Environmental Assessment and Review Framework

April 2023

Bangladesh: Skills for Industry Competitiveness and Innovation Program

Prepared by the Finance Division under the Ministry of Finance for the Asian Development Bank.

ABBREVIATIONS

ADB	-	Asian Development Bank
DoE	-	Department of Environment
EARF	-	Environmental Assessment and Review Framework
ECA	-	Environment Conservation Act
ECoP	-	Environmental Code of Practice
ECR	-	Environment Conservation Rules
EDC	-	executive development centers
EMP	-	environmental management plan
FGD	-	focus group discussions
IEE	-	initial environmental examination
MOF	-	Ministry of Finance
MoFCC	-	Ministry of Environment, Forest, and Climate Change
MoLE	-	Ministry of Labour and Employment
NCS	-	national conservation strategy
NEMAP	-	National Environmental Management Action Plan
NEP	-	National Environmental Policy
NHRDF	-	National Human Resource Development Fund
NOC	-	no objection certificate
NSDA	-	National Skills Development Authority
R&S	-	research and development
RBL	-	results-based lending
REA	-	rapid environmental assessment
RMG	-	ready-made garments
SDCMU	-	Skills Development Coordination and Management Unit
SICIP	-	Skills for Industry Competitiveness and Innovation Program
SME	-	small and medium enterprises
SPS	-	Safeguard Policy Statement
STTL	-	smart textile technology living lab
TMS	-	trainee management system

WEIGHTS AND MEASURES

ha	hectares
km	kilometers
m	meters

CURRENCY EQUIVALENTS

(as of 22 Feb 2023)

Currency unit	–	taka (Tk)
Tk1.00	=	$0.01
$1.00	=	Tk 106.63

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I. INTRODUCTION

A. Background

1. Bangladesh government's Vision 2041 sets out ambitious goals to eliminate extreme poverty, reach an upper middle-income status by 2031, and attain a high-income status by 2041. To achieve this vision, the Perspective Plan of Bangladesh 2021−2041 (PP2041) and the Eighth Five-Year Plan (2021−2025) present a strategic roadmap to increase the productivity capacity, accelerate inclusive growth, and build an innovation-driven knowledge economy.[1] Strong emphasis is placed on job creation through the promotion of export-oriented manufacturing and modernized services, while capitalizing on advances in digital technology and technology-ready skilled workforce. Investment in human capital—improving education quality and deepening skills development—is recognized as an essential engine in these strategies.

2. Despite high growth driven by the ready-made garments (RMG) industry, manufacturing industries have relied on the surplus of low-skilled workers for low-cost production. As a result, low labor productivity has been a continuing challenge for Bangladesh.[2] Despite the recent skilling initiatives, the skills development system in Bangladesh is still evolving in capacity, quality, and availability, especially related to technology-based skills training. Rapid changes in technologies, including Industry 4.0 (IR4.0), are affecting various production processes and skills requirements across industries. Manufacturing industries are increasingly technology-driven. Automation technologies in the RMG industry are gradually replacing workers with routine tasks, putting many women at risk of job loss.[3] To address skills challenges in the priority and emerging industries, the Ministry of Finance (MOF) has prepared a Human Resource Strategic Framework for Industry Development[4], anchored in the PP2041 and the Eighth Five-Year Plan. The government program entails several interventions to support skilling for diverse industries, focused on technology-oriented advanced skills, high-demand technical skills, managerial capabilities, and industry-oriented Research and Development (R&D) initiatives. They also aim to promote socially inclusive employment opportunities, including green skills and green business opportunities, for women and socially disadvantaged groups (e.g., people with disabilities).

3. Aligned with the Bangladesh country partnership strategy 2021−2025 and broader Bangladesh Government Program "Human capital enhanced for sustainable economic development and inclusive growth", the proposed results-based lending (RBL) program Skills for Industry Competitiveness and Innovation Program (SICIP) will increase provision of skilled workforce for industry competitiveness and innovation. The key major outputs of the envisaged for the RBL programme are: (i) Training for advanced technical skills in priority and emerging sectors improved; (ii) Managerial capabilities and green innovation capacity strengthened; (iii) Socially inclusive skilling and upskilling expanded; and (iv) Institutional capacity for skills monitoring and management enhanced. The RBL program contributes to Asian Development Bank's (ADB) Strategy 2030 operational priorities: (i) addressing remaining poverty and reducing inequalities; (ii) accelerating progress in gender equality; (iii) tackling climate change, and building climate and disaster resilience, and enhancing environmental sustainability; and (iv)

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[1] Government of Bangladesh, Ministry of Planning. 2020. *Making Vision 2041 A Reality: Perspective Plan of Bangladesh 2021-2041*. Dhaka

[2] T. Farole, Y. Cho, L. Bossavie, and R. Aterido. 2017. *Jobs Diagnostics Bangladesh (Main Report)*. Washington, DC: World Bank.

[3] Increases in women's labor force participation hit a plateau around 2016, which is associated with gradual adoption of automation technologies in RMG industries (footnote 2).

[4] This government document is currently under finalization and expected to be officially approved by March 2023. The Framework represents an MOF-initiated human resource development program that includes a results framework, expenditure framework, and implementation arrangements.

strengthening governance and institutional capacity. The program is included in the Bangladesh indicative country pipeline and monitoring 2023−2025.

B. Need of the Program

4. The country's priority industries for growth continue to center on RMGs, textiles, light engineering, leather goods and footwear, information technology, construction, etc. as identified under the ongoing Skills for Employment Investment Program (SEIP). With rapid technology advances such as IR 4.0, skills requirements in these priority industries are evolving quickly. While major industries like RMG and textile sectors account for more than 80% of the country's exports, these industries still occupy the low-end of the global value chain. To move up the global value chain, skilled workforce equipped with technological capabilities is becoming crucial to produce value-added goods and services. The RBL program will support the MOF strategic framework by financing the implementation of selective interventions, in coordination with other development partners.

C. Indicative Results of the Program

5. The impact of the program is aligned with increased technology-ready workforce for diversified and innovation-driven economy. The outcome will be technology-oriented skilled workforce increased for priority and emerging industries across skill levels. The outcome will be measured by (i) the number of men and women trained from basic to advanced skill levels in priority industries; (ii) share of trainees placed in jobs within 6 months of training completion; and (iii) number of skills courses implemented specifically for women across skill levels. The program is expected to benefit at least 250,000 men and women over 5-year implementation. The indicative outputs of the proposed RBL are:

6. **Output 1: Capacity for advanced technical skills training developed for emerging and priority sectors.** This output will cultivate higher-level technical skills for existing priority and newly emerging sectors, through partnerships between industries and education/training institutes. The skill requirements will be identified by leading industries, particularly for high-demand technology-related skills. Industries will be involved in developing curriculum and instructors as well. The Finance Division is setting up an Industry Advisory Board consisting of leading industries to advise on the program. Some polytechnics in industrial areas will be converted into specialized polytechnics to offer customized skills courses for emerging industries (e.g., automotive).[5] This output will also enhance the institutional capacity to produce skilled workers adept at emerging technologies including green technologies, by establishing smart textile technology living labs (STTLs) in two textile engineering colleges,[6] setting up high-demand technology-based courses in garments universities, and delivering higher-level technical courses in a renovated light engineering institute. Some of these technical programs will have international partnerships for transfer of knowledge and training of instructors.

7. **Output 2: Managerial capabilities and green innovation capacity strengthened.** Building on SEIP's introduction of executive development centers (EDC) that impart customized mid-level managerial training through university-industry partnerships, the government will further institutionalize the EDCs in partnering universities (e.g., Dhaka University, BRAC University, East

[5] A polytechnic in Narsingdi, where automobile production plant is being established, will become a specialized training center for automotive technical skills.

[6] Smart textile technology labs (STTLs) provide hands-on learning environments with technology applications, from yarn manufacturing to fabric/garments production, using global standards in testing and production. It aims to strengthen capabilities of textile industry workforce and promote R&D, especially in manmade fabrics.

West University, and Bangladesh University of Textiles)[7]. EDC courses will be updated to align with industry's technology trends and global environmental standards, including green technologies and business practices. This output will also support selected universities to promote applied R&D for industry solutions, especially small and medium enterprises (SMEs), as well as incubation opportunities. R&D activities to help SMEs develop climate resilient products or services will be prioritized. The government will bring overseas scientists and engineers of Bangladesh origin to contribute to the transfer of knowledge and skills, while connecting local industries and academies to the global network.

8. **Output 3: Access to socially inclusive skilling and upskilling expanded.** This output will continue to support basic- and mid-level skills training of new entrants or existing workers, following on SEIP's sector-focused skills training models. These programs will be implemented in close coordination with the National Skills Development Authority (NSDA) and the National Human Resource Development Fund (NHRDF). It will also create specially targeted skills programs for socially disadvantaged groups (e.g., people with disabilities, minorities, other marginalized groups), women garment sector workers who are at high risk of job loss due to automation, and those who may be negatively affected by transition to low-carbon economy. For women, upskilling and multi-skilling for future garment work or alternative livelihoods, community-based support for empowerment, and green entrepreneurship skills will be provided in partnership with the H&M Foundation and the Asia Foundation. The government will also expand skills courses with international certification, which enable Bangladesh migrant workers to gain better employment opportunities overseas and increase remittance flows.

9. **Output 4: Institutional capacity for skills monitoring and management enhanced.** This output will support the capacity development of core skill systems such as NSDA and NHRDF for the future sustainability of skills initiatives and partnership modalities. It will also support the functioning of a new Industry Advisory Board for output 1 activities. The output will continue enhancing monitoring mechanisms, such as the trainee management system (TMS) created under SEIP to monitor training and track its outcomes. Analytic studies, such as a tracer study and industry skills trends analysis, will be undertaken to assess the effectiveness of new skills programs and to build effective training partnership models. The output will ensure effective management and governance of skills development systems overall.

D. Project Interventions

10. Under Output 1, the proposed RBL program aims to cultivate higher-level technical skills and enhance institutional capacity to produce skilled workers to adapt with emerging technologies including green technologies. To achieve this aim, under current scope, the RBL program will construct/establish smart textile technology living labs (STTLs) in two textile engineering colleges (one in Chattogram and another in Gazipur) and construct one academic building (10 story) in the East West University. In addition, extension of classroom and some renovation work will be carried out at the Institute of Business Administration, Dhaka University.

11. Additionally, civil works for Kumudini Nursing dormitory at Tangail, which were designed under the ongoing skills program, will be supported by SICIP for construction and operationalization. There are additional scope of civil works under SICIP under consideration which will be finalized soon or during implementation. The scopes are following:

[7] The current EDCs focus on the following four industries: garments, textiles, knitwear, leather goods and footwear.

(i) Automotive training at Narsingdi polytechnic - the site has been identified and the scope of work to be finalized by July 2023 (the site is part of the existing polytechnic)
(ii) Kumudini academic building at Tangail – site has been identified and the scope of work soon to be finalized (ground floor building vs. 3 story building)
(iii) At 1-2 universities or polytechnics, training centers may be established as a new building or an extension of existing building (the site will be part of the existing premises).
(iv) 1-2 small upgrading works may be supported during implementation.

E. Implementation Arrangement

12. The Finance Division in MOF will be the executing and implementing agency. The Skills Development Coordination and Management Unit (SDCMU)—established under SEIP—will continue to serve as the program management unit to facilitate, coordinate, and monitor all project activities. The key implementing partner agencies include the Technical and Madrasa Education Division in the Ministry of Education; Ministry of Expatriate Welfare and Overseas Employment; Ministry of Industries; and Ministry of Textiles and Jute. An inter-ministerial project steering committee, chaired by the Secretary of Finance Division, will provide overall policy advice and oversight, approval of annual operation plans, review of achievements against targets, and ensuring compliance with fiduciary oversight arrangements.

F. Capacity Building

13. Capacity building of each executing agency and/or implementing agency staff and stakeholders in environmental management will aim to ensure effective implementation of the Environmental Assessment and Review Framework (EARF) and proper supervision and monitoring of environmental safeguards during construction. It is proposed to be implemented through the environmental specialist at SDCMU who will serve as a fulltime consultant until all the construction under the project is finished. The consultant is responsible for training the SDCMU staff and representatives of other implementing partners on EARF and its implementation process before the constructions can start. Afterwards, during construction period, the consulate will be responsible for periodic training of the contractors and other implementing staff form the IAs.

G. Objective of the Environmental Assessment and Review Framework

14. This EARF has been prepared to support timely and effective implementation of environmental safeguards in relation to the infrastructure investments included under Output 1 of the program, which constitute the investment project, in accordance with the Safeguard Policy Statement, 2009 (SPS). An EARF is required for ADB sector loans, RBL, multi-tranche financing facilities and other financing modalities under which one or more subprojects are foreseen for development after approval of the umbrella program. An EARF is intended to help ensure that the borrower has an agreed system in place to prepare safeguards documents and implement environmental safeguards plans for future subprojects, without the need for additional project preparatory assistance or direct involvement of ADB.

15. **Proposed Locations.** Details of all proposed investments remain to be fully determined at the time of EARF preparation and are subject to modification as a result of ongoing field investigation of the sites and consultation with the proponent agencies. Anticipated works, necessarily expressed in somewhat generic terms, are outlined in Table 1. A map of locations of possible interventiosn is also given in Figure I-1

Figure I-1 Map of possible locations of civil works intervention under SICIP.

Table 1. Summary of the proposed structural interventions under the program.

Proposed interventions	location	Remarks
Construction of Smart textile technology labs (STTLs)	Gazipur and Chottogram	Construction of seven story academic building, laboratory and a dormitory, Internal access road. Land fill is also required. Location finalized; Design works are ongoing.
Construction of 10 story classroom building at East West University	Dhaka	Construction of 10 story academic building with internal road. Location finalized; Design works are ongoing
Construction of Kumudini Nursing dormitory	Tangail	Design works completed and bidding will start under SICIP. Site cleaning works to be done under the ongoing project.
Renovation of old building and extension at IBA of Dhaka University	Dhaka	Design works ongoing, vertical extension and renovation of classrooms are expected.
Automotive training at Narsingdi polytechnic	Narshingdi	Scope under identification
Kumudini academic building	Tangail	Scope under identification, possible 3 story academic building construction.
Training centers at 1-2 universities or polytechnics	To be decided	Scope under identification
1-2 small upgrading works	To be decided	Scope under identification

Source: TA consultants

H. Purpose of the Environmental Assessment and Review Framework

16. The Finance Division under the MOF, in consultation with relevant stakeholders, has prepared this EARF to support the implementing agency to deal with potential environmental issues that may arise during implementation of the various civil works and project components/ "subprojects". The purpose of this framework is to ensure that both the infrastructure in terms of quality of training centers or academic buildings and the environment impact are not compromised through the program interventions. The specific objectives of EARF is to specify appropriate roles and responsibilities to carryout environmental screening, mitigation measure, monitoring and reporting related to implementation of project components/ "subprojects" and to avoid potential adverse environmental impacts and enhance environmental outcomes of the activities implemented under project components or "subprojects".

17. This EARF provides general policies, guidelines, and procedures to be integrated into the implementation of all infrastructures under the program. In preparing this document, relevant environmental safeguard practices, compliance, and past experience in the sector were reviewed. The review also included consultations with the associated stakeholders; qualitative and quantitative assessments of environmental safeguard compliance processes in the Department of Environment (DoE); capacity assessment of the implementing agency; and information on the capacity of their field level staff. This EARF is intended to be used as a practical tool during renovation and/or repair and maintenance of training institutes or minor civil works planning, design, implementation, and monitoring. The framework describes the steps involved in identifying and mitigating the potential adverse environmental impacts from minor civil works implementation activities, EARF ensures protection of health and hygiene of trainee, environmental sustainability, and welfare of affected stakeholders. The EARF outlines environmental screening procedures, assessment methodologies, environmental management (mitigation, monitoring and documentation), and reporting for the components of the program; and to specify institutional structure and mechanism to carryout compliance to environmental management plan.

