknown and need detailed study.
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown.
12. Changes in existing institutional structures		X			Education-increase. Marriage are decrease, Childmariage declining.
13. Changes in existing institutions and customs		X			Superstitions are declining.
14. Increased use of agrochemicals			X		There will be increase of cropping intensity and diversity and use of agro-chemicals may also increase
15. Outbreak of endemic diseases			X		Unknown except diarrhea.
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals			X		Some increase use of agro-chemicals will not cause residual toxicity
18. Increase in domestic and other human wastes			X		Not known fully
19. Impairment of historic remains and cultural assets			X		Unknown.
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation			X		River embankment erosion and sedimentation problems be changed the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		Successional habitat destruction and declination of the habitat of fishes and wildlife.
24. Degradation of ecosystems with biological diversity			X		Indiscriminate use natural resources will be degrading the biodiversity.
25. Proliferation of exotic and/ or hazardous species			X		Information not available
26. Destruction of wetlands and peat lands		X			Embankment depletion and water vehicles movement destroy the wetlands and pent lands
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Reduction of water flow inside will reduce erosion but will increase outside the project area
31. Soil salinization				X	There is no salinity in the land and soil
32. Deterioration of soil fertility	X				Char soil is light textured low in plant nutrients, silt from flood will enrich the soil
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals will be as foliar no chance of mixing with soil
34. Devastation or desertification of land		X			Silt deposition will be decreased inside but will increase out side
35. Devastation of hinterland		X			Silt deposition will in crease and this will cause water-logging
36. Ground subsidence				X	The project will not cause drying of soil and ground subside and without change
37. Change in surface water hydrology				X	Little possibility of changing surface water hydrology
38. Change in groundwater hydrology			X		Depends on future groundwater use and recharge pattern
39. Inundation and flooding			X		May cause inundation and flooding within the flood proofing area
40. Sedimentation		X			The sediment will be reduced inside but will increase out side.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact will be on inland navigation
43. Water Contamination and deterioration of water quality			X		Flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water entrophication			X		Stagnant water with nutrients may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Less possibility of water temperature changing
47. Air pollution				X	No significant air pollution

**Table 4.9 Environmental Impact Identification on Chilmari Upazila
in Kurigram District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Kurigram

Upazila: Chilmari

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			In this year 400 Acors land are being allocated among the people.
2. Involuntary resettlement			X		No such program took place.
3. Substantial changes in the way of life		X			Increasing Females involvement. In the family they are getting honorer.
4. Conflict among communities and people			X		Nothing major Happened
5. Impact on native people			X		Not Know clearly.
6. Population increase			X		Population not being increased.
7. Drastic change in population composition			X		Not known and need detailed study.
8. Changes in bases of economic activities		X			People are getting benefit as a result of development initiations.
9. Occupational change and loss of job opportunities		X			People are taking new occupation as a result labour rate in agriculture has been increased.
10. Increase in income disparities			X		Details not known.
11. Adjustment & regulation in water or fishing (riparian) rights			X		Not fully known.
12. Changes in existing institutional structures		X			Education-increasing child marriage-Reducing
13. Changes in existing institutions and customs		X			Superstition declining
14. Increased use of agrochemicals			X		Increase of cropping intensity and diversity will increase use of agro-chemicals.
15. Outbreak of endemic diseases			X		Not known but diarrhea is there.
16. Spreading of endemic diseases			X		Not known
17. Residual toxicity of agrochemicals				X	Little increase use agro-chemicals will not cause residual toxicity
18. Increase in domestic and other human wastes		X			Increase but being used for composed
19. Impairment of historic remains and cultural assets			X		Not known
20. Damage to aesthetic sites			X		Not known
21. Impairment of buried assets			X		Not known
22. Change in vegetation		X			Regular deposition of sediment of river embankment change the vegetation

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
					change the vegetation
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		Change of original or successional habitat can affect negative impact on plants & natural fish and wildlife species breeding and nesting ground be decline.
24. Degradation of ecosystems with biological diversity			X		Wild flora and faunas are degrading due to illegal human operation and save natural causes.
25. Proliferation of exotic and/ or hazardous species			X		Available information is not found
26. Destruction of wetlands and peat lands			X		Petroleum reservoir may cause to destruct the wetland ecosystem.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Reduction of water flow in side will be reduce erosion but will increase outside
31. Soil salinization				X	There is no salinity in soil and water in the Project area.
32. Deterioration of soil fertility	X				Char soil is high test used, low in plant nutrients. Silt enrich soil but water Proofing will deprive silt
33. Soil contamination by agrochemicals and others				X	Use of agro-chemical will be foliar. Little change of mixing with soil
34. Devastation or desertification of land		X			Nutrient enriched silt deposition will be reduced inside
35. Devastation of hinterland		X			Silt deposition will in crease and may cause water logging
36. Ground subsidence				X	The project will not cause drying of soil and no change of soil subsidence
37. Change in surface water hydrology				X	Little possibility of changing surface water hydrology
38. Change in groundwater hydrology			X		Depends on future groundwater use and recharge pattern
39. Inundation and flooding			X		May cause inundation and flooding within the flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but will be high outside
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact will be on inland navigation
43. Water Contamination and deterioration of water quality			X		Flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water entrophication			X		Stagnant water with nutrients may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Less possibility of water temperature changing
47. Air pollution				X	No significant air pollution

Table 4.10 Environmental Impact Identification on Nageshwari Upazila in Kurigram District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Kurigram

Upazila: Nageshwari

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement			X		There is not such program in the Upazila.
2. Involuntary resettlement			X		No Involvement reselect ment
3. Substantial changes in the way of life		X			There are some changes taking place as development effect-Female participants are joining to the Dev. Prog.
4. Conflict among communities and people			X		There is no Conflict
5. Impact on native people		X			There are some very positive impact on the native people they are getting benefited
6. Population increase		X			People are coming to the Dev. Areas.
7. Drastic change in population composition			X		The composition is not known fully.
8. Changes in bases of economic activities		X			Plinth raising program of CARE has provided. The opportunity of homestead gardening for the people, Specially worn.
9. Occupational change and loss of job opportunities		X			Rather opportunity of new jobs are created for development
10. Increase in income disparities			X		The amount of earnings is not known.
11. Adjustment & regulation in water or fishing (riparian) rights			X		Not fully known
12. Changes in existing institutional structures		X			Education Increasing, Informal institution, Marriage age. Child Marriage-Decreasing
13. Changes in existing institutions and customs		X			Traditional taboo and other superstition are being dread.
14. Increased use of agrochemicals		X			There will be increase use of agro-chemicals due to increase of cropping intensity and diversity
15. Outbreak of endemic diseases			X		Not Known fully.
16. Spreading of endemic diseases			X		Nothing heaved.
17. Residual toxicity of agrochemicals				X	Little increase in use of agro-chemicals will cause residual toxicity
18. Increase in domestic and other human wastes		X			Increasing. But the wastes are being used for composed
19. Impairment of historic remains and cultural assets			X		Not known
20. Damage to aesthetic sites			X		Not known fully
21. Impairment of buried assets			X		Nothing happened

