Infrastructure Development Company Limited (IDCOL)

Environmental and Social Safeguards Framework (ESSF)

September 2022

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CHAPTER 01: INTRODUCTION

1. Infrastructure Development Company Limited (IDCOL) was established on 14 May 1997 by the Government of Bangladesh (GoB). The Company was licensed by Bangladesh Bank as a Non-Bank Financial Institution (NBFI) on 5 January 1998. Since its inception, IDCOL is playing a major role in bridging the financing gap for developing medium and large-scale infrastructure and renewable energy projects in Bangladesh. After running as a major NBFI for two decades, the company now stands as the market leader in private sector energy and infrastructure financing in Bangladesh.

2. IDCOL's mission is to catalyze and optimize private sector participation in promotion, development, and financing of infrastructure as well as renewable energy, and energy efficient projects in a sustainable manner through public-private-partnership (PPP) initiatives. Its values and goals include achieving global standards and competence, transparency and integrity, and social and environmental responsibility in the financial activities delivered in the country.

3. IDCOL provides long-term financing to viable private sector infrastructure, energy efficiency, public-private-partnership and renewable energy projects. To be eligible for IDCOL funding, projects must be included in the GoB's priority sector list and use proven technology. Various sectors that are listed in the lending windows eligible to be financed by IDCOL are described below. These sectors are non-exhaustive and the board of directors may include or exclude any sector considering GoB's development priority and company's future expansion plan.

4. **Infrastructure projects**: Infrastructure projects where IDCOL provides financing are power generation, telecommunications, information and communication technology, ports, social infrastructure, gas and gas related infrastructure, water supply, toll roads and bridges, shipyards and shipbuilding, hotel and tourism, mass transportation systems, urban environmental services etc. Some of these sectors are as described below:

5. *Power Plants:* Power projects have not only been adding to the country's power generation capacity but also creating direct and indirect employment opportunities and developing skilled professionals. These power projects are in-general based on Heavy Fuel Oil (HFO), Furnace Oil or Dual fuel basis production and on a Build, Own, and Operate (BOO) basis operation. Most of these projects have Power Purchase Agreement (PPA) with Bangladesh Power Development Board (BPDB).

6. *Economic Zone:* IDCOL finances different privately owned Economic Zones in their eligible components which meets IDCOL lending policy requirements. To become eligible for IDCOL

financing, private sector ownership for the Economic Zone has to be at least 51% or as approved by the IDCOL Board from time to time.

7. *Gas and Other Fuel Based Infrastructure:* Gas, Energy and fuel-based infrastructure projects include LNG Terminal, LNG Storage Facility, LPG bottling plant, fuel refinery and condensate fractionation and other type of projects related to gas and other fuel transmission and storage facilities.

8. *Telecommunications:* Investing scope of IDCOL in telecom industry covers but not limited to network expansion, bond subscription for financing of expansion and up-gradation of network coverage, set-up and operations of wireless broadband network, license renewal, working capital facility, International Gateway (IGW) Project, Nationwide Telecommunication Transmission Network (NTTN) as well as Access Network Service (ANS) operators (fixed and mobile telephone), Inter-Connection Exchange (ICX) Services operator, International Internet Gateway (IIG) Services Operator, Internet Protocol Telephony Service Provider (IPTSP) operators.

9. *Information and Communication Technology***:** IDCOL has currently invested in two projects that develop Three-Dimensional Animation Works, and another IT enabled services of banking industries. IDCOL also has scope to finance ICT based projects such as Broadband Wireless Access (BVVA) Operators, Access Network Service (ANS) Operators - Internet Service Provider (ISP), and International Terrestrial cable (ITC) operator, Software Development, and Software Park or Hi-tech Park.

10. *Ports:* IDCOL finances land, river or seaport in Bangladesh in order to help develop infrastructure for service facilities.

11. *Social Infrastructure:* As the leader in infrastructure and project financing, IDCOL offers loans to various social facilities i.e. healthcare, education, public facilities and transportation infrastructures.

12. *Urban Environmental Services:* Urban Services like Solid Waste Management System, Effluent Treatment Plants, Recycling or Reuse Facilities, Water treatment Plants, River Dredging and Erosion Prevention measures are considered (but not limited to) eligible to be financed by IDCOL.