I. Methodology and Approach for Environmental Assessment

18. The following activities will be undertaken for the purpose of conducting environmental assessment:

(i) Desk review of information such as maps, reports, etc. for the project. Preparation of checklist for collecting project related information;
(ii) Review of national policy, laws/regulations and procedures relating to environment, health and safety, resettlement and rehabilitation, etc.;
(iii) Focusing on the environmental baselines on which SICIP is to operate;
(iv) Prediction of environmental impacts to be generated from SICIP preparatory activities and proposing mitigation measures;
(v) Taking into account the benefits or positive impacts of SICIP operations and proposing benefit enhancement measures.

19. **Environment assessment methods:** An outline of the activities for conducting environmental assessment studies is presented below:

(i) **Desk study**: Review of information such as maps, reports, and EARF for the program. Checklist for collecting site information is also finalized.
(ii) **Consultations**: Major stakeholders shall be consulted by means of focus group discussions (FGD). If required, discussion with concerned government offices (DoE; construction contractors; administrative and relevant department of training institutes; etc.) will also be undertaken.

(iii) **Field assessment**: Assessment of the potential and significant environmental concerns shall be done to collect data and analyze any potential impacts.

(iv) **Sampling and testing**: Special tests may be necessary in certain cases where water, air, soil and noise pollution issues need to be investigated (for example, water quality for arsenic or fluoride content, iron, salinity, etc., soil quality for carbon content, organic matter etc., ambient noise level, air quality for $PM_{2.5}$ /PM_{10}, SO_x, NO_x etc.).

(v) **Consideration of alternatives**: The environmental implications of different alternatives will be briefly assessed, particularly focusing on location of infrastructure, renovation, design and orientation, method of construction, source of construction materials, and schedule of construction).

(vi) **Identification of environmental impacts and mitigation measures**: The impacts will be identified in terms of their significance, extent, reversibility, and duration.

(vii) **Design of environmental monitoring plan:** The environmental impact studies, which is most likely the initial environmental examination (IEE), shall propose environmental management plan (EMP) where monitoring requirements for potential environmental impacts are identified, mitigation measures prepared, method of mitigation measure developed, indicators suggested, frequency of undertaking monitoring activity decided, cost estimated, and responsible agency for undertaking the monitoring identified.

(viii) **IEE Report:** IEE report shall be prepared in brief following the framework later presented in Appendix 3.

20. Implementation of SICIP is to be governed by the national laws and laws concerning environment, the Environment Conservation Act, 1995 (ECA, ’95) and the Environment Conservation Rules, 1997 (ECR, ’97). ECR, ’97 sets forth standards for various environmental parameters. Implementation of SICIP will also to be guided by ADB’s Safeguard Policy Statement (2009) and Operational Manual F1 (2013). Compliance is required in all stages of SICIP implementation.

II. POLICIES, LEGAL AND INSTITUTIONAL FRAMEWORK

A. Overview

21. The Ministry of Environment, Forest and Climate Change (MoFCC), particularly, the Department of Environment (DoE) of the Government of the People’s Republic of Bangladesh (GoB), has the overall responsibility of setting standards for the various parameters of the country’s environment. This section presents an overview of the institutional context and major policies, laws, regulations and international commitments that govern environmental protection and environmental assessment of development projects in the country. The environmental assessment requirements of both the Government of Bangladesh and ADB are outlined as well.

B. Institutional Context

22. The lead environmental agency in Bangladesh is the Department of Environment (DOE), under the Ministry of Environment, Forests, and Climate Change (MOEFCC). DOE is charged with furthering environmental conservation, improvement of environmental standards, and control and mitigation of environmental pollution. This mandate positions DOE as a key regulator of a broad range of developments in the infrastructure, industrial and commercial sectors, including both publicly and privately funded initiatives. DOE is responsible for administering the country's central environmental law, which provides the framework for environmental impact assessment.

23. Other agencies with important environmental mandates include the Bangladesh Forests Department (also under the MOEFCC), the Ministry of Water Resources, the Ministry of Fisheries, and the Ministry of Land. The laws and regulations administered and enforced by these agencies do not structure the environmental assessment process directly but may often come into play in the consideration of the suitability and permissibility of proposed infrastructure developments by DOE.

24. Occupational health and safety are key considerations of the environmental assessment of proposed infrastructure. The Ministry of Labour and Employment (MoLE), particularly its Department of Labour and Department of Inspection for Factories and Establishments, is of direct relevance to the environmental assessment process, as it administers and enforces the country's legislation, rules and standards governing industrial workplaces, including construction sites and most industrial facilities where physical labour is undertaken.

C. National Policies, Laws, and Rules

1. Central policy instruments

a. National Environmental Policy 1992 (revised in 2018)

25. Bangladesh adopted the National Environmental Policy (NEP) in 1992 to chart a path towards the country's sustainable development. The NEP 2018 is a revision of the NEP 1992 in the context of the new reality of climate change. The NEP 2018 also outlines a more up to date understanding of the extent and magnitude of environmental degradation that has become a fact of life in the world in general, and in Bangladesh in particular. The NEP 2018 outlines the problems of population growth, poverty, illiteracy, lack of awareness and healthcare services, limitation of arable land, unplanned development and urbanization, and industrialization as the major impediments to the conservation of the environment. The NEP sets out the basic framework for environmental action together with a set of broad sectoral guidelines for action. Major elements of the policy are:

(i) maintaining the ecological balance for ensuring sustainable development;
(ii) protection against natural disasters;
(iii) identifying and controlling activities which are polluting and/or destroying the environment;
(iv) ensuring environment-friendly development in all sectors;
(v) promoting sustainable and sound management of natural resources; and
(vi) active collaboration with international initiatives related to the environment.

26. The NEP, amongst other aims, seeks to ensure that transport systems, including roads and inland water transport, do not pollute the environment or degrade resources. The policy states that environmental impact assessment should be conducted before projects are undertaken. The NEP 2018 includes additional elements addressing climate change mitigation and adaptation as key environmental issues facing the country and integrating a comprehensive 3R approach to the massive and growing problem of industrial and household waste that has swelled along with the country's urbanization.

27. Following are the key subject matters covered under the National Environment Policy, 2018:

(i) Ensuring sustainable development through reducing human pressure on nature and natural resources

(ii) Considering environment protection as integral part of the development programs planned to meet the need of the present and future generation
(iii) Making natural resources extraction, use, environmental conservation etc. to be based on science
(iv) Considering environmental impacts and risks in extracting and using natural resources
(v) Evaluating economic contribution of ecosystem services simultaneously to that of natural resources
(vi) Giving priority to poor and under privileged group of people in order to ensure their participation, equity, justice, accessibility to the use of natural resources and getting ecosystem services on which, they are dependent
(vii) Taking initiatives to prevent misuse and ensure optimum of water, land, natural gas and other natural resources in the production process as well as day-to-day purposes
(viii) Encouraging sustainable use of new and renewable resources
(ix) Enhancing long term poverty alleviation and food security through conserving biological diversity
(x) Realizing compensation from persons and institutes those who are liable to environmental pollution through applying polluter pay principle
(xi) Including environmental conservation and preservation in all national policies and ensuring implementation of the environment policy at both government and non-government level
(xii) Giving priority to preventive measures over curative measures in environmental conservation
(xiii) Including adaptation and mitigation program in all development projects in order to address adverse impacts of climate change
(xiv) Ensure sustainable utilization of ecosystem goods and services
(xv) Implementation of 3R principle in utilization of resources
(xvi) Strengthening institutional and legal capacity of institution (Government, local, private and technical) relevant to the enforcing and implementation of rules and regulation relating to environment policy and environment conservation
(xvii) Ensuring considerations of climate change and challenges of calamities in all kind of infrastructure projects
(xviii) Reducing of all SLCP (Short-Lived climate pollutants) which are harmful to health and environment
(xix) Taking development programs considering sustainable production and consumption as integral part of environmental conservation to meet the need of present and future generation
(xx) Allocating necessary funds to all areas of environmental conservation, preservation and control
(xxi) Taking up programs in favor of flourishing environment friendly economy
(xxii) Including environmental and ecological conservation particularly to introduce the environment and ecological concept in the environmental academic curriculum and textbooks of schools and colleges

28. The NEP 2018 therefore will guide all kinds of environmental assessments, guidelines, protocols and mitigation measures in the RBL program.

b. National Environmental Management Action Plan, 1995

29. The National Environmental Management Action Plan (NEMAP) built on the NEP to address specific issues and management requirements during the period 1995-2005 and remains a backbone of efforts to articulate national sustainability strategies. The plan includes a framework

within which the recommendations of a National Conservation Strategy (NCS) are to be implemented. The NEMAP was developed with the following objectives:

(i) Identify key environmental issues affecting Bangladesh
(ii) Identify actions to halt or reduce the rate of environmental degradation
(iii) Improve management of the natural environment
(iv) Conserve and protect habitats and biodiversity
(v) Promote sustainable development
(vi) Improve the quality of life

30. To this end, the NEMAP grouped all the relevant necessary actions under four heads: institutional, sectoral, location-specific and long-term issues. The institutional aspects reflect the need for inter-sectoral cooperation to tackle environmental problems requiring new institutional mechanisms at national and local levels. The sectoral aspects reflect the way the ministries and agencies are organized and make it easier to identify the agency to carry out the recommended actions. The location-specific aspect focuses on particularly acute environmental problems at local levels. And the long-term issues include environmental degradation trends that threaten to emerge as serious threats to the country's environmental quality and well-being if not proactively addressed.

2. Other Environment-Related Plan and Policies

31. In addition to the central environmental policy instruments, a number of other national policy efforts have significant environmental content. Prominent policy documents include the following National Plans, Policies Guidelines that confirm, compliment and support the National Environmental Policy:

(i) National Bio-safety Strategy & Action Plan 1995
(ii) National Biodiversity Strategy & Action Plan of Bangladesh 2016-2021
(iii) A Roadmap for Clean Fuels and Vehicles in Bangladesh, 2011
(iv) National Action Programme on Desertification, Land Degradation and Drought (DLDD) 2016-2024
(v) Ecologically Critical Area Management Rules, 2016.
(vi) Medical Waste (Management and Processing) Rules, 2008
(vii) Hazardous Waste and Ship Breaking Waste Management Rules, 2011
(viii) Bangladesh Biosafety Rules, 2012
(ix) Bangladesh Biological Diversity Act 2017
(x) Natural Water Reservoir Conservation Act, 2000
(xi) National Forestry Policy 2016
(xii) National Conservation Strategy 1998 and Draft Update 2013
(xiii) National 3R (Reduce, Reuse & Recycle) Strategy 2010
(xiv) Bangladesh Climate Change Strategy & Action Plan (BCCSAP) 2009
(xv) Bangladesh Delta Plan 2100
(xvi) National Disaster Management Plan 2010.
(xvii) Nationally Determined Contributions (NDCs)
(xviii) Five Year Plan
(xix) Sustainable Development Goals (SDGs)
(xx) National Adaptation Program (NAP) 2022
(xxi) Other Sectoral Policies/Strategies like Industry, Agriculture, Energy, Water, Health, etc.
(xxii) National Bio-safety Framework and Guidelines
(xxiii) Guidelines on Environmental Management, Waste Treatment and Workers' Occupational Health and Safety for Ship Breaking Yard in Bangladesh
(xxiv) Establishing National Landuse and Land Degradation Profile 2018 (proposed)

32. During environmental assessment of this project, Ecologically Critical Area Management Rules, 2016; Natural Water Reservoir Conservation Act, 2000; Bangladesh Climate Change Strategy & Action Plan (BCCSAP) 2009; Bangladesh Delta Plan 2100; National Disaster Management Plan 2010; Nationally Determined Contributions (NDCs); Five Year Plan; Sustainable Development Goals (SDGs) and National Adaptation Program (NAP) 2022 should be considered.

3. Legislations

a. Bangladesh Environment Conservation Act (BECA), 1995 (as amended in 2000, 2002 & 2010)

33. The Bangladesh Environmental Conservation Act (BECA), 1995 is the main legislation for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. The enabling powers of the BECA are wide ranging. Wide-ranging powers (Section 4) are given to the Director General (DG) to take various actions or measures to enforce the BECA (Table). The Environment Conservation Act authorizes the DOE to undertake any activity to conserve and enhance the quality of the environment and to control, prevent and mitigate pollution. The DOE is designated as the regulatory body and enforcement agency for all environment-related activities. The Act enables the following critical components of DOE's remit:

(i) declaration of Ecologically Critical Areas;
(ii) administration of the procedure for obtaining Environmental Clearance Certificates for new industrial projects;
(iii) regulation with respect to vehicles emitting smoke harmful to the environment;
(iv) environmental regulations for development activities;
(v) standards for quality of air, water, noise, and soils (including river bed materials) for different areas and for different purposes;
(vi) acceptable limits for discharging and emitting waste; and
(vii) formulation of environmental guidelines to control and mitigate environmental pollution, conservation and improvement of the environment.

34. Amendments to the ECA in 2000, 2002 and 2010 added significant substantive and procedural scope, defining the following new areas of authority:

(i) ascertaining responsibility for compensation in cases of damage to ecosystems;
(ii) increased provision of preventive measures, including fines and imprisonment, and the authority to take cognizance of offences;
(iii) restrictions on polluting automobiles;
(iv) restrictions on the production and sale of environmentally harmful items like polythene bags;
(v) obtaining assistance from law enforcement agencies for environmental actions;
(vi) definition and enforcement of punitive measures;
(vii) authority to try environmental cases;
(viii) prohibition on hill cutting except where established to be in the national interest;
(ix) authority to regulate management of hazardous waste produced by ship breaking yards;
(x) prohibition of filling or alteration of waterways except when judged to be in the national interest; and
(xi) additional powers to compel compliance with emissions standards.

35. Section 12, requiring an Environmental Clearance Certificate, is effectively enforced by way of The Environmental Conservation Rules, 1997, which is made pursuant to the powers provided under Section 20 of the BECA.

b. Environment Conservation Rules, 1997 and amendments (2002, 2003)

36. The Environment Conservation Rules, 1997 were the first and still most important set of regulations giving procedural substance and tools of enforcement to the aims articulated in the ECA. The Rules specify standards for air quality and emissions, water quality and discharges, and noise (see Table 2), and establish norms enabling the inspection of industrial facilities, including collection of environmental samples, by the DOE. Importantly, the Rules (Schedule I) lay out a standard framework for categorizing, assessing and regulating new industrial projects using a four-level typology of impact potential. This typology is the basis for defining the national impact assessment requirements and necessary environmental clearances in relation to all proposed industrial facilities and infrastructure. Implementation of the environmental clearance and assessment processes as defined in the Rules by project proponents and consultants is given further practical guidance by the EIA Guidelines for Industries (2021), which indicate how to produce the assessment documents required to support environmental clearance applications. The Noise Pollution Control Rules (2006) replaces the Noise standards set in ECR 1997 therefore replaces the Schedule 4 and Schedule 5 that are mentioned in Table 2.