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
22. Change in vegetation		X			Sedimentation problem will be change the vegetation
23. Negative impact on important or indigenous fauna and flora			Fl+Fa+		By destruction of the original floral habitat and declining of natural fishes and wildlife breeding ground
24. Degradation of ecosystems with biological diversity			X		Various anthropogenic activities may degrade the ecosystem.
25. Proliferation of exotic and/ or hazardous species			X		Unknown
26. Destruction of wetlands and peat lands			X		Local people interference may be destroy the lands.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Reduction of water flow inside will reduce erosion but will increase outside the project area
31. Soil salinization				X	There is no salinity in the soil and water
32. Deterioration of soil fertility	X				Char soil is light textured, low in plant nutrients silt will enrich soil but water proofing will deprive silt
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals will be foliar, little chance of mixing with soil
34. Devastation or desertification of land		X			Nutrient enriched silt deposition will be reduced inside the project
35. Devastation of hinterland		X			Silt deposition will increase and may cause water logging
36. Ground subsidence				X	Project will not cause drying of soil and no change of ground subsidence
37. Change in surface water hydrology				X	Little possibility of changing surface water hydrology
38. Change in groundwater hydrology			X		Depends on future groundwater use and recharge pattern
39. Inundation and flooding			X		May cause inundation and flooding within the flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but will increase outside
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact will be on inland navigation
43. Water Contamination and deterioration of water quality			X		Flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water entrophication			X		Stagnant water with nutrients may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Less possibility of water temperature changing
47. Air pollution				X	No significant air pollution

Table 4.11 Environmental Impact Identification on Belkuchi Upazila in Sirajganj District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Sirajganj

Upazila: Belkuchi

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement	X				Guchcho Gram
2. Involuntary resettlement	X				Embankment
3. Substantial changes in the way of life		X			NGOs are taking bad for females mobility, which is on the increasing side.
4. Conflict among communities and people			X		Unknown
5. Impact on native people		X			They are getting better for Dev. Pro.
6. Population increase		X			Increase in Urban centers for facilities.
7. Drastic change in population composition			X		Not fully known
8. Changes in bases of economic activities		X			Due to Jamuna Bridge every thing goes to Dhaka as a result they get more money.
9. Occupational change and loss of job opportunities			X		Not that much
10. Increase in income disparities			X		Not Known
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education increase NGOs increase
13. Changes in existing institutions and customs		X			Superstition decline
14. Increased use of agrochemicals			X		Use of agro-chemicals is low-some increase of agro-chemicals use is possible
15. Outbreak of endemic diseases			X		Not known
16. Spreading of endemic diseases			X		Un Known
17. Residual toxicity of agrochemicals				X	Residual toxicity may not in crease
18. Increase in domestic and other human wastes			X		Not known
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Sediment deposition and river embankment erosion will be change the vegetation.
23. Negative impact on important or indigenous fauna and flora				FI+	By vanishing of one year's plant community and destroying of natural fishes and negative impact.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
and flora			Fa+		destroying of natural fishes and negative impact.
24. Degradation of ecosystems with biological diversity			X		Indiscriminate use of natural resources and illegal hunting will degrade the ecosystem.
25. Proliferation of exotic and/ or hazardous species					Some sisso plants were dead by the roadside from khaddar more to Belkuchi thana.
26. Destruction of wetlands and peat lands			X		Specific information not available.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Reduction of water flow inside will be reduced but will increase out side
31. Soil salinization				X	There is no Salinity in Soil and water in the area.
32. Deterioration of soil fertility	X				Char soil is low in plant nutrients silt enrich soil but water proofing will deprive silt.
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals will be foliar and little chance of mixing with soil.
34. Devastation or desertification of land		X			Nutrient enriched silt deposition will be low inside
35. Devastation of hinterland		X			Silt deposition will in crease and this may cause water logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence
37. Change in surface water hydrology				X	Will not cause significant change in surface water hydrology
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		May cause inundation and flooding within the flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but will be high out side.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Will depend on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with martinets may cause water entrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Little change in water temperature
47. Air pollution				X	No significant air pollution is anticipated

**Table 4.12 Environmental Impact Identification on Sirajganj Sadar
Upazila in Sirajganj District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Sirajganj

Upazila: Sadar

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			Asrayon Prokolpo
2. Involuntary resettlement		X			Embankment
3. Substantial changes in the way of life		X			Involment in NGO activities.
4. Conflict among communities and people			X		Unknown
5. Impact on native people			X		Unknown
6. Population increase			X		Unknown
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities			X		Unknown
9. Occupational change and loss of job opportunities			X		Unknown
10. Increase in income disparities			X		Unknown
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures			X		Unknown
13. Changes in existing institutions and customs			X		Unknown
14. Increased use of agrochemicals			X		Present use of agro-chemicals in low. CI in future will increase with the use of agro-chemicals
15. Outbreak of endemic diseases			X		Unknown
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals			X		If Vegetable area in creases, this is chance of in crease of residual toxicity
18. Increase in domestic and other human wastes			X		Unknown
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation			X		Sedimentation problem be change the vegetation
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		Successional habitat destruction and fish and wildlife habitat declination can impact negatively.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
24. Degradation of ecosystems with biological diversity			X		Illegal and indiscriminate uses of natural resources.
25. Proliferation of exotic and/ or hazardous species			X		Unknown
26. Destruction of wetlands and peat lands			X		Multifarious anthropogenic activities one involving to destruct the wetland and peat lands.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion	X				At present the area is vulnerable to soil erosion
31. Soil salinization				X	There is no salinity in soil land water in the area
32. Deterioration of soil fertility	X				Char soil is low in plant nutrients, Silt enrich soil but water Proofing will deprive the silt.
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals will be foliar and little chance of mixing with soil
34. Devastation or desertification of land		X			Enriched silt deposition will be low inside
35. Devastation of hinterland		X			Silt deposition will increase and these may cause water-logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence,
37. Change in surface water hydrology				X	Will not cause significant change in surface water hydrology
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		May cause inundation and flooding within the flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but will be high out side
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Will depend on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with martinetes may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Little change in water temperature
47. Air pollution				X	No significant air pollution is anticipated

Table 4.13 Environmental Impact Identification on Ajmiriganj Upazila in Habiganj District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Habiganj		Upazila: Ajmiriganj				Evaluation Basis
Categories of Environmental Impact		A	B	C	D	
1.	Planned residential settlement	X				Guchcho Gram
2.	Involuntary resettlement			X		Not Happened
3.	Substantial changes in the way of life		X			Females participation and their mobility increased.
4.	Conflict among communities and people			X		Not known
5.	Impact on native people		X			They are getting better off.
6.	Population increase			X		Not known and need detailed study.
7.	Drastic change in population composition			X		Un known and need detailed study.
8.	Changes in bases of economic activities			X		Very little change
9.	Occupational change and loss of job opportunities			X		Loosing jobs and also getting jobs.
10.	Increase in income disparities			X		Unknown and need detailed study.
11.	Adjustment & regulation in water or fishing (riparian) rights			X		Unknown.
12.	Changes in existing institutional structures		X			Education Increase NGOs involvement.
13.	Changes in existing institutions and customs			X		Not Known.
14.	Increased use of agrochemicals			X		Present CI and use of agro-chemicals are low. Future CI and use of agro-Chemicals will not change much.
15.	Outbreak of endemic diseases		X			During Flood people get a kind got "Fever"
16.	Spreading of endemic diseases			X		Unknown.
17.	Residual toxicity of agrochemicals			X		As CI will not change, these will be little residual toxicity
18.	Increase in domestic and other human wastes			X		Increase but not well managed.
19.	Impairment of historic remains and cultural assets			X		Unknown and need detailed study.
20.	Damage to aesthetic sites			X		Unknown and need detailed study.
21.	Impairment of buried assets			X		Unknown
22.	Change in vegetation		X			Irrigation practice and fertilizers & pesticides application may be reduced the haor vegetation.
23.	Negative impact on important or indigenous fauna and flora			FI+		Common indication plant species (i.e. high koroch and barun) and some indigenous fishes and aquatic