13. *Hotel and Tourism:* IDCOL has a scope to finance different hotels, resorts, theme parks, aqua park, safari park, bird park, museum, ropeway, cable car, golf courses, playground, stadium development and construction etc.

14. *Mass Transportation Systems:* IDCOL has scope of financing Mass Transit System in major cities like Dhaka and Chittagong. The components that can be financed are roads and

railways, metro, subway, underground and other rapid transit system, airline, commuter, intercity, and high-speed-rail or tram and light rail, ferry, transit depot infrastructure etc.

15. *Infrastructure Backward Linkage:* Different backward linkage manufacturing industries such as cable manufacturing, transformer manufacturing, steel and billet manufacturing, ceramics and cement plants, industrial refinery and related facilities, intermodal, bulk or shipping containers, energy storage initiatives, and export oriented and import substitution facilities can be financed with participation of IDCOL.

16. *Roads, Bridges and Toll Infrastructure:* In case of Roads, Bridges and Toll Infrastructure projects, IDCOL participates in the projects which are only under Public Private Partnership of Government of Bangladesh.

17. *Water Supply and Sewage Facilities:* IDCOL also finances water supply and sewage facilities in the field of water supply pumps and infrastructures, water pipeline, tunnels and sewage facilities related infrastructures, shipyards and shipbuilding industry sectors.

18. *Shipyards and Shipbuilding:* IDCOL finances projects and equipment's related to Shipyards, Shipbuilding and Dry-dock facilities.

19. **Energy Efficiency Projects**: Energy efficiency financing window has achieved a great momentum in IDCOL with the assistance of funds from various development partners. Different sectors covered under this window are described below:

20. *Brick Kiln:* IDCOL finances energy efficient brick factory under energy efficiency window. IDCOL provides financing for infrastructures and energy efficient machineries that meet IDCOL lending policy in case of brick kiln projects.

21. *Energy Efficient Equipment and Appliances***:** IDCOL finances energy efficient equipment and appliances if they meet certain criteria in response to energy efficiency. IDCOL follows developing partners' directives when evaluates the project proponents and their machineries. Apart from that, IDCOL provides technical assistance and concessionary financing in a wide range of sectors such as cement, RMG, textiles, electronic appliance manufacturers, real estate developers, petroleum and edible oil refinery etc. During selecting energy efficient machineries, IDCOL follows developing partners' guidelines to evaluate the eligibility. Along with financing in machineries, IDCOL also finances in different processes related to it.

22. *Improved Cook Stove (ICS) Program*: In 2013, IDCOL started the Improved Cook Stove (ICS) Program with the funding from the World Bank and Bangladesh Government. The primary objectives of the program are to reduce GHG emission by reducing use of cooking

fuel, reduce indoor air pollution and ensure local capacity building and mass awareness for achieving 100% ICS coverage by 2030 as per Bangladesh Country Action Plan (BCAP).

23. *Green Building:* IDCOL has initiatives to finance green building projects under energy efficiency initiatives. IDCOL extends financing to industrial, RMG or residential buildings if they meet the green building criteria of the corresponding national regulatory authorities or the development partners.

24. **Public Private Partnership (PPP) Projects:** PPP is an important strategy taken by the Government of Bangladesh to develop the industrial infrastructure of Bangladesh. IDCOL is eligible to finance PPP project initiative under PPP Authority of Govt. of Bangladesh if the project has at least 51% private ownership. Those projects may be any one of lending windows of IDCOL such as health, power, industry, and gas-based infrastructure, road transport and other infrastructure development projects, energy sector, information technology, and economic zones etc.

25. **Renewable Energy Projects:** IDCOL has multiple renewable energy initiatives. Brief description on these projects is given below:

26. *Grid Tied Solar Park:* Bangladesh is concentrating on grid-tied solar power projects having a capacity of 5 to 200 MW or above. In grid-tied solar projects electricity will be generated in daytime using sunlight and the generated electricity will be supplied to national grid increasing the national power production capacity.

27. *Solar Rooftop Projects:* IDCOL's rooftop solar program is designed to provide financing to private sector industries for implementing solar rooftop projects. The basic purpose of such projects is to reduce the cost of electricity and gas or diesel burning and the promotion of green energy to reduce the GHG emissions. IDCOL has been successfully financing these projects in Bangladesh.