Table 2. Environmental standards specified in the Environment Conservation Rules 1997

ECR Schedule	Standard name
Schedule 2	Standards for Air
Schedule 3	Standards for Water
Schedule 4*	Standards for Sound
Schedule 5*	Standards for Sound Originating from Motor Vehicles or Mechanized Vessels
Schedule 6	Standards for Emission from Motor Vehicles
Schedule 7	Standards for Emission from Mechanized Vessels
Schedule 8	Standards for Odor
Schedule 9	Standards for Sewage Discharge
Schedule 10	Standards for Waste from Industrial Units or Project Waste
Schedule 11	Standards for Gaseous Emissions from Industries or Projects
Schedule 12	Standards for Sector-Wise Industrial Effluent or Emission

*Replaced by Noise Pollution Control Rules 2006.

c. The Environment Court Act 2010

37. The Environment Court Act 2010 was passed with a view to ensuring the expedited disposal of environmental cases. The Act, consisting of 24 sections, amends and consolidates the existing law in establishing courts and related matters to expedite the trial of environmental crimes. It establishes administrative and legal proceedings of the above-mentioned Environment Court, as well requirements to be met by said court, which may direct the investigating officer or person for further investigation into a criminal case related to a case pending against him and may determine the deadline for reporting the report. The court may impose any power environment passed by this Act or the Environment Law. A lawyer appointed by the Director General shall conduct all the cases related to the trial in the Environment Court and the prosecuted lawyer shall be deemed to be a special public prosecutor in the case of a special public prosecutor and civil nature case, in case of prosecution: Provided that empowered by the

Inspector or the Director General Any officer to assist the lawyer in managing the case. Subject to the provisions of this Act, in relation to the trial and settlement of compensation cases, the provisions of the Code of Civil Procedure shall apply, and, in that case, the Court of the Environment shall be deemed to be a civil court and enforce all the powers of the Civil Court in the trial of any compensation suit under this Act.

d. Air Pollution (Control) Rules 2022

38. Aiming to protect environmental health, the government has published a new rule based on section 20 of The Bangladesh Environment Conservation Act, 1995. The main objectives of this rule are to prevent, control, and reduce air pollution. The government will appoint a director general who will be responsible for managing and maintaining the environmental issue. The Rule specified several types of pollution such as pollution caused by factories, vehicles, construction, garbage, etc. According to the new rule, there will be a committee that will impose damages and punishment for such pollution. As stated by the rule, the government will give rewards to those who will protest against pollution and do not cause any type of pollution.

e. Noise Pollution (control) Rules, 2006

39. This rule has been promulgated under the provision of clause 20 of BECA, 1995. The rules provide for standard limits of noise level of vehicles and designated areas. According to the Rules, motor honking within a 100-meter radius of a hospital, school and office is prohibited. The rules also do not allow use of brick crushers and cement mixers within 500-meter radius of a residential area. Besides, prior permission is mandatory for using loudspeakers or megaphones. The rules stipulate safety and precautionary measures in workplaces, designated authorities for allowing noise generating appliances.

f. Solid Waste Management Rules 2021

40. The Solid Waste Management Regulations 2021 were published in Bangladesh on December 23, 2021, under the Bangladesh Environmental Protection Act, 1995. The Regulations define the responsibilities of businesses involved in solid waste management and impose collection, recycling, and disposal obligations according to Extended Producer Responsibility (EPR) on manufacturers of non-biodegradable products such as glass, plastic, and bottles. The Regulations also include provisions for the treatment of solid waste such as composting and energy recovery.

g. Environmentally Critical Areas Management Rules, 2016

41. Under the Ecologically Critical Area Rule 2016, a National Committee is to be formed which will consider the prevailing naturalness and biodiversity status of the threatened area and identify causes of deterioration and potential threat. It shall recommend to the government about alternative livelihood for the dependent population of the ECAs. This committee is also directed to supervise or provide guidance and directives to the nationally executed government development projects.

4. Other environment related rules and legislations

42. In addition to the ECA and ECR, numerous laws and supporting rules have been passed and developed to regulate use of natural resources and protect the natural environment from deleterious activity. A summary of environment-related laws and rules, any of which may be relevant or applicable to proposed infrastructure development, is provided in Table 3. Depending

on the nature of project activities and infrastructure, No Objection Certificates (NOCs) may need to be obtained from the agencies overseeing environment-related laws and regulations as part of the environmental clearance process directed by DOE, to ensure compliance with all relevant national laws.

Table 3. Summary of Environmental Legislations Applicable to the Proposed Project

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
1	National Forestry Policy (2016) Draft	The National Forestry Policy (NFP) provides the framework for the protection of the remaining forests in the country and the restoration of about 20% of the country's land under the afforestation programs The priority protection areas are the habitats which encompass representative flora and fauna in the core area of national parks, wildlife sanctuaries and game reserves. Multiple-use of forest, water and fish of the Sundarbans through sustained management will be ensured, keeping the bio-environment of the area intact.	Protected areas within the forest cannot be encroached by any project construction activities. No felling, cutting within protected or reserved forest is permitted. **Not triggered by the project as the project area is outside designated forest areas declared by GoB**	Department of Forests
2	The Forest Act (1927) and Forest (Amendment) Act (2000)	An act to control trespassing, illegal resource extraction and provide a framework for the forestry revenue collection system. To accommodate social forestry, the act was amended in 2000.	Requires clearances for any project within forest areas and clearances for any felling, extraction, and transport of forest produce. **Not triggered by the project as the project area is outside designated forest areas declared by GoB**	Department of Forests
7	Bangladesh Protected Area Management Rules 2017	The rules portray the engagement process of the government authorities and local communities how to be engaged in protected area management declared by the government. The rules cover the protective activities such as regular	No activity inside a declared PA is prohibited. **Not triggered by the project. The project boundaries selected are outside the designated PAs, national parks and Sanctuaries.**	Department of Forests

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
		inspections, security maintenance, annual planning of protection, actions against illegal activities, declaration of special reservation area etc.		
8	National Safe Drinking Water Supply and Sanitation Policy of 1998	Ensures access to safe water and sanitation services at an affordable cost	Pourashavas and water sanitation authorities will take actions to prevent wastage of water. They will take necessary steps to increase public awareness to prevent misuse of water. Pourashavas shall be responsible for solid waste collection, disposal and their management. **Triggered by the project. The EMP section will layout the plan for supplying safe drinking water for the construction workers and communities.**	Ministry of Local Government, Rural Development, and Cooperatives
9	National Water Act 2013	Ensures Bangladesh water sources are free from any type of pollution. Pollution from water in urban outfalls and reservoirs, e.g., lakes, canals, ponds and ditches may result in amenity losses, fisheries depletion, health problems and fish and aquatic species contamination.	Secure clearance certificate on water resource development subprojects. **Not triggered by the project. The water extraction for construction purpose and operation of the building will be sustainable and clearance will be taken from adjacent pourashavas or unions.**	Ministry of Water Resources
10	Wetland Protection Act 2000	Advocates protection against degradation and resuscitation of natural waterbodies such as lakes, ponds, beels[8], khals, tanks, etc.	In case of diversion of water from any lake, detailed assessment will be done. **Not triggered. No wetlands are not**	Ministry of Water Resources

[8] A beel is a billabong or a lake-like wetland with static water (as opposed to moving water in rivers and canals - typically called khals), in the Ganges - Brahmaputra flood plains of the Eastern Indian states of West Bengal, and Assam and in the country of Bangladesh.

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
		affected by man-made interventions or other causes. Prevents the filling of publicly owned water bodies and depressions in urban areas for preservation of the natural aquifers and environment. Prevents unplanned construction on riverbanks and indiscriminate clearance of vegetation on newly accreted land.	**nearby, as per project prerequisite.**	
11	The Pourashava Act 2009 / Ordinance issued for the amendment of local government (municipality) ordinance, 2009 and 2010; The Pourashava Ordinance, 1977; Municipal Administration Ordinance, 1960	Provides guidance for subproject integrated community and workers health and hygiene at the construction and operation and maintenance stages of the project	Coordinate with pourashava committees on disaster management measures, water and sanitation and waste management. **Triggered. During building design, construction and operation the acts were considered and applied.**	Local Authorities
12	National Adaptation Plan 2022	With an underlying objective of reducing risks and vulnerabilities to climate change impacts, the NAP envisions building a climate-resilient nation through effective adaptation strategies that foster a robust society and ecosystems and stimulate sustainable economic growth.	NAP ensures protection against climate change variability and induced natural disasters; supports development of climate-smart cities for improved urban environment and well-being, and enhancement through integration of adaptation into the planning process. Triggered. The project will deal with climate resilience structures and climate smart productions and technologies.	MOEFCC
13	Bangladesh Climate Change Strategy and Action Plan of 2009	Enhances the capacity of government ministries, civil society and private sector to meet the challenges of climate change	Integrate adaptation measures for buildings in consideration of extreme climatic events. **Triggered. The BCCSAP 2009 has been considered in building design and also in the**	Ministry of Environment, Forests and Climate Change

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
			entire project consideration.	
14	Building Construction (Amendment) Act and Building Construction Rules, Bangladesh National Building Code 2020	Regulates technical details of building construction and to maintain standards of building construction	Follow specifications to ensure structural integrity of buildings. **Triggered. BNBC has been considered during building design.**	Ministry of Housing and Public Works
15	Electricity Act 2018	Requires compensation for any damage, detriment or inconvenience caused by the project; Requires precautionary measures in laying down electricity supply lines near or where any metallic substance or line crosses to avoid electrocution; directs in powerline laying construction related activities to avoid public nuisance.	**Triggered. The following are ensured:** Secure permission to supply energy and lay down or place electricity supply lines for the conveyance and transmission of electricity from respective authorities prior to any works. Give full compensation for any damage, detriment or inconvenience caused by him or by anyone employed by him/her. Take precautions in laying down electricity supply lines near or where any metallic substance or line crosses in order to avoid electrocution.	Ministry of Power, Energy and Mineral Resources
16	The National Energy Policy (1996 and Updated 2004)	Ensures environmentally sound sustainable energy development programs causing minimum damage to the environment, to encourage public and private sector participation in the development and management of the energy sector and to bring the entire country under electrification.	Public and private sector participation in the development and management of the energy subprojects. Provides guidelines for renewable energy subprojects. **Triggered. Renewable energy provisions are considered in the building design process.**	Ministry of Power, Energy and Mineral Resources
17	Standing Order on Disaster, 1999 (Updated 2010)	Enhances capacity at all tiers of government administrative and social structures for coping	**Triggered. All building structures and labs are designed to cope with**	Ministry of Disaster Management and Relief

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution
		with and recovering from disasters	**local disasters accordingly.**	
18	National Disaster Management Act of 2012	Establishes a framework for managing disasters in a comprehensive way.	Setting-up emergency response procedures. **Triggered. The project structure is to follow the setup of the Act.**	Ministry of Disaster and Relief
19	Public Procurement Rule (2008)	Applies to the procurement of goods, works or services by any government, semi-government or any statutory body established under any law; includes measures regarding the safety, security and protection of the environment in construction works; requires Contractors to take all reasonable steps to safeguard the health and safety of all workers on site, protect the environment on and off the site, and avoid damage or nuisance to persons or to property of the public or others	**Triggered.** The PPR (2008) will be followed during procurement process of the subprojects	Ministry of Public Works

Source: Compiled by the TA consultants

5. Other environment related rules and legislations

43. During construction, the subproject will conform to the occupational and health related rules as outlined in the Table 4 below.

Table 4 . Occupational and health safety related rules in Bangladesh

Title of Laws and Rules	Descriptions	Relevance in the RBL program
Social Security under the Act, 1923 and an amendment in 1980	According to the Act social impact assessment includes the processes of analyzing, monitoring and managing the intended and unintended social consequences, both positive and negative of planned interventions (policies, programs, plans, projects) and any	The RBL program has been screened against the possible social impacts. The program does not have any Negative social impact rather positive impact on skill development for workers

Title of Laws and Rules	Descriptions	Relevance in the RBL program
	social change processes invoked by those interventions.	
Bangladesh Labour (Amendment) Law, 2018	- Compliance to the provisions on employment standards, occupational safety and health, welfare and social protection, labor relations and social dialogue, and enforcement - Prohibition of employment of children and adolescent	Triggered. The law is applicable during construction and operation. The environmental due diligence Documentation will Provide guidelines on these issues
Labour Rules 2015	The Labor Rules give substantial practical heft to the Labor Act, specifying standards for workplace dimensions and features, responsibilities of employers and facility owners, limits on working hours, special rules for young workers, and many other workplace safety and worker protection matters. The Rules provide the basis for inspections of construction sites and industrial facilities by the Department of Inspection for Factories and Establishments (DIFE) under Ministry of Labour and Employment (MoLE).	Triggered. The law is applicable during construction and operation. The environmental due diligence Documentation will Provide guidelines on these issues
The Employer's Liability Act, 1938	The Act declares that the doctrine of common employment and of assumed risk shall not be raised as a defense in suits for damages in respect of employment injuries.	
	Under the Maternity Benefit Act, 1939, the Maternity Benefit Act, 1950, the Mines Maternity Benefit Act, 1941, and finally the rules framed thereunder, female employees are entitled to various benefits for maternity, but in practice they enjoy leave of 6 weeks before and 6 weeks after delivery.	
Public Health (Emergency Provisions) Ordinance, 1994	The ordinance calls for special provisions with regard to public health. Whereas an emergency has arisen, it is necessary to make special provision for preventing the spread of human disease, safeguarding public health and providing them adequate medical service and other services essential to the health of respective community and workers in particular during the construction related work.	Triggered. This will be ensured during construction through implementation of the EMP or ECoP
The Employees State Insurance Act, 1948	It has to be noted that health, injury and sickness benefit should be paid to people, particularly respective workers at workplace under the Act.	

Title of Laws and Rules	Descriptions	Relevance in the RBL program
Bangladesh Factory Act, 1979	The Act requires every workplace including small- or large-scale construction where women are employed to have an arrangement of childcare services. Based on this Act and Labor Laws - medical facilities, first aid and accident and emergency arrangements are to be provided by the authority to the workers at workplaces.	
Water Supply and Sewerage Authority Act, 1996	The Act specify WASA's responsibility to develop and manage water supply and sewerage systems for the public health and environmental conservation.	Triggered. This will be ensured during design, construction and operation

6. International commitments

44. Bangladesh has signed many international treaties, conventions and protocols that pertain to environmental conservation, pollution control, and working conditions, and these need to be considered alongside national laws and regulations in the context of infrastructure planning. A list of the most relevant international treaties and conventions to which Bangladesh is a party is presented in Table 5.

Table 5. Treaties and conventions joined by Bangladesh and applicable to this project.

Treaty or Convention applicable to this RBL	Brief description	Relevance
International Plant Protection Convention (Rome, 1951) & Plant Protection Agreement for SE Asia and Pacific (1999 Revision)	Aims to ensure that construction work and construction materials do not introduce plant pests	Ensures that component work or construction materials do not introduce plant pests
Conservation of Wetlands of International Importance specially as waterfowl Habitat ("Ramsar Convention": Iran, 1971)	Conservation and proper use of wetlands and their resources; protection of significant wetlands and prevention of draining or filling during construction	Protection of significant wetland and prevention of draining or filling during construction
Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)	Prevention of damage or destruction of culturally and/or historically significant sites, monuments, etc.	Prevention of damage or destruction of culturally and/or historically significant sites, monuments, etc.
CITES Convention (Convention on International Trade in Endangered Species)	Aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival	Protection of biodiversity during construction and operation. Assessment should be conducted at construction sites whether there is any endangered species within the site
Occupational hazards due to air pollution, noise & vibration (Geneva)	Aims to protect workers against occupational hazards in the working environment	Ensures protection from environmental pollution at site

Treaty or Convention applicable to this RBL	Brief description	Relevance
Occupational safety and health in working environment (Geneva)	Prevent accidents and injury to health by minimizing hazards in the working environment	Ensures OHS at site which are implemented through EMP
Occupational health services (Geneva)	To promote a safe and healthy working environment	Do
Convention on Biological Diversity, (Rio de Janeiro, 1992)	Protection of biodiversity during construction and operation; underpins the value of natural resources that provide food and livelihoods throughout the world	Ensures that component work or construction materials do not disturb biodiversity
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1992)	Aims to protect human health and the environment against the adverse effects of hazardous wastes	Ensures release of hazardous waste from construction sites
International (United Nations Framework) Convention on Climate Change (Kyoto Protocol, 1997)	International treaty on climate change and emission of greenhouse gases, reduce greenhouse gas concentrations in the atmosphere to a level that would prevent dangerous anthropogenic interference with the climate system	Ensures reduction of carbon footprint of the construction and operation

7. Environmental Assessment Process and Requirements

45. This project is subject to the environmental safeguards requirements of both the Government of Bangladesh and ADB. These requirements share some concepts and terminology and are non-contradictory. The two procedural frameworks for environmental impact assessment are described in turn below.