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
and flora			Fa+		fauna may be affected by the destructive habit of local people.
24. Degradation of ecosystems with biological diversity			X		Use of agro-chemicals and water management system be degrade the biodiversity
25. Proliferation of exotic and/ or hazardous species			X		Information not available
26. Destruction of wetlands and peat lands			X		Wetland and peat land may be extincted by human controlling practice.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Control of water flow will reduce soil erosion inside but may increase outside
31. Soil salinization				X	These is no salinity in soil and water in the area
32. Deterioration of soil fertility			X		Haor soil is rich and partial flood proofing will not cause change of soil fertility
33. Soil contamination by agrochemicals and others			X		Use of agro-chemicals will be low and little change of soil contamination
34. Devastation or desertification of land		X			Silt deposition will be low inside but may increase outside.
35. Devastation of hinterland		X			Silt deposition will in crease and may cause water logging
36. Ground subsidence				X	The Project will not cause drying of the soil and no change of soil subsidence
37. Change in surface water hydrology				X	Change surface water hydrology will be little
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		Inundation and flooding may be cause within the flood proofing area
40. Sedimentation		X			Sedimentation will be reduced inside but may increase outside
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Non-flow water with enough nutrition may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Change of water temperature will be small
47. Air pollution				X	No significant air pollution is anticipated

**Table 4.14 Environmental Impact Identification on Habiganj Sadar
Upazila in Habiganj District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Habiganj

Upazila: Sadar

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			Guchcho Gram.
2. Involuntary resettlement			X		Unknown
3. Substantial changes in the way of life		X			Involvement in NGO activities.
4. Conflict among communities and people			X		Unknown.
5. Impact on native people			X		Unknown.
6. Population increase			X		Unknown.
7. Drastic change in population composition			X		Unknown.
8. Changes in bases of economic activities			X		Unknown.
9. Occupational change and loss of job opportunities			X		Unknown.
10. Increase in income disparities			X		Unknown.
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown.
12. Changes in existing institutional structures		X			CBOs, Small lottery cooperatives.
13. Changes in existing institutions and customs		X			Marriage age, child-marriage judgment (informal)
14. Increased use of agrochemicals		X			The CI is high and use of agro-chemicals is moderate. In future agro-chemicals use may increase
15. Outbreak of endemic diseases			X		Unknown
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals		X			It vegetable cultivation increase these are chance of residual toxicity
18. Increase in domestic and other human wastes			X		Unknown
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Changes of agricultural pattern and uses of over-dose fertilizer and pesticides be changed the vegetation

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		Indicator plant species i.e. Hijal, koroch, barun and natural fishes and wildlife species may be depleted
24. Degradation of ecosystems with biological diversity			X		By using poisonous agro-chemicals illegal cutting and hunting will be degrade the ecosystem and duline the biodiversity
25. Proliferation of exotic and/ or hazardous species			X		Information not available
26. Destruction of wetlands and peat lands			X		Developmental activities and water management system may be extinct the wetland and peat lands.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water flow inside will reduce soil erosion but may in crease outside.
31. Soil salinization				X	There is no salinity a soil land water in the area
32. Deterioration of soil fertility			X		Soil is fertile and CI is low, Partial Water Proofing will not change soil fertility
33. Soil contamination by agrochemicals and others			X		Use of agro-chemicals may increase and may contaminate soil
34. Devastation or desertification of land		X			Silt deposition will be low inside but will increase out side.
35. Devastation of hinterland		X			Silt deposition will increase and may cause water logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of soil subsidence
37. Change in surface water hydrology				X	Change surface water hydrology will be little
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		Inundation and flooding may be cause within the flood proofing area
40. Sedimentation		X			Sedimentation will be reduced inside but will increase outside
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Non-flow water with enough nutrition may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Change of water temperature will be small
47. Air pollution				X	No significant air pollution is anticipated

**Table 4.15 Environmental Impact Identification on Baniachang Upazila
in Habiganj District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Habiganj

Upazila: Baniachang

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement			X		Not Known
2. Involuntary resettlement			X		Un Known
3. Substantial changes in the way of life		X			Females Mobility increased they are getting credit and doing better than earlier.
4. Conflict among communities and people			X		Nothing Happened.
5. Impact on native people		X			Native people are coming forward, getting better off.
6. Population increase			X		Not known fully.
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities		X			NGOs are taking land to pulling the women in Dev. Prog. Femals mobility rate increased.
9. Occupational change and loss of job opportunities		X			Job changes, New jobs are created but people are not being unemployed.
10. Increase in income disparities			X		Unknown
11. Adjustment & regulation in water or fishing (riparian) rights			X		Not Known
12. Changes in existing institutional structures		X			Education. Class Formation. Change in classes.
13. Changes in existing institutions and customs			X		Need to know further.
14. Increased use of agrochemicals		X			Though CI is low but HYV T. Aman is grown and use of agro-chemicals is moderate.
15. Outbreak of endemic diseases			X		Not known
16. Spreading of endemic diseases			X		Not known
17. Residual toxicity of agrochemicals		X			If vegetable Production increases, These may be residual toxicity
18. Increase in domestic and other human wastes			X		Un planed management
19. Impairment of historic remains and cultural assets			X		These are some but not know where being effected by dev. Or not.
20. Damage to aesthetic sites			X		Not known
21. Impairment of buried assets			X		Unknown

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
22. Change in vegetation		X			At the time of cultivation, vegetation may be reduce and some species be distracted by agro-chemical uses.
23. Negative impact on important or indigenous fauna and flora			Fl+ Fa+		To gain more production from haor being various indigenous fauna and flora be destroy.
24. Degradation of ecosystems with biological diversity			X		Controlled water management system and agro-chemicals use may be degrade the haor ecosystem
25. Proliferation of exotic and/ or hazardous species			X		Available information is not found
26. Destruction of wetlands and peat lands			X		Various developmental activities may the destroy the wetted & peat lands sequentially.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water flow inside will reduce soil erosion but may increase outside.
31. Soil salinization				X	These is no salinity in soil and water in the area.
32. Deterioration of soil fertility			X		The soil in rich and partial Flood Proofing will not cause reduction of fertility
33. Soil contamination by agrochemicals and others			X		Use of agro-chemicals may in crease and may contaminate the soil.
34. Devastation or desertification of land		X			Silt deposition will be reduced inside but will in crease outside.
35. Devastation of hinterland		X			Silt deposition will be higher and may cause water logging.
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence
37. Change in surface water hydrology				X	Change surface water hydrology will be little
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		Inundation and flooding may be cause within the flood proofing area
40. Sedimentation		X			Sedimentation will be low inside but high outside
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Non-flow water with enough nutrition may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Change of water temperature will be small
47. Air pollution				X	No significant air pollution is anticipated

Table 4.16 Environmental Impact Identification on Tarail Upazila in Kishoreganj district