8. National Environmental Clearance Process

46. **Categorization schemes.** The Environment Conservation Rules stipulate a four-level color-coded typology of impact potential as the basis for determining the environmental clearance process for different types of proposed projects, and the extent of environmental assessment work that must be done in support of clearance applications submitted by proponents. The categorization framework is outlined in Table 6.

Table 6. Categorization scheme for determining environmental clearance requirements posed by DoE

Category	General Environmental Assessment Requirement
Green	No environmental assessment required to support application for environmental clearance
Orange-A	No environmental assessment required, but detailed project information, including process flow diagrams and effluent treatment arrangement, must accompany application for environmental clearance

Category	General Environmental Assessment Requirement
Orange-B	Initial Environmental Examination (IEE) required, and project can proceed to environmental clearance application once IEE is approved by DOE
Red	Brief IEE required to establish ToR for comprehensive Environmental Impact Assessment (EIA), and project can proceed to environmental clearance application after EIA and Environmental Management Plan (EMP) have been approved by DOE, often subject to conditions

47. The Environment Conservation Rules (Schedule I) provide indicative lists of types of projects, facilities and infrastructure that would normally fall into each of the four assessment categories. Although new industrial units were added to all four categories in the 2017 amendment, these lists are not comprehensive, and the listed types may in many cases not apply unambiguously to a given proposed infrastructure element or project activity. Further, the matters of scale and context, which determine so much of impact potential, are not strongly addressed by the indicative lists. Assigning an assessment category thus must be informed by expert judgement, based on the initial specifications of the planned project infrastructure and activities, and basic details of the project environment. DoE reviews preliminary infrastructure plans for proposed infrastructure investments and decides regarding the categorization on a case-by-case basis.

48. **Environmental clearance process.** Regardless of the assessment category assigned, all applications for environmental clearance must be accompanied by a No Objection certificate (NOC) obtained from local authorities (Union Parishad Chairman or Upazila Nirbahi Officer in rural polytechnic locations, and from several entities in urban locations such as Dhaka), and by an application fee. NOCs may also be required from key agencies (e.g., Water Resources Planning Organization, Forests Department, Ministry of Fisheries) if the proposed project has any potential relevance for the natural resources under their remit. The proponent is responsible for obtaining the NOCs and paying the application fee. The proponent is also responsible for renewing the clearance certificate, once obtained, on a yearly basis, paying a fee for each renewal. Fines are levied when the proponent allows the clearance certificate to lapse.

49. For investments that require an environmental assessment report (Orange-B and Red projects), DoE reviews and approves the report (either an IEE or more detailed EIA) before approving the clearance application. The approval may be subject to certain conditions, which the proponent is bound to meet to keep the clearance certificate current. Review of clearance applications by DoE requires up to 60 days from receipt (Figure II-2).[9]

[9] A useful and accessible reference on the clearance process is Department of Environment. 2010. A Guide to Environmental Clearance Procedure. Dhaka, August 2010.

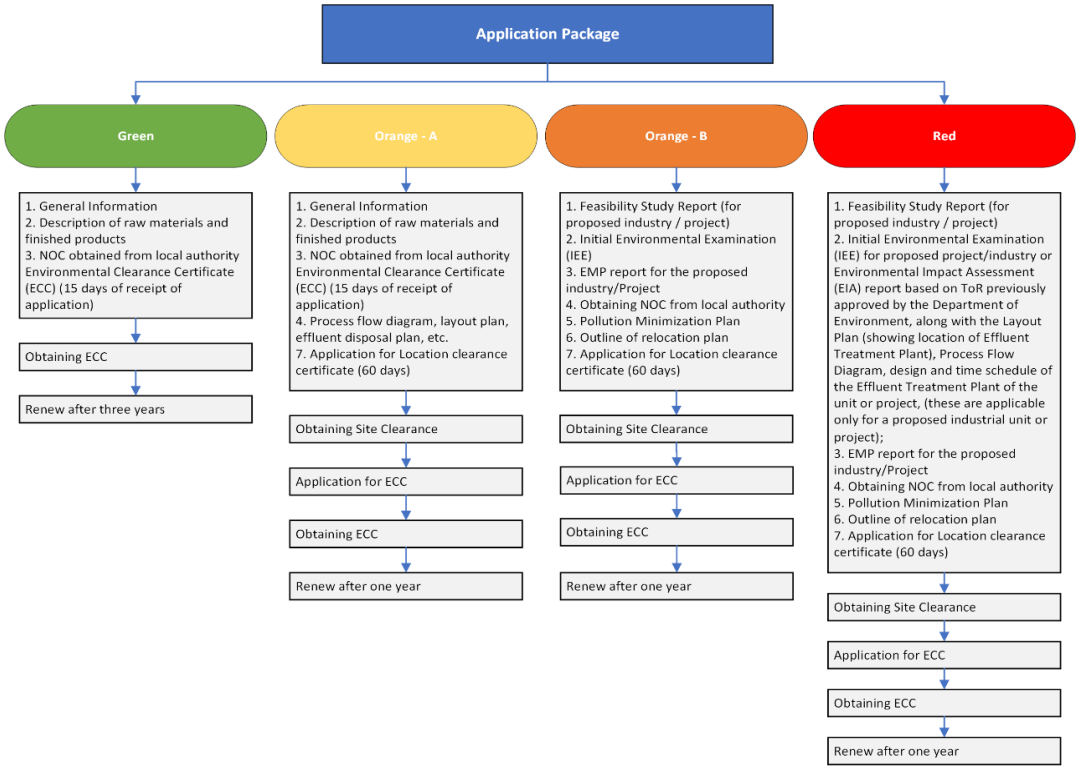

Figure II-2 DoE categorization scheme and requirements for clearance

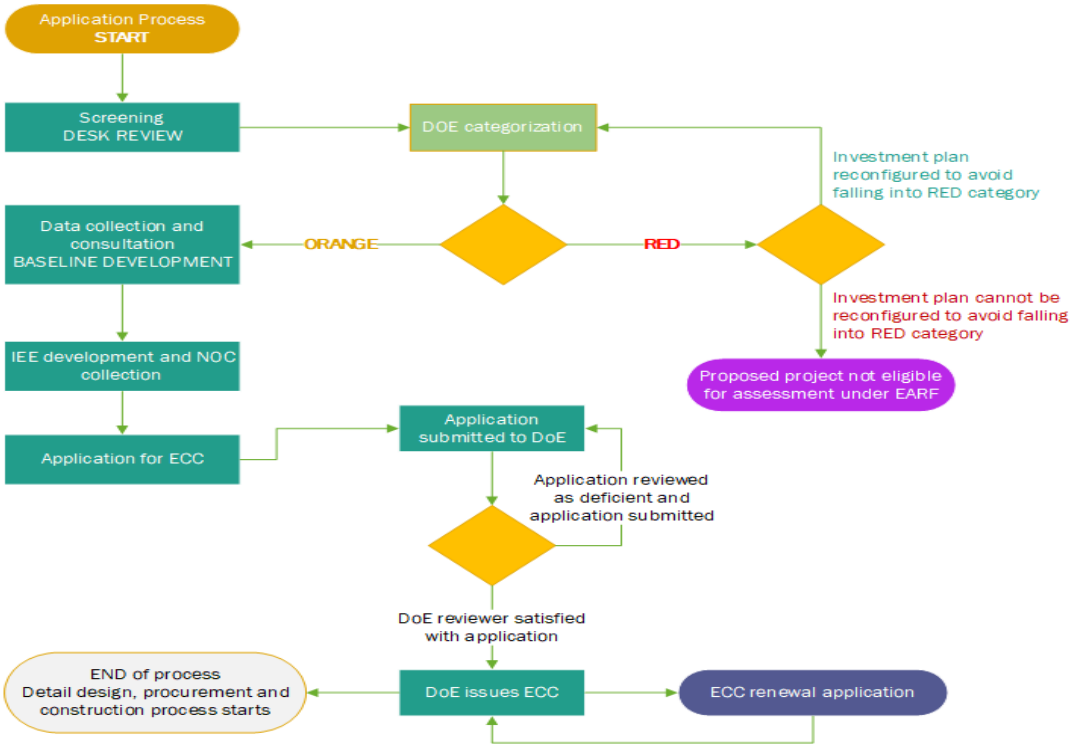

Figure II-1 Flowchart of national clearance process as applicable to SICIP

50. **Anticipated DoE assessment category.** The infrastructure development proposed for this RBL program will appropriately be considered to fall into the Orange-B assessment category for most subprojects as mentioned in Table 1. The investments do not include any components that would trigger assignment to the 'Red' category, but do encompass components (multi-storied buildings, diagnostic laboratory) included in the Orange-B list in Schedule 1 of the Environment Conservation Rules. The likely category for most of the subprojects as per ECR 1997 that have moderate likelihood of exerting negative impacts on the local and regional environment are described in Table 7.

Table 7. Anticipated project category according to the ECR 97 and its amendments.

Sub-Project description	Similar category (ECR 97 and amendments)	Likely category	Comments
Construction, repair and retrofitting of academic and administrative multistorey buildings and labs	Hotel, multi-storied commercial and apartment building, ECR- Schedule 1 No. 8	Orange-B	Construction will take place within college/university campuses on build-up land, likely to generate less pollution and cause insignificant environmental damage. Will require an ECC to start construction.

Source: Information taken from ECR'97 and interpreted by the consultant

D. ADB Environmental Assessment Requirements

51. Safeguard requirements for all projects funded by the ADB are defined in the ADB Safeguard Policy Statement, 2009 (ADB SPS). This document establishes an environmental review process to ensure that projects undertaken as part of programs funded through ADB loans are environmentally sound, are designed to operate in compliance with applicable regulatory requirements, and are not likely to cause significant environmental, health, or safety hazards. The SPS is one of the key Bank Policies collected in the ADB Operations Manual. The policy promotes good practice as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines.

52. The SPS 2009 provides a framework of expectations for environmental analysis, engagement with stakeholders and communities potentially affected by projects, reporting, and follow-up implementation. Key prescriptions include the following:

(i) At an early stage of project preparation, the borrower/client will identify potential direct, indirect, cumulative, and induced environmental impacts on and risks to physical, biological, socioeconomic, and cultural resources and determine their significance and scope, in consultation with stakeholders, including affected people and concerned NGOs. If potentially adverse environmental impacts and risks are identified, the borrower/client will undertake an environmental assessment as early as possible in the project cycle. For projects with potentially significant adverse impacts that are diverse, irreversible, or unprecedented, the borrower/client will examine alternatives to the project's location, design, technology, and components that would avoid, and, if avoidance is not possible, minimize adverse environmental impacts and risks.

(ii) The assessment process will be based on current information, including an accurate project description, and appropriate environmental and social baseline data;
(iii) Impacts and risks will be analyzed in the context of the project's area of influence.
(iv) Environmental impacts and risks will be analyzed for all relevant stages of the project cycle, including preconstruction, construction, operations, decommissioning, and post-closure activities such as rehabilitation or restoration.
(v) The assessment will identify potential trans-boundary effects as well as global impacts; and
(vi) Depending on the significance of project impacts and risks, the assessment may comprise a full-scale environmental impact assessment (EIA) for Category A projects, an initial environmental examination (IEE) or equivalent process for Category B projects, or a desk review.

53. Screening for potential social and environmental impacts is a critical early step in the preparation of a proposed ADB-funded project. Preliminary project conceptual designs and sites are evaluated using a standard checklist, and assigned to one of four categories, as follows:

(i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An Environmental Impact Assessment is required.
(ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An Initial Environmental Examination is required.
(iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required, although environmental implications need to be reviewed.
(iv) **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through a financial intermediary.

54. Based on initial screening of components proposed, the RBL program was assigned to Category B, pending further study. Accordingly, IEEs were deemed the appropriate mode of assessment for most subprojects, unless early analysis based on conceptual design specifications and field reconnaissance were to reveal potential for impacts that require study and mitigation planning of a scale and complexity better addressed through the more detailed and exhaustive EIA. Some of the subprojects with small construction footprint like renovation and upgradation works may not require the IEE studies. Such simple subprojects might use the Environmental Code of Practice (ECoP), a sample of which attached with this EARF. IEEs and EIAs are similar in terms of procedural steps and the structure of reports, but an EIA typically requires (i) more detailed investigation of impact linkages; (ii) collection of more and higher quality baseline data regarding key impact areas; (iii) often a longer and multi-phased study period; and (iv) deeper engagement and consultation with potentially affected people.

55. Important tools and outputs specified by the SPS 2009 for IEEs and EIAs include the following:

(i) **Environmental management plan.** The borrower/client will prepare an EMP that addresses the potential impacts and risks identified by the environmental assessment and prescribes appropriate mitigation measures to address them effectively.

(ii) **Consultation and participation.** The borrower/client will carry out meaningful consultation with affected people and other concerned stakeholders, including civil society, and facilitate their informed participation.
(iii) **Information disclosure.** The borrower/client will submit to ADB the following documents for disclosure on ADB's website: (i) a draft full IEE (including the EMP); (ii) a new or updated IEE and corrective action plan prepared during project implementation, if any.
(iv) **Grievance Redress Mechanism.** The borrower/client will establish a mechanism to receive and facilitate resolution of affected people's concerns, complaints, and grievances about the project's environmental performance.
(v) **Monitoring reports.** Results from monitoring of the implementation of a project's EMP are reported semi-annually to the ADB, based on internal monitoring activity carried out more frequently (quarterly, monthly, weekly or daily) as appropriate to different project activities and impacts. Monitoring assesses compliance with the measures detailed in the EMP, as well as measurable effects of project activities on the environment.

56. **Updated ADB categorization.** Based on the findings presented in this EARF, it is confirmed that some of the infrastructure components proposed for this RBL program will have at least some negative impacts requiring mitigation, but also unlikely that any will generate impacts of a scale, complexity or severity that would warrant detailed environmental research or development of highly novel mitigation strategies. Accordingly, the Category B classification, assigned to the program at the early concept stage based on ADB screening, is considered valid for this investment location. This could change if the design, scale, nature or location of any proposed components undergoes significant modification before or after project approval. A Rapid Environmental Assessment (REA) checklist have been prepared for SICIP to assess ADB's environmental categorization of the project (Appendix 2).

III. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Environmental guideline

57. Under Output 1 SICIP involves the construction or renovation/upgrading of academic and laboratory structures in textile engineering colleges, training institutions, and other affiliated technical institutes, where some civil works will be supported in terms of repairing and retrofitting old workshops, laboratories and academic building as well as construction of new buildings for academic and administrative purposes. All the civil works activities are not yet determined at this point, since additional training programs will be identified and added under the RBL during implementation. However, based on the repairing, retrofitting and construction proposals to date, the program will support new construction that could encompass multi-storied training facilities equipped with technology-based equipment for hands-on practical training. Besides new construction, renovation and repair of existing facilities are also due. The overall environment at construction and repairing sites are expected to be impacted in varied significances in terms of appropriate drainage, waste management, soil-air-water-noise pollution and traffic congestion. These impacts are site specific and subject to envisage design of the construction and its process.

58. The RBL program will also contribute positively to the local environment specific to the selected training institutes by developing healthy and safer environment to the premises housing with natural light and well-ventilated classrooms, structures resilient to environmental extremes (including climate variability such as severe storms and, in some cases, geophysical hazards such as earthquakes and landslides), improve hygiene among trainee, and provide clean drinking water. Capacity building of stakeholders in environmental safeguards, solid waste management including improved methods of repair, renovation, retrofitting of old structures (if any), and

preparation of resilient infrastructure (if necessary) will enhance knowledge and awareness for sustainable infrastructure development of the selected training sites in future. However, such activities may cause some adverse environmental impacts including dust and noise pollution, though very minor and insignificant in scale, disruption of natural ecosystem, occupational health hazards, risk from existing poor solid waste management system and land as well as water contamination. Due to some vulnerable geographic location (in some cases, if any), there might also be some risks including those of natural disasters (e.g., earthquakes, cyclone, floods, landslide, etc.) and extreme climate events. These impacts are not anticipated to be induced by SICIP but rather, they are related to the geographical location of some of the training sites and climate induced.

59. This section explains overall environmental management process for the SICIP. A harmonized ADB – DoE framework of project categorization and environmental due diligence requirements (explained in para 45-56) and a simplified process has been adopted for impact identification and mitigation. The process includes 7 steps:

- Step 1: Screening of proposed subprojects against PIAL
- Step 2: Categorization of subprojects/components
- Step 3: Identification appropriate tools for environmental assessment and mitigation
- Step 4: Preparation of IEE for category B subprojects
- Step 5: Development of Environmental Code of Parctice (ECoP) for category C subprojects
- Step 6: Submission of subproject proposal including IEE and ECOP, as appropriate, for ADB's review and endorsement
- Step 7: Discloser the reports approved by ADB.

9. Screening and application of PIAL

60. The construction and repair work selection criteria exclude Category A subprojects or subprojects likely to have significant impacts that are irreversible, diverse, or unprecedented. Subprojects with activities described in ADB's Prohibited Investment Activities List (Appendix 1) will also be excluded from the Project.

10. Categorization of subprojects/components

61. As stated earlier, during program preparation, the RBL program is classified by ADB as Category B with impacts that are expected to be site-specific, with few (if any) of them are irreversible and in most cases mitigation measures can be designed readily. The general the civil works selection criteria have two criteria for environment:

(i) the construction (civil works) and repair works will conform to ADB's Safeguards Policy Statement, 2009 (SPS) with respect to social and environment considerations. Subproject with significant (category A) environmental and resettlement impact, or with impacts on indigenous peoples (category A and B), will be excluded; and

(ii) The proposed subprojects will not be undertaken in critical habitats and protected areas including those either legally protected or officially proposed for protection.

62. The construction and repair works selected will not have significant environmental impacts. The indicative categorization consistent with Bangladesh country system and ADB SPS (2009) are provided in the below table (Table 8):

Table 8. Indicative categorization of proposed interventions under SICIP

Item no.	Proposed Subprojects	Safeguard categorization		Proposed categorization of SICIP subprojects	Required Safeguard measures
		Safeguard category per ECR 1997	Categorization per SPS 2009		
1	Construction of high-rise academic building	Orange B	B	B	Environmental screening, IEE including EMP
2	Smart technology lab	N/A	B	B	Environmental screening, IEE including EMP
3	Small civil works with horizontal or vertical extension	N/A	C	C	Environmental screening, Environmental Code of Practices (ECOPs)
4	Renovation and upgradation	N/A	C	C	Environmental screening, ECOPs
5	Training, climate smart technology	N/A		C	Excluded from assessment

63. Environmental guidelines for subproject selection in Table 9 provide further guidance to avoid or minimize adverse impacts during the identification and finalization of construction and repair works.

Table 9. Environmental guidelines for construction and repair works based on ADB SPS applicable to SICIP.

Component	Environmental Guidelines for civil works Selection
Overall	• Comply with all applicable national and local laws, regulations, and standards. • Comply with ADB's SPS (2009) • Avoid land acquisition and involuntary resettlement and have no impacts on indigenous peoples • Avoid protected areas and areas of historical/cultural value • Avoid building or setting-up construction camp sites along protected areas/wildlife sanctuaries/forested land under jurisdiction of the Forest Department
SSTLs, academic buildings and dormitories	• Do not build facilities in places vulnerable to frequent flooding, wetlands nearby, protected or restricted forests nearby. • Choose construction works so that access roads need minimum or no widening • Avoid cutting trees on the roadside and if any trees have to be removed, plant two new trees for every tree lost. • Consult the relevant archaeological agency regarding archaeological potential subproject areas to ensure that these are located in areas where there is a low risk of chance finds.
Renovation, retrofits, and upgradations	• Use the ECoP as guidelines for environmental management at sites as illustrated in this EARF as Annex 4 • Comply with all applicable national and local laws, regulations, and standards.

11. Identification of appropriate tools for environmental assessment (EA) and mitigation

64. Although, the specific design and location of some sites are yet to be identified, an indicative list of activities and interventions has been identified, while some has been finalized (see Table 1 and Table 2). It is also expected that some of the interventions will not have any negative impacts but nevertheless present opportunities for enhancing environmental and social benefits. The proposed civil works are expected to be small in size and local in nature inducing minor to moderate impacts.

65. Following the harmonized framework of DoE and ADB SPS categorization, proposed activities will be categorized in the following manner:

66. **Category 1 (ADB SPS category C – No EA Required).** Demonstration of climate smart technology or products and skills and capacity building program (e.g., skills trainings, curriculum development (Item no. 5 of Table 8) are categorically excluded from the requirements for an environmental assessment (EA). These activities do not lead to any adverse environmental impacts, but instead provide positive environmental and social benefits.

67. **Category 2 (ADB SPS category C – Activities Requiring Environmental Screening)**. Proposed activities that may have some minor environmental impacts due to minor repair, upgradation or retrofitting works are grouped under category 2 (Item no. 3 and 4 of Table 8). Impacts of these activities can be identified through Environmental Screening and managed by appropriate Environmental Code of Practices (ECOPs). A list of ECOPs is attached with this document in Appendix 4.

68. **Category 3 (ADB SPS category B – Activities Requiring IEE including EMP).** Proposed activities such as construction of STTLs and high-rise academic buildings, dormitories etc. are grouped into category 3 (Item no. 1 and 2 of Table 8) and will require an Initial Environmental Examination (IEE) including Environmental Management Plan (EMP). Impacts of these activities will be addressed through a well-developed Environmental Management Plan (EMP).

12. Preparation of IEE for category B subprojects

69. Subprojects with adverse environmental impacts which are not considered significant (Category B) require an IEE and an EMP. A list of important tools and outputs specified by the SPS 2009 for IEEs have been discussed in para. 55. Site specific IEE including EMP will be prepared based on the nature, number of interventions, and location within the same geographic area. Appendix 3 provides an outline of an IEE which contains the EMP. A generalized EMP table for likely infrastructure works is also presented in Table 10.

70. In preparing IEEs, primary data through site visits and surveys where necessary and data from secondary sources will be collected for subproject-influence sites. An assessment of subproject impacts and risks on biodiversity and natural resources will also be undertaken. Issues regarding natural and critical habitats will be covered in the IEE report. In case of subprojects located within buffer zone of protected areas, a review of management plans and consultation with concerned management staff of the protected area, local communities, and key stakeholders will be undertaken and reflected in the IEE report. Pollution prevention for conservation of resources particularly technology for management of process wastes will be addressed in the IEE report. Occupational health and safety and community health and safety will be properly

addressed in the EMP section of the IEE report. Asbestos screening, and risk assessment and management, as needed, will be prepared following ADB's Good Practice Guidance for the Management and Control of Asbestos: Protecting Workplaces and Communities from Asbestos Exposure Risks. In case, subprojects are likely to have adverse impacts on physical cultural resources, appropriate mitigation measures will be planned and reflected in the IEE. The IEE will also reflect how meaningful consultation will be undertaken and disclosure procedures with a provision of grievance redress mechanism.

71. An EMP for each subproject will be developed as part of the IEE. EMPs describe the environmental management measures that will be carried out to mitigate negative impacts or enhance the environment during implementation of a subproject, and the environmental monitoring to be conducted to ensure that mitigation is provided and is effective in reducing impacts, or to determine the long-term impacts of a subproject. EMPs will outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements for implementation. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the subproject is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in this document. The level of detail and complexity of the environmental planning documents and the priority of the identified measures and actions will be commensurate with the subproject's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third parties," the polluter pays principle, the precautionary approach, and adaptive management.

13. Development of ECOP for category C subprojects

72. Proposed activities involving retrofitting, upgradation, repairs, vertical extension etc. will require an environmental screening (Category 2, para.67). For example, vertical extension and repair works will require minor civil works, installation of equipment and disposal of waste may generate minor impacts if not managed properly. In such cases, environmental impacts, whether that is minimum or negligible, will be managed through Environmental Code of Practices (ECOPs). An outline of ECOP is attached to this document as Appendix 4.

14. Submission of subproject proposal including IEE and ECOP, as appropriate, for ADB's review and endorsement

73. All IEEs and EMPs will be prepared prior to the award of construction contracts. The bid documents will include the requirement to incorporate necessary resources to implement the EMP. The EMP will form part of the contract document and EMP cost to be included in the BOQ should be non-competitive item included under the provisional sum. The EMP will need to be further updated during the construction phase of a subproject, if required.

74. The IEE and EMP must be updated if there are any change to the location and design of the subproject intervention and any changes or updates on the IEE will be subject to ADB's review and disclosure. IEEs will be reviewed initially by the safeguards unit at SDCMU. In case an environmental clearance is required, the IEEs are to be forwarded to the DOE for approval. No works shall commence without an approved national environmental clearance.

15. Disclosure the reports approved by ADB

75. The IEEs, EMPs and ESRs will be reviewed by the safeguards unit of SDCMU and, if considered satisfactory based on the requirements of SPS 2009, the latter will submit them to

ADB for final review and clearance. Once cleared by ADB, the IEEs will be publicly disclosed on the ADB and government websites, and locally through consultations, leaflets, etc. as appropriate.

B. Cross Cutting Environmental Consideration for Climate Change

76. The proposed RBL program will contribute to climate adaptation and mitigation. Under Output 1, the RBL will construct few climate-resilient and environment friendly academic buildings and labs which are envisaged to put lesser carbon footprint on land. Under output 2 the RBL program will support selected universities to promote applied R&D for industry solutions, especially small and medium enterprises (SMEs) which should help SMEs develop climate resilient products. Through this program, ADB intends to facilitate international partnerships to develop stronger institutional capacity for skills in emerging IR4.0 and green technologies for climate resilient green growth.

77. The program is well aligned with the government's National Adaptation Plan (NAP) approved in November 2022, specially with "Goal 1: Ensure protection against climate change variability and induced natural disasters"; and "Goal 6: Ensure transformative capacity-building and innovation for climate change adaptation". The proposed RBL program will directly contribute to the climate adaptation investment required under the NAP through rolling out of some of the good practices that have been developed. The innovative climate resilience infrastructure and adaptation through skill development and climate friendly product development under the project can be used as a benchmark for infrastructure development in other climate hotspots of the country.

C. Anticipated Impacts

78. The scale of operations and facilities, as well as the precise placement of infrastructure, are not presently well established for any proposed Investment Project investments, which makes prediction of specific impacts on particular receptors from construction and operations tenuous. Nevertheless, it is possible to define broad categories of potential impacts, based on the types of infrastructure planned under the Investment Project and typical characteristics of the investment settings. The following general anticipated impacts are based on possible construction of new training/lab facilities.

1. Pre-Construction Impacts

79. Impacts that may arise prior to the start of construction are related to siting, design and procurement decisions.

80. **Siting.** Since all of the planned infrastructures are to be located within the college/campus premises, land acquisition is not expected at any locations, and the widening of approach roads will not require additional land acquisition. However, even within pre-existing sites, siting decisions may affect the amount of land filling that is required. Poor siting decisions may lead to unnecessary and environmentally harmful filling of water bodies, as well as loss of productive agricultural land. When flooding potential - including projected changes due to climate change - is poorly accounted for in siting, costly and environmentally harmful problems such as mass erosion, building damage and releases of sewage and hazardous wastes are much more likely to occur.

81. **Design.** The design process is typically a significant opportunity to lessen the potential for negative environmental impacts, and also to enhance the project environment. The greenhouse gas emission potential and water demand of the proposed infrastructure, for example, may be

significantly reduced by incorporating blue-green design features to lower cooling needs and capture and store rainwater. Installation of only high-efficiency electrical appliances and inclusion of state-of-the-art waste management systems are also areas in which design can lower the potential for environmental impacts. Similarly, the redesign of approach roads offers the opportunity to add enhanced safety features that are currently lacking, such as sidewalks, guardrails and protected pedestrian crossing points. By the same token, failure to design for impact reduction may result in existing safety problems being exacerbated during the operation phase.

82. With regards to laboratories/workshops repair/modifications, careful design will be essential to limiting the potential for harmful releases of hazardous materials to the environment, as well as prevention of occupational health and safety impacts. Modification or construction of laboratories/workshops at Polytechnic premises may produce both liquid effluent and solid waste, as well as vaporous releases depending of the construction materials, construction technics and chemical being used in the laboratories/workshops. The type of tests to be conducted, substances used in testing, and the volume of testing are all unknown at the time of writing, but all laboratories/workshops will present the risk of hazardous releases if adequate systems for management of all components of the waste stream are not included in facility designs. The institutional and operational capacity for hazardous waste treatment and disposal is extraordinarily weak in Bangladesh, so the effective management of toxic wastes from laboratories may have to include on-site treatment or long-term storage, the latter of which may be feasible if testing volumes are relatively low.

83. **Procurement.** Procurement is another pre-construction process that offers opportunities to reduce environmental impacts. Thoughtful selection of building materials may yield significant reductions in the carbon footprint of the Investment Project infrastructure, and selection of contractors with strong environmental compliance track records will help to reduce the incidence of avoidable environmental and safety impacts during construction. Another potentially significant procurement choice is to require that contractors hire entirely or mostly local workers; this can completely prevent the many environmental and social impacts associated with residential construction camps, and greatly boost the positive economic impact of the Investment Project for the local communities.

2. Construction Phase

84. **Air Quality:** The potential sources of air pollution during the construction stage include: dust, debris, and particulate materials from construction that may blow to surrounding structures and cause nuisance to surrounding students and families living in the campus premises especially vulnerable persons (children, elderly, etc.) and businesses around the periphery.

85. **Noise and Vibration.** Noise from construction machinery and equipment may disturb others especially in areas with hospitals, homes for the elderly, and schools.

86. **Land and Soil.** Land and soil may be contaminated through inappropriate construction methods and improper management of spoils. Special attention is needed where construction is envisaged on lowland area.

87. **Borrow Pits and Quarry.** Extraction of materials can disrupt natural land contours and vegetation, resulting in accelerated erosion, disturbance in natural drainage patterns, ponding, waterlogging and water pollution. Borrow pits and quarry sites will be selected avoiding protected

and sensitive areas, nearby settlements, water sources, and in forest areas and fertile agricultural lands.