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Kishoreganj

Upazila: Tarail

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			Ashrayon Prokolpo
2. Involuntary resettlement			X		Unknown
3. Substantial changes in the way of life		X			Peoples involvement with the dev. Initiatives esp. NGOs.
4. Conflict among communities and people			X		Unknown
5. Impact on native people			X		Unknown and need detailed study.
6. Population increase			X		Unknown and need detailed study.
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities		X			Females mobility, involvement in NGOs, activates.
9. Occupational change and loss of job opportunities			X		Unknown
10. Increase in income disparities			X		Unknown
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education, CBOs, communal Rel.
13. Changes in existing institutions and customs			X		Need detailed study.
14. Increased use of agrochemicals			X		Present CI and use of agro-chemicals are high. Further increase is not expected
15. Outbreak of endemic diseases			X		Unknown and need detailed study.
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals			X		Residual toxicity may be present at present but little chance on increase due to water proofing intervention.
18. Increase in domestic and other human wastes			X		Unknown
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Indiscriminate use of land to gain more production be change the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			X		Hijal, Koroch, Barun and other indicator plant species and natural fishes and wild life loss their special habitat.
24. Degradation of ecosystems with biological diversity			X		Cutting, hunting and using of agro-chemicals be degrade the ecosystem.
25. Proliferation of exotic and/ or hazardous species			X		Unknown.
26. Destruction of wetlands and peat lands			X		Controlled water management system and developmental activates may destruct the wetland, and peat lands.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Control of Water flow will reduce soil erosion inside but may increase outside.
31. Soil salinization				X	These is no salinity in soil and water in the area.
32. Deterioration of soil fertility			X		Partial water proofing will not reduce soil fertility.
33. Soil contamination by agrochemicals and others			X		The Project will not induce soil contamination by agro-chemicals.
34. Devastation or desertification of land		X			Silt deposition will be low inside but high outside
35. Devastation of hinterland		X			Silt deposition will high and may cause water logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence.
37. Change in surface water hydrology				X	No change in surface water hydrology will happen due to this project
38. Change in groundwater hydrology			X		It will depend on the future groundwater use and recharge characteristics
39. Inundation and flooding			X		Due to the new embankment flash flood may cause inundation and flooding
40. Sedimentation		X			Sedimentation will be low inside but high out side
41. Riverbed degradation				X	No perineal river exists within this area
42. Impediment of inland navigation				X	No inland navigation in this upazila
43. Water Contamination and deterioration of water quality		X			The river Narasundha is a dead one and accumulating the waste loads in the water body
44. Water eutrophication		X			No eutrophication for this project, but eutrophication is there already
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	No change in temperature of water due to this project
47. Air pollution				X	Less project is anticipated hence no air pollution will occur

Table 4.17 Environmental Impact Identification on Bajitpur Upazila in Kishoreganj District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Kishoreganj

Upazila: Bajitpur

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement	X				Asrayon Prokolpo
2. Involuntary resettlement		X			LOWHO GAOR embankment
3. Substantial changes in the way of life		X			Women's participation in development NGOs initiatives.
4. Conflict among communities and people		X			They have good relationship with New shelters.
5. Impact on native people		X			Native people are getting benefited.
6. Population increase		X			Population in crease in business centers.
7. Drastic change in population composition			X		Male ratio is increasing in commercial places.
8. Changes in bases of economic activities		X			Life style is being changed.
9. Occupational change and loss of job opportunities		X			Changes are there but no losing rather gaining new opportunity.
10. Increase in income disparities			X		Not known fully and need detailed study.
11. Adjustment & regulation in water or fishing (riparian) rights			X		Not fully Known.
12. Changes in existing institutional structures		X			Education, CBO development.
13. Changes in existing institutions and customs			X		Not known and need detailed study.
14. Increased use of agrochemicals		X			Present CI is moderate and use of agro-chemicals is high.
15. Outbreak of endemic diseases			X		Not known
16. Spreading of endemic diseases			X		Not known
17. Residual toxicity of agrochemicals			X		If vegetable Production increase These may be residual toxicity
18. Increase in domestic and other human wastes		X			Increasing & being used as composed.
19. Impairment of historic remains and cultural assets			X		Unknown and need detailed study.
20. Damage to aesthetic sites			X		Unknown and need detailed study.
21. Impairment of buried assets			X		Unknown and need detailed study.
22. Change in vegetation		X			Modern cultivation pattern will be change the haor vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			X		Some indicator species of haor i.e hizal, koroch and save fishes and wildlife habitats will decline
24. Degradation of ecosystems with biological diversity			X		Indiscriminate use of agro-chemicals and illegal cutting and hunting be degrade the ecosystem
25. Proliferation of exotic and/ or hazardous species			X		Information not available
26. Destruction of wetlands and peat lands		X			Controlled water management system and various developmental activities be deplete the wetland peat lands.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Control of water flow inside will reduce soil erosion but will increase out side
31. Soil salinization				X	These is no salinity is soil and water in the area.
32. Deterioration of soil fertility		X			Partial Flood Proofing will not cause reduction of soil fertility
33. Soil contamination by agrochemicals and others		X			Use of agro-chemicals is high. In future, this may increase and may contaminate soil
34. Devastation or desertification of land		X			Silt deposition will be low inside but will be high outside
35. Devastation of hinterland		X			Silt deposition will in crease and this may cause water logging
36. Ground subsidence				X	The Project will not cause drying of soil and no change of ground subsidence
37. Change in surface water hydrology					
38. Change in groundwater hydrology					
39. Inundation and flooding					
40. Sedimentation		X			Sedimentation will be low in side but high out side
41. Riverbed degradation					
42. Impediment of inland navigation					
43. Water Contamination and deterioration of water quality					
44. Water entrophication					
45. Sea water intrusion					
46. Change in temperature of water					
47. Air pollution					

**Table 4.18 Environmental Impact Identification on Mithamain Upazila
in Kishoreganj District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Kishoreganj

Upazila: Mithamain

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement			X		Not Known and need detailed study.
2. Involuntary resettlement			X		No such Program
3. Substantial changes in the way of life		X			Females Participation in development Field
4. Conflict among communities and people			X		Not known and need detailed study.
5. Impact on native people		X			Positive impact/They are getting better off.
6. Population increase			X		Unknown and need detailed study.
7. Drastic change in population composition			X		Unknown and need detailed study.
8. Changes in bases of economic activities			X		It seems but not known details
9. Occupational change and loss of job opportunities			X		Not Known and need detailed study.
10. Increase in income disparities			X		Unknown and need detailed study.
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education, NGO, Social organization,
13. Changes in existing institutions and customs		X			Marriage, Hospitality
14. Increased use of agrochemicals			X		Present CI and use of agro-chemicals are low. There will be little change of future CI and use of agro-chemicals.
15. Outbreak of endemic diseases			X		Not known
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals			X		As there will be little change of use of agro-chemicals, There will be little residual toxicity
18. Increase in domestic and other human wastes			X		Unknown and need detailed study.
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Need to know
22. Change in vegetation		X			By changing the agricultural use of agro-chemicals will be changed the vegetation
23. Negative impact on important or indigenous fauna and flora			FI+		Special type at plant specie i.e. hizal, koroch and asmost fishes and same wildlife species may be