88. **Loss of Vegetation.** Proposed areas may entail cutting of trees and shrubs. Loss of vegetation may affect ecological balance. For constructions which will involve cutting of trees, will be identified for replantation, if any available. It is assumed that the campus premises are not legally protected areas designated by the Forest Department or DoE. However, if it happens to be a protected area by any chance, no works will be implemented within protected areas, including its regulated zones or any proposed protected areas. Workers camps will not be allowed within protected areas, its regulated zones, or proposed protected areas.

89. **Loss of Natural Habitats and Wildlife Disturbance.** The campus premises are expected to be vegetated. Clearing of existing vegetation may result in loss of associated ecological habitats and their fauna. Noise, vibrations, and intrusive activities related to construction works may scare away animals remaining onsite after vegetation clearance.

90. **Hydrology and Drainage.** Obstruction of natural drainage basin by community infrastructure or extraction of water may modify the natural flow of surface runoff by concentrating flow at certain points. As a result, velocity of flow may increase or decrease. Construction taking place in lowlands may disrupt natural flow of water or natural runoff, which may lead to temporary, or even permanent waterlogging.

91. **Surface Water and Groundwater Contamination.** Use of toxic materials such as solvents and vehicle maintenance fluid (oil, coolant) and diesel fuel may contaminate surface and groundwater if these are disposed of directly into the ground or washed into the streams. Human waste from construction workers may also contaminate surface water and groundwater if there are no adequate sanitary facilities.

92. **Loss of Natural Habitats and Wildlife Disturbance.** Clearing of existing vegetation may result in loss of associated ecological habitats and their fauna. Noise, vibrations, and intrusive activities related to construction works may scare away animals remaining onsite after vegetation clearance.

93. **Stockpiling of Materials.** Improper selection of storage areas and stockpiling of material may cause siltation, water pollution, and air pollution due to dust generation, loss of topsoil and productivity, and disturbance to private property. Since the construction/modification sites are likely to be inside polytechnic premises full of students, teachers and other staff, improper site selection of stockpile of materials may create havoc.

94. **Explosive, Combustible, and Toxic Materials**. Storage and use of explosives, petrol, diesel, oil and lubricants, bitumen, and solvents may cause fire and explosion hazards, soil and water pollution through leaks and accidental spillage.

95. **Construction Waste.** Debris generated through excavation of sites and access road includes bitumen and other pavement materials with various chemicals, oils, and grease that pose hazards to human health.

96. **Traffic.** Traffic flow will be disrupted if routes for delivery of construction materials and temporary blockages during construction activities are not planned or coordinated.

97. **Impacts on Existing Utility Infrastructure.** Telephone lines, electric poles and wires, and existing water pipes may require shifting. Service delivery of existing infrastructure may be disrupted during construction.

98. **Construction Camp.** Poor siting and improper management of construction camps may lead to several adverse impacts on environment: (i) loss of vegetation due to use of wood as fuel source for cooking, (ii) deterioration of nearby surface water quality, (iii) compaction and contamination of soil due to uncontrolled disposal of solid waste, (iv) increase in generation of domestic solid waste; (v) temporary air an noise pollution from machine operation; and (vi) poor sanitation resulting to transmission of communicable diseases.

99. **Occupational Health and Safety.** Insufficient supply and improper use of safety gear may cause injuries or fatal accidents. Close contact with persons afflicted with diseases and lack of sanitation in workers camps may also pose health risks. Outbreaks of diseases like diphtheria and measles can be avoided by observing proper sanitation facilities and observing good personal hygiene habits.

100. **Community Health and Safety Hazards.** Community hazards may arise during construction (dust, air quality, noise, risk of fall, etc.). Traffic accidents and vehicle collision with pedestrians during material and waste transportation may occur if no proper signages are placed.

101. **Social and Cultural Resources.** Ground disturbance can uncover and damage archaeological and historical remains. However, sites are likely to be inside the polytechnic premises where presence of archeological sites are unlikely.

3. Operation phase

102. **Solid Waste Generation.** Trainees, trainers and others visiting the training centers will generate domestic solid waste. Improper management of solid waste may lead to soil, water and air pollution.

103. **Hazardous chemical from labs.** Engineering controls are considered the first line of defense in the laboratory for the reduction or elimination of the potential exposure to hazardous chemicals. Mitigation measures include dilution ventilation, local exhaust ventilation, chemical fume hoods, glove boxes and other containment enclosures, as well as ventilated storage cabinets. Personal Protective Equipment (PPE) should be considered the last line of defense in protecting laboratory personnel against chemical hazards. If chemical deactivation or drain disposal is an option, chemicals discharged from the laborious should be treated from alkalinity or acidity before drainage disposal. If the discharged waters are toxic, establishing Effluent Treatment Plant (ETP) will be essential.

104. **Community Health and Safety Hazards.** If left without proper restoration and clearing of wastes, construction sites can be accident prone areas. Drainage canals, if not properly maintained, may create stagnant water conditions. This might create public health problem due to increase in number of vector species like mosquito, snails and others.

D. Mitigation measures

105. Based on the anticipated impacts of the SICIP's civil works activities stipulated in paragraphs 78-104, a list of general mitigation measures/environmental enhancements are proposed in the following Table 10. The 'impact magnitude' stated in Table 10 is defined as the

following order of ascending magnitude: 'none'[10], 'negligible'[11], 'minor'[12], 'major'[13] and 'catastrophic'[14]. Explanations are given in footnotes 11-14.

Table 10. Generalized Potential Environmental Impacts with Mitigation Measures for SICIP

General SICIP Aspects and reference	Potential Impact	Magnitude of Impact	Mitigation/Enhancement Measures
Planning and Design Stage			
Legal permissions, No Objection Certificate (NOC)	Without prior permission from proper authority construction or repairing civil works may hamper, even shut down.	Minor negative	Sought permission or NOC from proper authority (in most cases SICIP Training Authorities such as engineering college or polytechnics). Since the sites are likely to be within the polytechnic/engineering college premises, NOCs should be coming from the Directorate of Technical Education.
Siting and design	Faulty siting and design may lead to degradation of environment within the site premises, specially within the engineering college / Polytechnic campus	Major negative	Selection of site based on a combination of engineering and environmental recommendations. Try to avoid any delicate ecosystem with the sites.
Existing Utility relocation, restoration	Construction works may hamper existing utilities	Minor negative	At planning phase, existing utilities will be identified at all SICIP civil works sites so that if hampers notices can made at least a week in advance and disturbed utilities can be restored to their original state
Environmental Awareness Training	If the contractors and construction supervision engineers are not aware about the implementation of this EMP, the project may not proceed and comply with ADB and GoB environmental policies.	Major negative	Project manager and all key workers will be required to undergo EMP implementation training including spoils management, Standard operating procedures (SOP) for construction works; health and safety (H&S), core labour laws, and applicable environmental laws.
Construction Phase			
Disturbance to local ecology	Construction in sensitive ecological areas like ponds and wetlands may lead to disturbance in the ecological balance	Negligible	SICIP renovation sites are within confined campus, therefore will not pose any threat to ecology. New construction sites will be either within existing campus or private land located far enough from sensitive ecological systems
Disturbance to local topography and hydrology	Construction in lowlands areas or in the path of local runoffs may alter hydrological system creating waterlogging and occasional flooding	Negligible	SICIP renovation sites are within confined campus which are well above flood level. The new construction sites will be chosen so that they do not hamper the pathways of local stream or surface water run-off.

[10] None: No impact anticipated
[11] Negligible: Localized, long term degradation of sensitive habitat or widespread, short-term impacts to habitat, species or environmental media
[12] Minor: Impacts such as localized but irreversible habitat loss or widespread, long-term effects on habitat, species or environmental media
[13] Major: Widespread and persistent changes in habitat, species or environmental media
[14] Catastrophic: Persistent reduction in ecosystem function on a landscape scale or significant disruption of a sensitive species.

General SICIP Aspects and reference	Potential Impact	Magnitude of Impact	Mitigation/Enhancement Measures
Air and noise pollution	SICIP renovation sites are not expected to release major amount of dust or other air pollutants, while the new construction sites may be just the opposite. Generation of noise will be common.	Minor negative	Frequent water spray, covering construction materials, use of environmentally certified fit machineries, use of low noise generating equipment will be in place to control air and noise pollution
Soil and water pollution	Solid waste generated from work camps, construction spoils, uncovered materials, wastewater discharge etc. may pollute soil and water	Minor negative	Proper solid waste management system, systematic material storage, careful handling construction materials, operating during dry season etc. will lower the possibilities of soil and water pollution.
Traffic Congestion	Increase of traffic (i.e. construction vehicles) during construction and renovation may induce traffic congestion and increase chances pf accidents in locality	Minor negative	All the SICIP sites have wide access roads. New constructions sites are also chosen so that they have access roads wide enough for heavy traffic movement. Therefore, chances of traffic congestion and accidents are low.
Worker's health and safety	Lack of health and safety equipment and awareness may lead to fatal accidents, even deaths	Major negative	Awareness training of health safety, continuous monitoring at workplace may reduce the chances of injuries
Community health and safety	Lack of awareness of community health and safety and caution may pose threat on community health and safety	Minor negative	Proper awareness training at the beginning of civil works and continuous monitoring at work site may decrease the threat to community health and safety.

IV. ASSESSMENT, REPORTING AND MONITORING PLAN

A. Reporting and mitigation plan

106. Environmental assessment documents prepared for subprojects should meet both ADB and government requirements to streamline environmental procedures.

107. In preparing IEEs, secondary data will be collected for subproject-influence sites. An assessment of civil work impacts and risks on biodiversity and natural resources will also be undertaken and incorporated with the IEEs. Issues regarding natural and critical habitats will be covered in the IEE report. In case of construction works located within buffer zone of protected areas, a review of management plans and consultation with concerned management staff of the protected area, local communities, and key stakeholders will be undertaken and reflected in the IEE report. Pollution prevention for conservation of resources particularly technology for management of process wastes will be addressed in the IEE report. Occupational health safety and community health and safety will be properly addressed in the EMP section of the IEE report. In case subprojects are likely to have adverse impacts on physical cultural resources, appropriate mitigation measures will to be planned and reflected in the IEE. The IEE will also reflect how meaningful consultation will be undertaken and disclosure procedures with a provision of grievance redress mechanism. Appendix 3 provides an outline of an IEE which contains the EMP.

108. EMPs will outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements for implementation. Where

impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the subproject is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in this document. The Environmental Code of Practice (ECoP) will be integrated into the EMP, as applicable. Bidding documents will include ECoP. Appendix 4 shows an ECoP applicable to all civil works to be undertaken by SICIP.

109. All IEEs and EMPs will be prepared prior to the award of construction contracts. The bid documents will include the requirement to incorporate necessary resources to implement the EMP. The EMP will form part of the contract document, and if required, will need to be further updated during the construction phase of a subproject. Any changes or updates on the IEE will be subject to ADB's review and disclosure.

B. Environmental Monitoring and Reporting Plan

110. The environmental monitoring plan forms the basis for verifying the extent of compliance during the implementation stages of the project. The objectives of an environmental monitoring program are:

(i) to evaluate the performance of mitigation measures proposed in IEE;
(ii) to provide information which could be used to verify predicted impacts and thus validate impact prediction techniques;
(iii) to suggest improvement in environmental mitigation measures if required;
(iv) to provide information on unanticipated adverse impacts or sudden change in impact trends;
(v) Implementation of mitigation measures will be ensured through both routine and periodic monitoring. Monitoring activities for SICIP activities at the above two phases of implementation will be as follows (Table 11).

Table 11. Generalized Monitoring Plan during construction/renovation phase for SICIP.

Indicators	Method	Frequency	Responsibility
Construction/Renovation phase			
Drinking Water Quality at site and workers camp	Sampling, lab testing & Comparison with generic standard	3 times, once before begins, once in the middle of construction/renovation works, once after the end of the construction/renovation works	Supervision consultants, Contractor
Air quality at construction/renovation sites			
Surface water quality at construction/renovation sites			
Noise quality at construction/renovation sites			
Soil quality at construction/renovation sites			
Solid waste segregation Disposal	Direct observation	Every day, during construction/renovation works	Supervision consultants, Contractor
Occupational health and safety	Direct observation	Every day, during construction/renovation works	Supervision consultants, Contractor
Water logging, drainage congestion, vector Proliferation	Direct observation	Every day, during construction/renovation works	Supervision consultants, Contractor

Indicators	Method	Frequency	Responsibility
Orientation training on Environmental awareness, health and safety	No. of training programs conducted	Biannually	Supervision consultants, Contractor
Monitoring Report	-	Monthly Semi annual	Supervision consultants, Contractor. SICIP implementation unit (prepared for ADB)
Operation Phase			
Monitoring Report	-	Quarterly	SICIP Implementation Units
Drinking water quality at SICIP facilities	Sampling, lab testing & Comparison with generic standard	Biannually	SICIP Implementation Units
Solid waste management	Direct observation	Biannually	SICIP Implementation Units

111. Each Directorate and SICIP implementation units may perform the responsibility of carrying out annual review to assess how effectively the environmental safeguard requirements have been followed. A sample format of the Semiannual monitoring report has been provided in Appendix 5.

C. EMP cost

112. EMP implementation costs will be specified in each site specific IEEs when prepared. The cost should be included as fixed cost during bid documentation preparation. Contractors can claim the EMP costs fixated for the specific subproject only after submitting enough proof of implanting the EMP components as required by the relevant IEEs.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Consultation and Information Disclosure

113. Meaningful stakeholder consultation and participation is part of the project preparation and implementation strategy. Consultation, participation and will ensure information is provided and feedback is obtained and considered on the implementation of subprojects. Affected persons will be consulted at various stages of subproject preparation to ensure: (i) incorporation of views/concerns of affected persons, particularly the vulnerable, on environmental impacts and mitigation measures; (ii) identification of any help required by affected persons (if any) during rehabilitation; and (iv) avoidance of potential conflicts for smooth project implementation.

114. It will also provide adequate opportunities for consultation/participation of all stakeholders and inclusion of the vulnerable in subproject process. Relevant information on any major changes to the Project or subproject scope will be shared with beneficiaries, affected persons, vulnerable groups, and other stakeholders.

115. At minimum, stakeholders will be consulted regarding the scope of an impact assessment before work is commenced and they will be informed of the likely impacts of the subproject and proposed mitigation once the draft IEE and EMP documents are prepared. The safeguards documents will record views of stakeholders and indicate how these have been taken into account in project development. Consultations will be held with a special focus on vulnerable groups.

116. The key stakeholders to be consulted during IEE preparation may include:

(i) Beneficiaries;
(ii) Elected representatives, community leaders, religious leaders and representatives of community-based organizations;
(iii) Local non-government organizations (NGOs);
(iv) Local government and relevant government agency representatives, including local authorities responsible for land acquisition, protection and conservation of forests and environment, archaeological sites, religious sites, and other relevant government departments;
(v) Residents, shopkeepers, business persons, and farmers who live and work alongside transport and education/district infrastructure which will be rehabilitated;
(vi) Executing agency, implementing agency, PIU, staff and consultants; and
(vii) ADB and Government.

117. Information is disclosed through public consultation and making available relevant documents in public locations. The following documents will be submitted to ADB for disclosure on its website:

(i) IEEs (including subproject EMP);
(ii) Updated IEEs (including EMP) and corrective action plan prepared during project implementation, if any; and
(iii) Environmental monitoring reports.

118. The EAs/IAs will send a written endorsement to ADB for disclosing these documents on the ADB website. The environmental safeguards persons at workplace and relevant authorities will provide relevant safeguards information in a timely manner, in an accessible place and in a form and language understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used. Disclosure will follow ADB's Public Communication Policy, 2011[15].

B. Grievance Redress Mechanism

119. The objective the grievance redress mechanism (GRM) is to resolve complaints as quickly as possible and at the local level through a process of conciliation; and, if that is not possible, to provide clear and transparent procedures for appeal. A well-defined grievance redress and resolution mechanism will be established to resolve grievances and complaints in a timely and satisfactory manner. All affected persons will be made fully aware of their rights, and the detailed grievance redress procedures will be publicized through an effective public information campaign. The grievance redress process includes three levels:

120. **First level of GRM:** The first level and most accessible and immediate contact for the fastest resolve of grievances are the contractors, with assistance from PMC on site. Prior to construction of any works, the PIU will ensure local community meetings are held to notify residents and businesses of any temporary disturbances, and to inform them of the project and the GRM. If any complaints arise, the contractors, with assistance from PMC can immediately resolve the complaint on site. The contractor's and PMC's office phone number will be posted in public areas within the subproject areas and construction sites. Any person with a grievance related to the project works can contact the project to file a complaint. The contractor may seek the assistance of the PMC safeguards specialists (the environmental specialist or social safeguards specialist) to resolve the issue. The PMC safeguards (environment and resettlement) focal person will immediately address and resolve the issue with the contractor within 1-2 days, if the complaint remains unresolved at the field level. The PIU's safeguards focal person (s) will fully

[15] https://www.adb.org/sites/default/files/institutional-document/32904/files/pcp-2011.pdf

document the following information: (i) name of the person; (ii) the date on which the complaint was received; (iii) nature of complaint; (iv) location; and (v) how the complaint was resolved. The complainant will also have the option to file an anonymous complaint.

121. **Second level of GRM:** Should the grievance remain unresolved; the contractor with assistance from DSC will forward the complaint to the SDCMU safeguards focal person. The person filing the grievance will be notified by DSC safeguards focal person that the grievance was forwarded to the SDCMU safeguards focal person. The SDCMU will address the grievance. Grievances will be resolved through continuous interactions with affected persons, and the SDCMU will answer queries and resolve grievances regarding various issues including environmental or social impacts. Corrective measures will be undertaken at the field level by the SDCMU safeguards focal person within 7 days. He/she will fully document the following information: (i) name of the person; (ii) date complaint was received; (iii) nature of complaint; (iv) location and (v) how the complaint was resolved.

122. **Third level of GRM:** Should the grievance remain unresolved, the PIU's focal person will activate the third level of the GRM by referring the issue (with written documentation) to a Grievance Redress Committee (GRC), which will, based on review of the grievances, address them in consultation with the PIU, contractor, PMC, and affected persons. The GRC will consist of project director, as chairperson, EA/IA representative, camp-in-charge, and other relevant stakeholders. A meeting will be called with the GRC, if necessary, where the affected person can present his/her concern and issues. The process will promote conflict resolution through mediation. The GRC will meet as necessary when there are grievances to be addressed. The GRC will suggest corrective measures at the field level and assign clear responsibilities for implementing its decision within 15 days. The functions of the GRC are as follows: (i) to provide support to affected persons on problems arising from environmental or social disruption, asset acquisition (where required), and eligibility for entitlements, compensation, and assistance; (ii) to record grievances of affected persons, categorize and prioritize them, and provide solutions within 15 days; and (iii) to report to the aggrieved parties' developments regarding their grievances and decisions of the GRC. The EA/IA safeguards focal person will be responsible for processing and placing all papers before the GRC, recording decisions, issuing minutes of the meetings, and taking follow-up action to see that formal orders are issued, and the decisions carried out.

123. Safeguard monitoring reports will include the following aspects pertaining to progress on grievances: (i) number of cases registered with the GRC, level of jurisdiction (first, second, and third levels), number of hearings held, decisions made, and the status of pending cases; and (ii) lists of cases in process and already decided upon may be prepared with details such as affected person, date of notice, date of application, date of hearing, decisions, remarks, actions taken to resolve issues, and status of grievance (i.e. open, closed, pending). All costs involved in resolving the complaints (meetings, consultations, communication and reporting / information dissemination) will be borne by the EA/IA.

124. **ADB's Accountability Mechanism.** Where an affected person is not satisfied with the outcomes of the 3 levels of the Project GRM, the affected person should make good faith efforts to resolve issues working with the South Asia Regional Department through ADB's Bangladesh Resident Mission. As a last resort, the affected person can access ADB's Accountability Mechanism (ADB's Office of Special Project Facility or Office of Compliance Review). ADB's Accountability Mechanism, including information on how to file a complaint, will also be explained to affected households.

125. **Court of Law.** An aggrieved person shall have access to the country's legal system at any stage, and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

126. The grievance redress mechanism and procedure are depicted in Figure V-1.

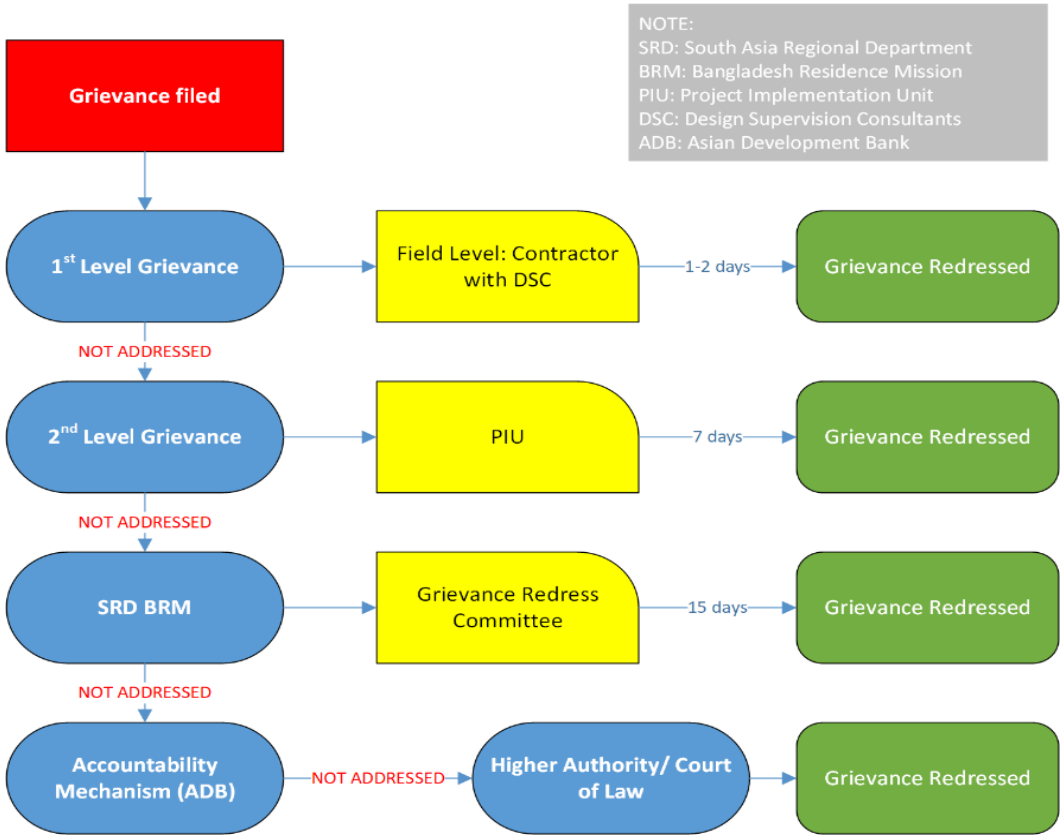

Figure V-1 Grievance Redress Mechanism (GRM) adopted for SICIP

VI. CONCLUSION AND RECOMMENDATION

127. This report assessed various existing environmental parameters in and around the SICIP selected training and, although adverse impacts to be generated during SICIP preparatory stage will be minor and insignificant, outlined the actions planned to minimize any significant negative impact. None of the proposed SICIP training sites is located in a sensitive ecosystem and is not significant from the historical and cultural perspective. SICIP will not cause any significant adverse environmental and social impacts during repair or renovation phase. Rather, the positive impacts due to SICIP operations will more than outweigh the insignificant negative impacts.

128. The limited and minor negative impacts due to SICIP are, over an insignificantly very short period, mainly associated with water logging, dust and noise pollution, occupational health hazards, risk from poor sanitation system, and management of labor at the sites. Moreover, most of the associated impacts are expected to be limited to the building repair/renovation phase and, will therefore, be absolutely temporary in nature. Adequate mitigation actions will be undertaken

in line with management and monitoring of the set of recommended mitigation measures. Regular monitoring of the recommended mitigation measures shall also be carried out during the implementation phase of the project.

Appendix 1: ADB Prohibited Investment Activities List

The following do not qualify for Asian Development Bank financing:

(i) production or activities involving harmful or exploitative forms of forced labor[16] or child labor[17];
(ii) production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phaseouts or bans, such as (a) pharmaceuticals[18], pesticides, and herbicides[19], (b) ozone-depleting substances[20], (c) polychlorinated biphenyls6 and other hazardous chemicals[21], (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora[22], and (e) transboundary trade in waste or waste products[23];
(iii) production of or trade in weapons and munitions, including paramilitary materials;
(iv) production of or trade in alcoholic beverages, excluding beer and wine[24];
(v) production of or trade in tobacco[25];
(vi) gambling, casinos, and equivalent enterprises[26];
(vii) production of or trade in radioactive materials, including nuclear reactors and components thereof;
(viii) production of, trade in, or use of unbonded asbestos fibers[27];
(ix) commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests; and
(x) marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

[16] Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.
[17] Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).
[18] A list of pharmaceutical products subject to phaseouts or bans is available at http://www.who.int
[19] A list of pesticides and herbicides subject to phaseouts or bans is available at http://www.pic.int
[20] A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at http://www.unep.org/ozone/montreal.shtml
[21] A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.
[22] A list of hazardous chemicals is available at http://www.pic.int
[23] A list is available at http://www.cites.org
[24] As defined by the Basel Convention; see http://www.basel.int
[25] This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations.
[26] This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.
[27] This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

Appendix 2: REA Checklist Rapid Environmental Assessment (REA) Checklist

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Safeguards Division (SDSS), for endorsement by Director, SDSS and for approval by the Chief Compliance Officer.
(ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's: (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site			
▪ Legally protected Area (core zone or buffer zone)			
▪ Wetland			
▪ Mangrove			
▪ Estuarine			
▪ Special area for protecting biodiversity			
B. Potential Environmental Impacts Will the Project cause…			
▪ impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to physical cultural resources?			
▪ disturbance to precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways resulting in increased sediment in streams affected by increased soil erosion at construction site?			
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased air pollution due to project construction and operation?			

Screening Questions	Yes	No	Remarks
▪ noise and vibration due to project construction or operation?			
▪ involuntary resettlement of people? (physical displacement and/or economic displacement)			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STIs and HIV/AIDS) from workers to local populations?			
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
▪ community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			
▪ generation of solid waste and/or hazardous waste?			
▪ use of chemicals?			
▪ generation of wastewater during construction or operation?			

A Checklist for Preliminary Climate Risk Screening

Country/Project Title: BAN: Skills for Industry Competitiveness and Innovation Program (SICIP)

Sector:

Subsector:

Division/Department:

Screening Questions		Score	Remarks[28]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?		
Materials and Maintenance	Would weather, current, and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current, and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design lifetime?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1–4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): Score 2 (medium Risk project)

Other Comments: _____
_____

Prepared by:

[28] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Appendix 3: Outline of an Initial Environmental Examination (IEE) Report

This outline is part of the Safeguard Requirements. The substantive aspects of this outline will guide the preparation of an environmental assessment[29], although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the

project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media, and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

[29] An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical environment impact assessment (EIA) report contains the following major elements, and an initial environment examination (IEE) may have a narrower scope depending on the nature of the project.

F. Analysis of Alternatives

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

(i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
(ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
(iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

(i) Mitigation:

a) identifies and summarizes anticipated significant adverse environmental impacts and risks;
b) describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and
c) provides links to any other mitigation plans (for example, for involuntary resettlement, indigenous peoples, or emergency response) required for the project.

(ii) Monitoring:

a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations frequency of measurements,

detection limits and definition of thresholds that will signal the need for corrective actions; and

b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

(iii) Implementation arrangements:

a) specifies the implementation schedule showing phasing and coordination with overall project implementation;
b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and
c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.

(iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

Appendix 4: Environmental Code of Practice (ECoP)

The Environmental Code of Practice (ECoP) will provide guidelines for environmental management of SICIP. The ECoP provides operating practices and environmental management measures to be followed by the contractor for sustainable management of all project related environmental issues and potential impacts. It promotes awareness and use of best practices in environmental management. The recommended ECoP developed for the project are:

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
ECoP 1: Waste Management		
General Waste	Soil, water and air pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor should: • Ensure proper collection and disposal of solid wastes within the construction camps • Insist waste separation by source means organic wastes in one bin/pot and inorganic wastes in another bin/pot at household level. • Store inorganic wastes in one chamber and inorganic waste in other chamber of the covered three chambered small concrete pit in the suitable location of the construction camp. When fill the chamber, inorganic wastes can be sold to the vender and organic wastes can be covered with earth for converting fertilizer. The local farmers can use fertilizer for their agricultural lands free of cost. • Do not burn/throw in to the waterbodies any general wastes.
Construction Wastes	Construction waste and environmental impacts due to improper waste management practices	The Contractor shall: • Collect construction wastes (such as piece of rod, wood, bamboo, tin sheet, brick etc.) separately from the sources and store in a designated area in the construction camp for re use and avoiding potential environmental pollution. • Collect and store all hazardous wastes appropriately in container/bunded area and make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. Do not dispose hazardous liquid waste on soils. • Do not burn/throw in to the waterbodies any construction wastes.
ECoP 2: Surface/Ground/Drinking Water Management		
Drinking/Ground Water	Ground/Drinking water at shallow depths is contaminated with arsenic and other parameters and hence not suitable for drinking purposes. Pollution of ground/drinking water resources.	The Contractor Shall: • Select aquifers for drinking water free from arsenic and other contaminants. • Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination. • According to BNBC, toilets should be min. 10m distance from the tube wells.
Discharge from construction sites	During construction both surface and ground water quality may be deteriorated due to construction	The Contractor shall:

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	activities, disposal of wastes into the nearby waterbodies (if any), connection of toilets with the water bodies and accidental spillage of liquid waste.	• Install temporary drainage works (drains) in areas required for around storage areas for construction materials. • Divert runoff from undisturbed areas around the construction site. • Stockpile materials away from drainage lines. • Prevent disposal of all solid and liquid wastes into the nearby waterbodies and on the areas other than designated waste dumping sites.
ECoP 3: Drainage Management		
Excavation and earth works, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall: • Prepare a program for prevent/avoid standing waters, which BTEB will verify in advance and confirm during implementation. • Rehabilitate internal road side drains immediately if damaged by any construction activities. • Construct wide drains instead of deep drains to avoid earth deposition in the drains that require frequent cleaning. • Protect natural slopes of drainage channels to ensure adequate storm water drains. • Regularly inspect and maintain all drains to assess and alleviate any drainage congestion problem.
Ponding of water	Health hazards due to mosquito breeding	• Do not allow ponding of water especially in the drains and in the construction camps. • Discard all the storage containers that are capable of storing of water, after use or store them in inverted position.
ECoP 4: Topsoil Management		
Land clearing and earth works	Loss of topsoil from excavation activities	The Contractor shall: • Strip the top soil to a depth of min 0.50m and stock piles of height not exceeding 2m. • Remove unwanted materials from top soil like grass, roots of trees and similar others. • Locate topsoil stockpiles in areas outside drainage lines and protect from erosion. • Construct silt fences around the topsoil stockpiles to prevent loss of topsoil. • Spread the topsoil to maintain the physico-chemical and biological activity of the soil. The stored top soil will be utilized for covering all disturbed area and along the proposed plantation sites. • Prior to the re-spreading of topsoil over the subproject filling areas, the ground surface will be ripped to assist the bonding of the soil layers, water penetration and re-vegetation.
ECoP 5: Dust/Air Quality Management		
Construction vehicles	Air quality can be affected by dust, generated due to movement of vehicles and combustion of fuels.	The Contractor shall: • Fit vehicles with appropriate exhaust systems and emission control devices. • Operate the vehicles in a fuel-efficient manner. • Cover haul vehicles carrying dusty materials moving outside the construction site.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Impose speed limits on all vehicle movement at the worksite to reduce dust emissions. • Control the movement of construction traffic. • Service all vehicles regularly to minimize emissions. • Watering filling sandy earth surface and cover asap by top soils.
Construction equipment	Air quality can be affected by emissions from equipment and combustion of fuels.	The Contractor shall: • Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition in accordance with the specifications defined by their manufacturers to maximize combustion efficiency and minimize the contaminant emissions. Proof or maintenance register shall be required by the equipment suppliers and contractors/subcontractors. • Machinery causing excess pollution (e.g. visible smoke) will be banned immediately from construction sites. • Service all equipment regularly to minimize emissions.
Construction activities	Dust generation from construction sites, material stockpiles specially dredged material stockpiles and access roads is a nuisance in the environment and can be a health hazard.	• Water the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. Dry period and high winds). Stored materials such as sand shall be covered by vegetation/grass-turfing. • Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations.
ECoP 6: Noise Management		
Construction vehicles	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall: • Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures. • Make sure all drivers will comply with the traffic codes concerning maximum speed limit, driving hours, use of cell phone during driving etc. • Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site.
Construction equipment	Noise may have an impact on workers, local residents, wildlife, livestock etc.	The Contractor shall: • Appropriately site all noise generating activities to avoid noise pollution to local residents. • Use the quietest available plant and equipment. • Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures. Equipment suppliers and contractors shall present proof of maintenance register of their equipment. • Install temporary noise barriers by screen, tin, wood around generators to reduce noise levels.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Avoid the unnecessary use of alarms, horns and sirens. • Use ear plugs in noisy areas of the construction activities.
Construction activities	Noise and vibration may have an impact on workers, local residents, wildlife, livestock	The Contractor shall: • Train the operators of construction equipment on potential noise problems. • Employ best available work practices on-site to minimize occupational noise levels. • Install temporary noise control barriers by tin sheets, screen etc. where appropriate. • Avoid undertaking the noisiest activities, where possible, when working at night near the residential areas.
ECoP 7: Topography		
Earthworks	Change in topography and local landscape and disturbance to the natural rainwater/flood water drainage	The Contractor shall: • Ensure the topography of the final surface of the all raised subproject land areas are conducive to enhance natural draining of rainwater/flood water. • Keep the finished surface of all the raised lands free from any kind of depression that insists water logging. • Undertake mitigation measures for prevention by grass-turfing and tree plantation, where there is a possibility of rain-cut that will change the shape of topography. • Cover immediately the uncovered open surface that has no use of construction activities with grass—cover and tree plantation to prevent soil erosion and bring improved landscaping.
ECoP 8: Protection of Flora		
Vegetation clearance	Increase in deforestation caused by land clearing for the construction of new subprojects	The Contractor shall: • Reduce disturbance to vegetation. • Use appropriate and minimum size of machine to avoid disturbance to adjacent vegetation's. • Clear only the vegetation that needs to be cleared in accordance with the plans. These measures are applicable to both the construction areas as well as to any associated activities such as sites for stockpiles, disposal of fill etc. • Do not burn off cleared vegetation — where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping. • Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. • Ensure excavation works occur progressively and re—vegetation done at the earliest. • Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction.
ECoP 9: Construction Camp Management		

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Siting and Location of construction camps	Campsites for construction workers are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.	The Contractor shall: • Locate the construction camp at areas which are acceptable from environmental, cultural or social point of view. • Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. • Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters.
Construction Camp Facilities	Lack of proper infrastructure facilities such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	Contractor shall provide the following facilities in the camp sites: • Adequate accommodation for all workers. • Safe and reliable water supply. Water supply from tube wells that meets the national standards. • Hygienic sanitary facilities for all labors. According to BNBC, the minimum number of toilet facilities required is one toilet for every ten persons.
Disposal of wastes	Management of wastes is crucial to minimize impacts on the environment	The Contractor should: • Ensure proper collection and disposal of solid wastes within the construction camps • Insist waste separation by source; organic wastes in one bin/pot and inorganic wastes in another bin/pot at household level. • Store inorganic wastes in one chamber and inorganic waste in other chamber of the covered three chambered small concrete pit in the suitable location of the construction camp. When fill the chamber, inorganic wastes can be sold to the vender and organic wastes can be covered with earth for converting fertilizer. The local can use fertilizer for their agricultural lands free of cost.
Health and safety	There will be a potential for diseases to be transmitted including measles, diphtheria, exacerbated by inadequate health and safety practices.	The Contractor shall: • Provide first aid facility round the clock. Maintain stock of medicines in the facility and appoint designated first aider or nurse. • Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies. Regular mosquito repellant sprays during monsoon. • Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers.
ECoP 10: Sensitive/Cultural Issues		
Construction activities near sensitive/cultural sites (such as mosque,	Disturbance from construction works to the sensitive/cultural sites, and contractors lack of knowledge on cultural issues cause social disturbances.	The Contractor shall: • Communicate to the public through community consultation and announcement regarding the scope and schedule of construction, as well as certain construction activities causing disruptions.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
mandir, pagoda, madrasha, permanent water body, eidgah, garden etc.)		• Do not block access to sensitive/cultural sites, wherever possible. • Stop construction works that produce noise (particularly during prayer time) should there be any mosque/religious institute close to the construction sites and users make objections. • Take special care when working next to a sensitive/cultural institution. • Show appropriate behavior with all construction workers especially women and elderly people. • Resolve cultural issues in consultation with local leaders and BTEB • Establish a mechanism that allows local people to raise grievances arising from the construction process.
ECoP 11: Occupational Health and Safety		
Best practices	Construction works may pose health and safety risks to the construction workers to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, vector transmitted diseases etc.), (ii) risk factors resulting from human behavior and (iii) road accidents from construction traffic.	The Contractor shall: • Implement suitable safety standards for all workers and site visitors which should not be less than those laid down on the international standards (e.g. International Labor Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guideline's) and contractor's own national standards or statutory regulations, in addition to complying with the national standards of the GOB (e.g. `The Bangladesh Labor Code, 2006'). • Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of hazards in the work areas. • Provide personal protection equipment (PPE) for workers, such as safety shoes, safety helmets, face masks, hand gloves, protective clothing, goggles, full—face eye shields, and ear plugs. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. • Safety procedures include provision of information, training on use of hazardous materials etc. • Appoint a health and safety manager from BTEB to look after the health and safety of the workers. • Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters.
	Child and pregnant women	The Contractor shall: • Not hire children of less than 14 years old and pregnant women in accordance with the Bangladesh Labour Code, 2006.
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	• Provide health care facilities and first aid facilities are readily available. • Document and report occupational accidents, diseases, and incidents.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		• Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. • Provide awareness to the construction drivers to strictly follow the driving rules. • Provide adequate lighting in the construction areas.
Construction Camps	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ECoP-9: Construction Camp Management. • Adequate ventilation facilities. • Safe and reliable water supply. Water supply from tube wells that meets the national standards. • Hygienic sanitary facilities and sewerage system. • Storm water drainage facilities. • Safe storage facilities for chemicals. • Solid waste collection and disposal system in accordance with ECOP1. • Arrangement for trainings. • Security fence at least 2 m height. • Sick bay and first aid facilities.
Water and sanitation facilities at the construction sites	Lack of water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	The contractor will follow ECOP-2 and 9.
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall: • Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI)). • Train all construction workers in general health and safety matters, and on the specific hazards of their work. Training should consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate.

Appendix 5: Environmental Monitoring Report Outline

The borrower/client is required to prepare semi-annual environmental monitoring reports that describe progress with implementation of the project EMP and compliance issues and corrective actions. A sample outline which can be adapted as necessary is provided below. Not all sections will be relevant in all cases.

Executive Summary

1. Introduction
   1.1. Background: project context setting, very brief
   1.2. The project: description of the project with outputs and outcomes, very brief
2. ADB and GoB categorization: subproject/component wise categorization as identified in IEE
3. Purpose of the environmental safeguards
4. Status of Ongoing Contract Packages
5. Environmental Status
   5.1. Status of environmental safeguards documents

Type of safeguards document	Agency	Package	Latest version	Coverage
Semi Annual Environmental Monitoring Report				
Infectious diseases exposure Prevention, Preparedness & Response Plan				
Site specific Environmental Management Plan (SEMP)				
Monthly environmental inspection report				
Complain and sick register report				
OHS Plan				
Monthly HSE meeting reports				
Overall monitoring checklist				
Environment test report				

   5.2. Environmental safeguards monitoring: description and explanation of the results of environmental monitoring at sites
   5.3. Construction period environmental quality monitoring: present test results and explain each parameter
6. Training, awareness and workshop: explain and report number of different level trainings/workshops arranged to aware the PMU staff and contractors and workers
7. Environmental issues of the current project: find out the major environmental issue prevailing at the site which should be attended and minimized
8. Performance of EMP implementation

Environmental issue	Mitigation measures suggested in EMP	Observation during monitoring period (with evidence/photos)	Recommendation/ comments
Topsoil			
Vegetation clearing			
Fauna			
Construction waste			
Drainage construction and flooding			
Noise			
Air quality and dust			

Environmental issue	Mitigation measures suggested in EMP	Observation during monitoring period (with evidence/photos)	Recommendation/ comments
Soil			
Traffic congestion			
Community Health and Safety (H&S)			
Occupational Health and Safety			

9. Grievance Redress Mechanism: report status of GRC, members and number of grievance filed and how they were dealt with.
10. Compliance with environmental related project covenants

10.1. National Covenant

No.	Environmental Legislation / Act	Objective	Relevance to the Project	Responsible Institution	Compliance status

10.2. ADB Safeguards Policy Statement (2009) compliance status

	Contract Package Status				
	Package 1	**Package 2**	**Package 3**	**Package 4**	**Package 5**
(i) Environmental Assessment (Category B: Requires IEE) done and disclosed	Complied	Complied	Complied	Complied	Complied
	explanation sample: IEE done for all packages, available at: website				
(ii) Environmental Management Plan drafted					
(iii) Information disclosed					
(iv) Consultation and participation have been done and public opinion has been used in project design phase.					
(v) Establishment of GRC and notes of grievances					
(vi) Monitoring and reporting: client will document regular monitoring results, in case of adverse significant affects external NGO will be involved as third party monitoring					
(vii) Unanticipated environmental impacts					
(viii) **Biodiversity Conservation and Sustainable Natural Resource Management:** The borrower/client will assess the significance of project impacts and risks on biodiversity and natural					

	Contract Package Status				
	Package 1	**Package 2**	**Package 3**	**Package 4**	**Package 5**
resources as an integral part of the environmental assessment process					
(ix) **Pollution presentation:** During the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines.					
(x) **Health and safety:** The borrower/client will provide workers with a safe and healthy working environment, taking into account risks inherent to the particular sector and specific classes of hazards in the borrower's/client's work areas, including physical, chemical, biological, and radiological hazards.					
(xi) **Physical and cultural resources:** The borrower/client is responsible for siting and designing the project to avoid significant damage to physical cultural resources					

10.3. Compliance with loan Covenants

From the loan agreement prepare the following table:

Covenant	**Reference in the Grant Agreement**	**Compliance Status**
Environment		
	Schedule xx, Para. xx	Complied/non complied/partially complied Sample wording: All requirements addressed in preparation and design stages including contract documentation.

Safeguards – Related Provisions in Bidding Documents and Works Contracts		
Safeguards Monitoring and Reporting		

11. Performance Indicators

11.1. Overall performances

No.	Aspects of Environmental issues	Compliance Status			Remarks
		FC	PC	NC	
A.	**General**				
1.	Legal working hours approval				
2.	Employment Record keeping arrangement				
3.	Payment Record keeping arrangement				
4.	Environment, Health and Safety Officer designated				
5.	Provision for monthly meeting for inspection of site activities				
B.	**Health and Sanitation**				
Occupational Health					
1.	First-Aid Box availability at work sites				
2.	Provision of personal protection equipment's (PPEs)				
3.	Handling of cement and other hazardous materials by workers				
4.	Workers' complains taken care of by the supervisor				
5.	Children below 18 employment				
C.	**Environmental Pollution**				
Dust and emission control					
1.	Construction vehicles and machineries maintained properly to reduce emissions				
2.	Proper storage of materials and regular watering.				
Noise Pollution					
1.	Movement of vehicles at desired hours				
2.	Noise control measures at sites				
Water Pollution					
1.	Land filling				
2.	Wastes, cement, effluents and junks not disposed in water				
Flora and Fauna					
1.	Trees and bushes outside the construction area preserved from damages				
2.	Disturbance to terrestrial fauna minimized				
Waste Management					
1.	Construction wastes are removed off site regularly				
2.	Chemical wastes, if any, collected and disposed of properly				
D.	**Environmental documents at Field Office and Project sites**				
1.	Field Office possesses copies of EMP, contract document and Technical Specifications				
2.	Heavy equipment maintenance records				
TOTAL					

11.2. Health and Safety performance

Environmental Safeguards Questions	Package 1	Package 2	Package 3	Package 4	Package 5
1. Sensitive receptors adjacent to the site? (i.e. residential, schools/learning center, health care center, daycare...)					
2. Are the workers aware of the EMP?					
3. Occupational Health and Safety: 3.1 Is there a designated person responsible for ensuring safe working practices? Are the workers aware?					
3.2 Have the workers received appropriate OHS training to perform their jobs? How often are they briefed on OHS requirements? *					
3.3 Do the workers use personal protective equipment (PPE - hats, glasses, boots etc.)? **					
3.4 Are working areas clear of slipping and tripping hazards?					
3.5 Are health and safety warning and information signs visible and understandable to workers?					
3.6 Are there any hazardous materials? Are they stored and handled appropriately?					
3.7 Are workers exposed to risks from working at height? If yes, are the workers using harnesses (fall protection equipment)?					
3.8 Are workers exposed to risk from confined spaces? (i.e. storage areas for hazardous materials)					
3.9 Is there a record of occupational injuries and diseases?					
3.10 Do workers receive health checks?					
3.11 What medical facilities are made available for the workers?					
Labor Camps: 3.12 What toilet and washing facilities are provided?					
3.13 Do workers have access to clean drinking water?					
3.14 Is the workers accommodation provided by the contractor?					
Emergency Procedures: 3.15 Are any procedures in place in case of an injury on site?					
3.16 Is there a first aid kit available on site?					
3.17 Are any procedures in place for chlorine leak, oil spills?					
3.18 Is firefighting equipment available on site? Is servicing up to date?					
4. Grievance Redress Mechanism {GRM): 4.1 Are the names and contact information posted for possible complaints?					
4.2 Is there a log book available on site?					
5. House Keeping: 5.1 Did you observe examples of poor housekeeping? (i.e. empty containers scattered, stagnation of water from improper disposal of solid waste?)					

12. Concluding Observations and Corrective Action plan (CAP): Summary of observation and time bound CAP