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
and flora			Fa+		decline.
24. Degradation of ecosystems with biological diversity			X		Various destructive habit of local people may divert and degrade of ecosystem with biodiversity.
25. Proliferation of exotic and/ or hazardous species			X		Not known
26. Destruction of wetlands and peat lands			X		Developmental activities and Controlled water management system will be destroy the wetted and peat lands.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion		X			Control of flow of water inside will reduce soil erosion but may increase outside.
31. Soil salinization				X	These is no salinity in soil and water in the area.
32. Deterioration of soil fertility			X		The soil is clay loam and rich. Partial flood Proofing will not cause reduction of soil fertility.
33. Soil contamination by agrochemicals and others			X		Use of agro-chemicals will be low. These will be little chance of contamination with soil
34. Devastation or desertification of land		X			Silt deposition will be low inside but will be high outside.
35. Devastation of hinterland		X			Silt deposition will be high and may cause water logging
36. Ground subsidence				X	The project will not cause drying of soil and no change of ground subsidence.
37. Change in surface water hydrology				X	It is anticipated that there will not be constructed any dam or structure across the river
38. Change in groundwater hydrology			X		It will need detail study, based on the type of recharge
39. Inundation and flooding				X	Due to this project there will not be any inundation and flooding
40. Sedimentation		X			Sediment will be low inside and will be high out side.
41. Riverbed degradation				X	Sufficient sediment load in the river waters
42. Impediment of inland navigation				X	No structure will be constructed across the rivers under this project
43. Water Contamination and deterioration of water quality			X		Need further study, based on flood shelter, use of agrochemicals, flood proofing works
44. Water entrophication			X		Still water with nutrient like Nitrogen, may cause eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	There is little possibility of changing water temperature
47. Air pollution				X	During implementation, there may be some air pollution, otherwise this project will not cause air pollution

Table 4.19 Environmental Impact Identification on Madan Upazila in Netrokona District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Netrokona

Upazila: Madan

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			Asrayon Prokolpo
2. Involuntary resettlement			X		Nothing happened
3. Substantial changes in the way of life		X			Females Mobility is increasing take part in decision making.
4. Conflict among communities and people			X		Nothing is reported
5. Impact on native people		X			They are being benefited.
6. Population increase		X			Population increase in urban areas.
7. Drastic change in population composition		X			Mainly make population due to business or income gen.
8. Changes in bases of economic activities		X			Income increased. People are being self reliant.
9. Occupational change and loss of job opportunities		X			Occupation changes but not loosing job rater getting new jobs.
10. Increase in income disparities			X		Need to known
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education. CBO establishment
13. Changes in existing institutions and customs			X		Superstition declining
14. Increased use of agrochemicals			X		Present Cl is moderate and use of agro-chemicals is low. Chance of increase of use of agro-chemicals is low.
15. Outbreak of endemic diseases			X		Unknown.
16. Spreading of endemic diseases			X		Unknown.
17. Residual toxicity of agrochemicals			X		Little chance of in crease of residual toxicity due to water Proofing
18. Increase in domestic and other human wastes			X		Unplanned management.
19. Impairment of historic remains and cultural assets			X		Unknown the effect
20. Damage to aesthetic sites			X		Not known
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			By adopting the modern agricultural system may be change the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			X		Hizal, Koroch and other special plant species of haor area and save fishes and wildlife species very much depleted
24. Degradation of ecosystems with biological diversity			X		Practice of agro-chemicals use, cutting and hunting behaviors be degrade the ecosystem.
25. Proliferation of exotic and/ or hazardous species			X		Not known
26. Destruction of wetlands and peat lands			X		Controlled water management system and various developmental activities be destroy the wetland and peat lands.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Control Water flow inside will reduce soil erosion but will increase outside
31. Soil salinization				X	These is no Salinity in soil and water in the area.
32. Deterioration of soil fertility		X			Partial Water Proofing will not cause reduction of soil fertility
33. Soil contamination by agrochemicals and others			X		Use of agro-Chemicals is low. The Project will not induce soil contamination by agro-chemical
34. Devastation or desertification of land		X			Silt deposition will be low inside but high outside
35. Devastation of hinterland		X			Silt deposition will be increased. And this may cause water logging
36. Ground subsidence				X	The Project will not induce drying of soil and no change of ground subsidence
37. Change in surface water hydrology				X	Less possibility of changing surface water hydrology
38. Change in groundwater hydrology			X		Depends on future groundwater use and recharge pattern
39. Inundation and flooding			X		Flash flood may cause inundation and flooding for new flood protection
40. Sedimentation		X			Sedimentation will be low inside and high outside.
41. Riverbed degradation				X	River water contains high turbidity
42. Impediment of inland navigation				X	No structure is anticipated across the river
43. Water Contamination and deterioration of water quality			X		Depends on type of flood proofing structures, shelters
44. Water entrophication			X		Stagnant water will nutrient may cause entrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	There is little possibility of changing water temperature
47. Air pollution				X	Some air pollution will occur during implementation, otherwise this project will not cause air pollution

Table 4.20 Environmental Impact Identification on Barhatta Upazila in Netrokona District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Netrokona

Upazila: Barhatta

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement		X			Astirapor Prokoilpo
2. Involuntary resettlement			X		Nothing happened.
3. Substantial changes in the way of life		X			Females movement increasing as a result of Dev. Prog.
4. Conflict among communities and people			X		Not Known, need detailed study
5. Impact on native people		X			The Native people are being benefited by the development initiative.
6. Population increase		X			Population increase in urban centers as a result of Development.
7. Drastic change in population composition		X			Male population rate is rapidly increasing in the urban centers.
8. Changes in bases of economic activities		X			The local people are participated in Dev. Work as a result they are being benefited.
9. Occupational change and loss of job opportunities			X		Losing jobs but at the same time they are also getting jobs.
10. Increase in income disparities			X		Not Known, need detailed study
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures			X		Not Known, need detailed study
13. Changes in existing institutions and customs			X		Some changes are these but not fully known
14. Increased use of agrochemicals		X			Being increased
15. Outbreak of endemic diseases			X		Nothing reported
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals		X			Environment is polluted
18. Increase in domestic and other human wastes			X		Increase but, un plan management
19. Impairment of historic remains and cultural assets			X		Unknown, need detailed study
20. Damage to aesthetic sites			X		Need further study
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Change of cultivation pattern and agro-chemicals to be change the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			Fl+ Fl+		Special type of plant species like hizal, Korooh and most of the natural fishes and wildlife species be reduce.
24. Degradation of ecosystems with biological diversity			X		Indiscriminate use of pesticide and fertilizers, cutting and hunting behavior pattern of local people be degrade the ecosystem .
25. Proliferation of exotic and/ or hazardous species			X		Information not available
26. Destruction of wetlands and peat lands			X		Development activities and controlled water management system destruct the wet land peat lad.
27. Decrease of tropical rain forests and wild lands					Not Applicable
28. Destruction of tropical rain forests and wild lands					Not Applicable
29. Degradation of coral reefs					Not Applicable
30. Soil erosion			X		New embankment may cause erosion
31. Soil salinization				X	The project will not increase soil salinity
32. Deterioration of soil fertility				X	Soil is rich and partial flood protection will not cause reduction of soil fertility
33. Soil contamination by agrochemicals and others			X		Not much agrochemicals are used now. No soil contamination is anticipated by this project
34. Devastation or desertification of land			X		Soil deposition will be low within the flood proofing area
35. Devastation of hinterland			X		There is a possibility of water logging within the flood proofing area
36. Ground subsidence				X	For this ground subsidence will occur, as it is a flood proofing project
37. Change in surface water hydrology				X	Though this project so change in surface water hydrology is anticipated
38. Change in groundwater hydrology			X		Depends on future groundwater use and recharge characteristics
39. Inundation and flooding			X		Flash flood may cause inundation and flooding within this protected area
40. Sedimentation			X		No cross dam or obstruction of river flow will occur, so less possibility of sedimentation
41. Riverbed degradation				X	Less significant as sufficient sediment load in the river water
42. Impediment of inland navigation				X	No impact is anticipated in inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Stagnant water with sufficient nutrient may cause eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Change in water temperature will be little
47. Air pollution				X	Due to this project no air pollution will occur, except implementation phase

**Table 4.21 Environmental Impact Identification on Sunamganj Sadar
Upazila in Sunamganj District**

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Sunamganj

Upazila: Sadar

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement	X				Guchch gram and Adorsho
2. Involuntary resettlement	X				Embankment
3. Substantial changes in the way of life		X			Females involvement in Dev. Projects and their mobility.
4. Conflict among communities and people			X		Unknown
5. Impact on native people		X			They are getting yield out of it
6. Population increase			X		Unknown
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities		X			Economical solvency is notice able here.
9. Occupational change and loss of job opportunities		X			Greeting new job opportunity
10. Increase in income disparities			X		Unknown
11. Adjustment & regulation in water or fishing (riparian) rights			X		Unknown
12. Changes in existing institutional structures		X			Education, CBOs, Vol org.
13. Changes in existing institutions and customs		X			Shalish, (village court).
14. Increased use of agrochemicals				X	Present cropping intensity (CI) is dow. There will not be much increase of CI in future agro-chemical uses low
15. Outbreak of endemic diseases			X		Unknown
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals				X	The area is a annually flooded. Little chance of residual toxicity
18. Increase in domestic and other human wastes			X		Unknown
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Modern cultivation practice may be change the vegetation.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
23. Negative impact on important or indigenous fauna and flora			X		Important indigenous flora and fauna may be change by the activates of local people.
24. Degradation of ecosystems with biological diversity			X		Practice of agrochemical use and water management system be degrade the ecosystem rapidly.
25. Proliferation of exotic and/ or hazardous species			X		Information is not available
26. Destruction of wetlands and peat lands			X		By using of agro-chemicals or pesticides.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water inside will reduce soil erosion but will increase outside area
31. Soil salinization				X	There is no salinity is soil and in water in the area.
32. Deterioration of soil fertility			X		Haor soil clayey and rich. Partial flood Proofing will not cause reduction of soil fertility
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals is low. In future very little will increase little chance of soil contamination
34. Devastation or desertification of land		X			Silt deposition will be low inside but will be high outside
35. Devastation of hinterland	X				Silt deposition will increase and may cause water logging.
36. Ground subsidence					The project will not cause drying of soil and ground subsidence with not change
37. Change in surface water hydrology				X	No significant change in surface water hydrology
38. Change in groundwater hydrology			X		Future ground water use and recharge pattern
39. Inundation and flooding			X		May cause inundation and flooding within the proofing area
40. Sedimentation		X			The sedimentation will be reduced inside but will increase outside.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No significant impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Still water with sufficient nutrition may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	No significant change in water temperature
47. Air pollution				X	No significant contribution for air pollution

Table 4.22 Environmental Impact Identification on Derai Upazila in Sunamganj District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Sunamganj

Upazila: Derai

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement			X		Unknown
2. Involuntary resettlement			X		Nothing happened
3. Substantial changes in the way of life		X			Females involvement in credit program of BRAC. Mobility increase.
4. Conflict among communities and people			X		Not Known
5. Impact on native people			X		Not Known
6. Population increase			X		Unknown
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities			X		Unknown
9. Occupational change and loss of job opportunities			X		Not Known
10. Increase in income disparities			X		Not Known
11. Adjustment & regulation in water or fishing (riparian) rights			X		Not Known
12. Changes in existing institutional structures			X		Unknown
13. Changes in existing institutions and customs			X		Not Known
14. Increased use of agrochemicals				X	Present Cl and agro-chemicals use are low. Future cl will not increase much
15. Outbreak of endemic diseases			X		Un known
16. Spreading of endemic diseases			X		Unknown
17. Residual toxicity of agrochemicals				X	There will no residual toxicity of agro-chemicals
18. Increase in domestic and other human wastes			X		Unknown
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Vegetation may be Blysed by
22. Change in vegetation		X			Use of agro-chemicals.
23. Negative impact on important or indigenous fauna and flora			X		Hizal, Korach and other pland species and some natural fishes and wild life species be decline.

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
24. Degradation of ecosystems with biological diversity			X		Indies criminate use of some poisonous agro-chemicals may be degrade the hole ecosystem
25. Proliferation of exotic and/ or hazardous species			X		Unknown
26. Destruction of wetlands and peat lands			X		Extinction of wet land by the development activates and controlled water management system.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water inside and in crease the flow out side may cause erosion
31. Soil salinization				X	These is no salinity in soil and water in the area
32. Deterioration of soil fertility			X		Haor soil is clayey Partial flood Proofing will not cause reduction of fertility
33. Soil contamination by agrochemicals and others				X	Little chance of soil contamination as the use of agro-chemicals will be low
34. Devastation or desertification of land		X			Silt deposition will be reduced inside but will increase out side
35. Devastation of hinterland		X			Silt deposition will increase and this may cause drainage Problem
36. Ground subsidence				X	The Project will not cause drying of the soil and will not change ground subsides.
37. Change in surface water hydrology				X	Change surface water hydrology will be little
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		Inundation and flooding may be cause within the flood proofing area
40. Sedimentation	X				Sedimentation will be reduced inside but will increase out side.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Non-flow water with enough nutrition may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Change of water temperature will be less
47. Air pollution				X	No significant air pollution

Table 4.23 Environmental Impact Identification on Jamalganj Upazila in Sunamganj District

Applicable columns with the following impact degree and marked with "X"

- SEI : Significant Environmental Impact
 A : The subject SEI is unquestionably induced by the project
 B : The subject SEI is likely to be induced by the project
 C : The SEI is not fully known
 D : There is no possibility that the subject SEI is likely to be induced by the project

District: Sunamganj

Upazila: Jamalganj

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
1. Planned residential settlement			X		There is no project from the GOB. One NGO has taken initiative but unknown
2. Involuntary resettlement			X		No such program has initiated
3. Substantial changes in the way of life		X			Women are being involved in social activity, Mobility increased earning money.
4. Conflict among communities and people			X		Nothing has been noticed.
5. Impact on native people		X			Native people are being benefited the are doing better than earlier.
6. Population increase			X		Not fully known
7. Drastic change in population composition			X		Unknown
8. Changes in bases of economic activities			X		Income increasing but not known clearly.
9. Occupational change and loss of job opportunities			X		Loosing job but also getting new job. Details is not known.
10. Increase in income disparities			X		Not known.
11. Adjustment & regulation in water or fishing (riparian) rights			X		There are some but not being administrated regularly.
12. Changes in existing institutional structures			X		Education is almost same Dowry is there but not fully known.
13. Changes in existing institutions and customs			X		Not fully known
14. Increased use of agrochemicals				X	Present CI and use of agro-chemicals are low. Future ci and use of agro-chemicals will not change much
15. Outbreak of endemic diseases			X		Not known. Spread of diarrheal Disease
16. Spreading of endemic diseases			X		Nothing sum.
17. Residual toxicity of agrochemicals				X	The area is regularly flooded there will be little residual toxicity
18. Increase in domestic and other human wastes			X		Increasing but most of the people don't use sanitary latrine.
19. Impairment of historic remains and cultural assets			X		Unknown
20. Damage to aesthetic sites			X		Unknown
21. Impairment of buried assets			X		Unknown
22. Change in vegetation		X			Vegetation may be changed sequentially due to multifarious human activities specially the cultivation direction
23. Negative impact on important or indigenous fauna and flora			X		Common indicator tree specie i. e. hijal, koroch, & barun and some natural fishes and wildlife species be decline

Categories of Environmental Impact	Evaluation				Evaluation Basis
	A	B	C	D	
					some natural fishes and wildlife species be decline
24. Degradation of ecosystems with biological diversity			X		Wild plants and animals are degrade by use of poisonous agro-chemicals improper water management system and illegal cutting and hunting of natural resources.
25. Proliferation of exotic and/ or hazardous species			X		Information is not available
26. Destruction of wetlands and peat lands			X		Extinction of wetland and peat land by various developmental activates and controlled water management system.
27. Decrease of tropical rain forests and wild lands					N/A
28. Destruction of tropical rain forests and wild lands					N/A
29. Degradation of coral reefs					N/A
30. Soil erosion		X			Reduction of water flow in side will reduce soil erosion but may increase outside.
31. Soil salinization				X	There is no salinity in soil and water in the area.
32. Deterioration of soil fertility			X		The soil of the area is fertile and partial flood Proofing will not reduce fertility.
33. Soil contamination by agrochemicals and others				X	Use of agro-chemicals is low. Little chance of increase in future.
34. Devastation or desertification of land		X			Silt deposition will be reduced inside but will increase outside
35. Devastation of hinterland		X			Silt deposition will increase and may cause water logging.
36. Ground subsidence				X	The Project will not cause drying of the soil and no change of ground subsidence.
37. Change in surface water hydrology				X	Change surface water hydrology will be little
38. Change in groundwater hydrology			X		Depends on future ground water use and recharge pattern
39. Inundation and flooding			X		Inundation and flooding may be cause within the flood proofing area
40. Sedimentation		X			The sedimentation inside will be reduced but out side will increase.
41. Riverbed degradation				X	Sufficient sediment load in river water
42. Impediment of inland navigation				X	No impact on inland navigation
43. Water Contamination and deterioration of water quality			X		Depends on flood proofing structures, use of agrochemicals, pesticides, etc.
44. Water eutrophication			X		Non-flow water with enough nutrition may cause water eutrophication
45. Sea water intrusion					Not applicable
46. Change in temperature of water				X	Change of water temperature will be less
47. Air pollution				X	No significant air pollution

**Table 4.24 Environmental Impact Identification
in Char and Haor Area**

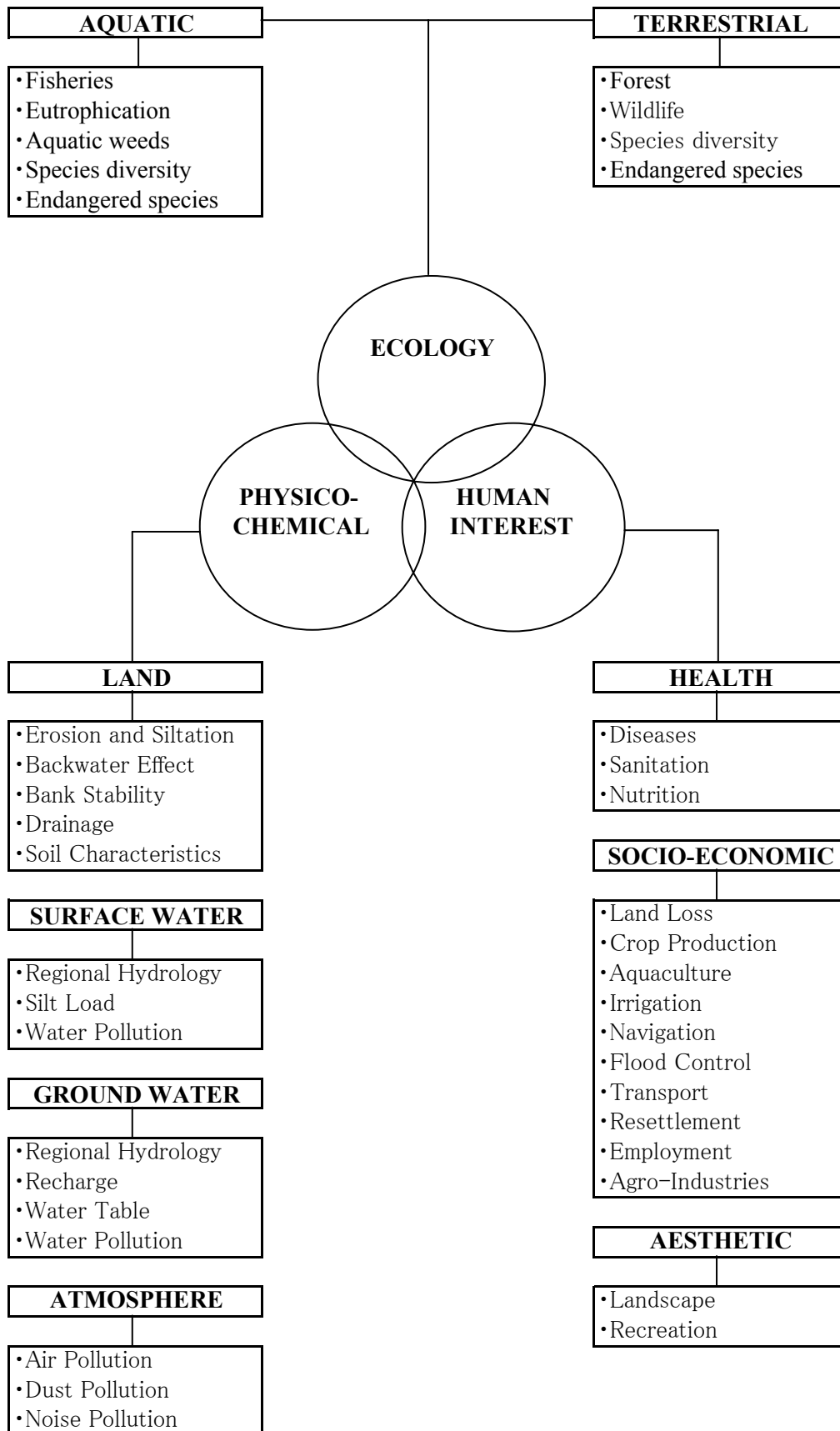
<u>Definition of Marking Criteria</u>	
A =	The Subject Significant Environment Impact (SEI) is unquestionably induced by the Project
B =	The Subject SEI is likely to be induced by the Project
C =	The SEI is not fully known
D =	There is no possibility that the subject SEI is likely to be induced by the Project

	Categories of Environmental Impact	Char Area	Haor Area	Remarks/ Evaluation Basis
Social Issues				
1.	Planned Residential Settlement	B	B	Is anticipated beneficial impact to the floating, landless or shifting cultivators
2.	Involuntary Settlement	C	C	Needs detail study regarding the issue, including mode of forced resettlement
3.	Substantial Changes in the Way of Life	B	B	From the study substantial positive changes in the way of life of the people is anticipated, particularly in the role of women through the implementation of the project through the involvement of different development activities
4.	Conflict among Communities and People	D	D	From the study it has been observed there is no possibility that the subject SEI is likely to be induced by the project.
5.	Impact on Native People	D	D	From the study it has been observed there is no possibility that the subject SEI is likely to be induced by the project.
Demographic Issues				
6.	Population Increase	C	C	There is a general tendency of increasing population within the study area and the country as whole. However, depending on the type of development activities, it will be varied. So, this needs further study with specific project type
7.	Drastic Changes in Population Composition	D	D	From the study it has been observed there is no possibility that the subject SEI is likely to be induced by the project
Economic Activities				
8.	Changes in Bases of Economic Activities	C	C	This will be dependent on particular activities in specific area. During IEE the SEI can not be identified
9.	Occupational Changes and Loss of Job Opportunities	C	C	For this project, the people will be economically benefited, but for occupational changes and loss of job, this needs to be studied wit specific area and type of activities
10.	Increase in Income Disparities	C	C	Income of the people in general within the study area especially in char area is poor. As it is not clearly defined the specific sites/area where the project development activities will occur so it is not possible to identify which income groups will be affected. However, the income will increase comparing to the present.
Institutional & Custom Related Issues				
11.	Adjustment & Regulation of Water or Fishing (riparian) Rights	C	C	Although it is anticipated that for this project it will not be required to adjust & regulation of water or fishing rights. However, further investigation will be required to know the adverse development effects on them.

	Categories of Environmental Impact	Char Area	Haor Area	Remarks/ Evaluation Basis
12.	Changes in Social and Institutional Structures	B	B	Objective of this study is to improve the living standard of the people. So, social and institutional structures will be developed obviously
13.	Changes in Existing Institutions and Customs	B	B	Changes in existing institutions and customs are expected due to the involvement of development activities. As a result existing societal and familial harmony may be destroyed
Health & Sanitary Impact				
14.	Increased Use of Agrochemicals	B	D	Present use of agrochemical is low in the Haor area and seems high in the Char area. There will be increased of cropping intensity and diversity and hence use of agrochemical may increase in the Char area due to project development activities.
15.	Outbreaks of Endemic Diseases	D	D	For this project there will not be any outbreaks of endemic diseases. Most of the people of the study area use ground water for domestic purpose. However, for flood shelter construction this issue should be taken care properly.
16.	Spreading of Endemic Diseases	C	C	If there is an outbreak of endemic diseases, the spreading will be dependent on the livelihood of the area. If their livelihood will improve through this project, there will not be any spreading, however, further study will require.
17.	Residual Toxicity of Agrochemical	D	D	Whatever agrochemicals are being used, monsoon rainfall will wash these. Also there is little use of agrochemical.
18.	Increase in Domestic and other Human Wastes	C	C	This will be dependent on population increase and as well as livelihood improvement. For more population and better domestic wastes will increase.
Cultural Asset Issues				
19.	Impairment of Historic Remains and Cultural Assets	C	C	During this short study period, it cannot identify, although some abundant properties reported in the study area.
20.	Damage to Aesthetic Sites	C	C	Not known, need detail study
21.	Impairment of Buried Assets	C	C	Not known, need detail study
Biological and Ecological Issues				
22.	Change in Vegetation	B	B	Wetland flora is affected for the monoculture practice in the haor area. Floral diversity has been lost for the encroachment in the haor and char area. Also felling of plants in the haor and char area cause the change in vegetation.
23.	Negative Impact on Important or Indigenous Fauna and Flora	B	B	Four species of flora has been depleted in the haor area. Endangered fauna has also been depleted in both the haor and char area
24.	Degradation of Ecosystems with Biological Diversity	B	B	Due to sedimentation, river bank erosion, use of agrochemicals and conversion will cause degradation of ecosystem with biodiversity
25.	Proliferation of Exotic and/or Hazardous Species	C	C	Further study needed. But it is reported that due to unknown disease above 200 plants dead at Belkuchi, Serajganj.
26.	Destruction of Wetlands and Peat Lands	D	B	Special features of wetlands has been destroyed in the haor area due to construction of roads, embankment, etc.
27.	Decrease of Tropical Rain Forests and Wild Lands	-	-	Not applicable for the study

	Categories of Environmental Impact	Char Area	Haor Area	Remarks/ Evaluation Basis
28.	Destruction or Degradation of Mangrove Forests	-	-	Not applicable for the study
29.	Degradation of Coral Reefs	-	-	Not applicable for the study
Soil and land resources				
30.	Soil Erosion	B	B	Water flow will be reduced inside of the embankment/road but will increase in the outside surrounding area, which may wash the soil
31.	Soil Salinization	D	D	There is no salinity in the soil
32.	Deterioration of Soil Fertility	A	C	Char soil is light textured, low in plant nutrients, silt from the flood enrich soil but flood proofing will deprive it. Haor soil is normally rich, flood proofing will decrease silt deposit but little change of soil fertility may occur, which need further study
33.	Soil Contamination by Agro-Chemicals and Others	D	D	Whatever agrochemicals are used in char area will be in foliar spray, little chance of mixing with soil. Low agrochemicals will be used and hence also little chance of soil contamination in haor area.
34.	Devastation or Desertification of Land	D	B	Flood proofing will increase land productivity inside the project in char area. In haor area inside the flood proofing land productivity will increase but may increase silt deposit outside, which may cause water logging.
35.	Devastation of Hinterland	B	B	Water flow in the surrounding will increase and cause soil erosion
36.	Ground Subsidence	C	C	There will be little abstraction of groundwater under this project, so ground subsidence may not occur. However, it requires further study.
Hydrology, water quality and air				
37.	Change in Surface Water Hydrology	C	C	It will not cause any remarkable change in the major rivers of the area, hence surface water hydrology. However, after identifying the specific intervention this issue can be assessed properly.
38.	Change in Ground Water Hydrology	C	C	Although this project will not use much groundwater except drinking purpose, change in ground water hydrology is not anticipated. However, depending on the change in recharge characteristics due to any project activity this may change, which needs to be identified.
39.	Inundation and Flooding	B	B	Due to heavy rain and flash flood, there may be inundation and flooding within the flood protected area
40.	Sedimentation	B	B	Sediment deposition will be increased outside, which will cause land level rising and subsequent water logging
41.	Riverbed Degradation	D	D	In the haor area due to flood protection intervention, the flow of the rivers may increase, but due to sufficient sediment load in the rivers, there is less possibility of riverbed degradation.
42.	Impediment of Inland Navigation	D	D	As this project will not construct any structure in the rivers or channels, there will not cause any impediment of inland navigation.
43.	Water Contamination and Deterioration of Water Quality	C	C	As better livelihood is one of the important components of the project, improve sanitation and hygiene education will reduce water contamination. However, further study with specific intervention will be required.
44.	Water Eutrophication	C	C	If any water logging occur due to the project activities, combined with use of nitrogenous and phosphorous fertiliser, there is the possibility of water eutrophication. This needs further specific study.

	Categories of Environmental Impact	Char Area	Haor Area	Remarks/ Evaluation Basis
45.	Sea Water Intrusion	D	D	No possibility of sea water intrusion due to the project activities
46.	Change in Temperature of Water	D	D	Usually water temperature (top) is around 3-5° C less than the atmospheric temperature. In dry season temperature is high and also water depth of some area is being reduced, which causes high water temperature. But particularly for this project, no remarkable change in water temperature will occur. In haor area low lift pumps are being used for irrigation from the rivers and this does not cause any negative impact on crops.
47.	Air Pollution	D	D	There may be some dust and smoke emission during construction phase of the project for a short period, which also depends upon the type of construction. Otherwise due to the project no air pollution is anticipated.



Source: Guidelines on Environmental Issues Related to Physical Planning, LGED, 1994

Figure 4.1 Environmental Issues and Parameters Related to Rural Development in Bangladesh