28. *Solar Mini-grid Projects:* Solar mini-grids implemented by the private sector under IDCOL financing played a major role for complementing the commitment of the Government to ensure electricity for all by 2021 by providing access to 24/7 grid quality electricity to these rural population.

29. *Solar Irrigation Pumps (SIP):* It would replace diesel-operated pumps in the rural areas which will contribute to increased access to clean energy by farmers. IDCOL provides financing to private sponsors who would identify locations and reach agreements with groups of farmers. The solar irrigation pumps will be usually installed at that site where the existing diesel-operated irrigation facilities are located.

30. *Solar Home System (SHS) Program:* IDCOL started SHS program in January 2003 to fulfill basic electricity requirement of the off-grid rural people of Bangladesh. IDCOL's SHS

program provides refinancing, sets technical specifications for equipment, develops publicity materials, extends loans, installs the systems, monitors their performance, and provides maintenance support.

31. *Biogas and Biomass Projects:* IDCOL accumulates funding for biogas and biomass gasification based projects from various development partners under renewable energy based household energy initiatives. Biogas plants for cooking have provided rural people with access to clean energy thus bringing positive impacts on rural people's health and safety as well as conserving environment by reducing carbon emissions caused by traditional stoves.

32. *Biogas/biomass based Power Projects:* IDCOL finances commercial biogas-based electricity projects by providing poultry and dairy farms up to 80% of the project as long-term concessionary loan.

33. **Organization Structure of IDCOL**

The organization structure of IDCOL is as follows:

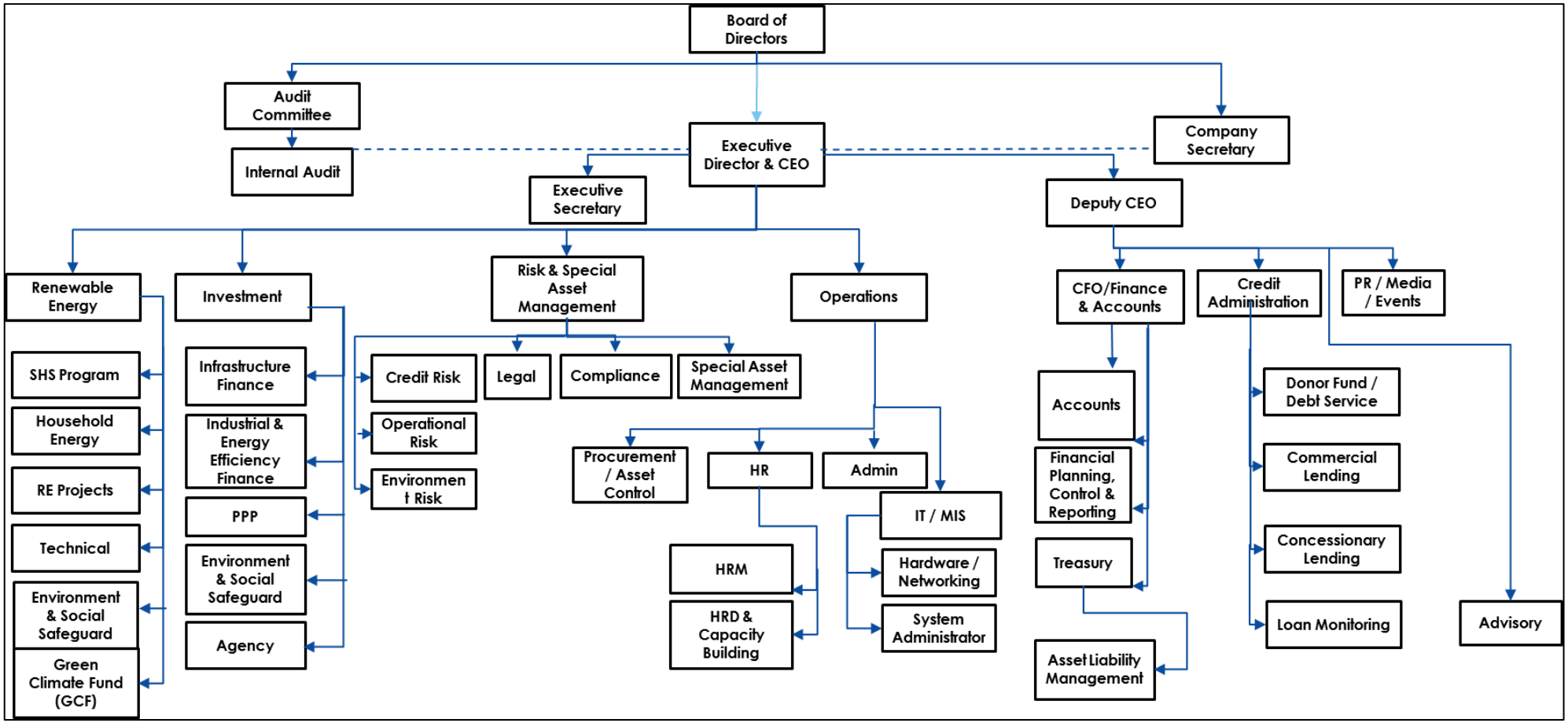

Figure 1.1 Organization Structure of IDCOL

Chronology of Environment and Social Safeguard Requirements of IDCOL

34. The first document of IDCOL related to environmental and social aspects of projects was ESAM (Environmental and Social Appraisal Manual), developed by Price Waterhouse Coopers (PwC), who was appointed as resident advisor for IDCOL. ESAM was developed in response to the requirements of the World Bank in processing Private Sector Infrastructure Fund (PSIF) back in 2000.

35. In 2008, IDCOL started negotiating with credit line of ADB. IDCOL's ESSF 2011 was developed to incorporate, ADB's updated environmental and social safeguard policies and operational procedures, Bangladesh Bank's Environmental Risk Management (ERM) guidelines for banks and financial institutions in Bangladesh in January 2011 and Environmental and Social Management Framework (ESMF) for World Bank-supported Second Additional Financing for RERED Project in June 2011.

36. IDCOL had formulated ESMF[1] **(Annex A)** in 2014 for its Solar Home System (SHS), Solar Irrigation Pumps (SIP), Improved Cook Stove (ICS), Solar PV based Solar Mini Grid (SMG) as well as Biogas and Biomass based Power plants implementation. The framework was updated in 2017 for further development. This ESMF is applicable for renewable energy program of IDCOL incorporating the requirements of other major development partners including the Asian Development Bank (ADB), Japan International Co-operation Agency (JICA), GIZ and KfW. In addition, it is believed that the ESMF will be able to meet the basic environmental and social safeguards of GEF, GPOBA, USAID and DFID, which are also supporting the program. IDCOL has undertaken Gender Policy in 2018 and the policy is applicable for each project under its portfolio. This policy has been formulated to institute a systematic approach within the organizational practices in promoting gender sensitiveness, awareness, equity and equality in its internal environment and activities. The Gender Policy of IDCOL will be guided by three principles to promote gender sensitiveness which are Equity and Equality, Affirmative Action and Capacity Development. IDCOL has adopted Environmental and Social Management System (ESMS)[2] **(Annex A)** for implementation of Solar rooftop (Funded by World Bank and KfW Bank) and Grid tied solar projects (Funded by AFD, ADB and World Bank). The ESMS aims to ensure that negative impacts are avoided or minimized or compensated to the extent possible while positive impacts are stimulated.

37. IDCOL has undertaken the task to prepare an updated ESSF by considering ESSF 2011, ESMF 2017 and ESMS 2018 of IDCOL which are in effect in corresponding projects and programs. This ESSF will consider requirements of Bangladesh Bank's Guidelines on

[1] **https://idcol.org/home/downloads**
[2] **https://idcol.org/home/downloads**

Environmental and Social Risk Management (ESRM) for Banks and Financial Institutions in Bangladesh 2022, and relevant regulations of all other national regulatory bodies of Bangladesh as well as the environment and social guiding principles of all development partners of IDCOL.

38. The purpose of the document is to ensure adequate environmental and social compliance of IDCOL projects as per national regulatory bodies and requirements of all development partners. This document will apply to all IDCOL projects. The chronological development of different environmental and social safeguard requirements of IDCOL is given in the diagram below.

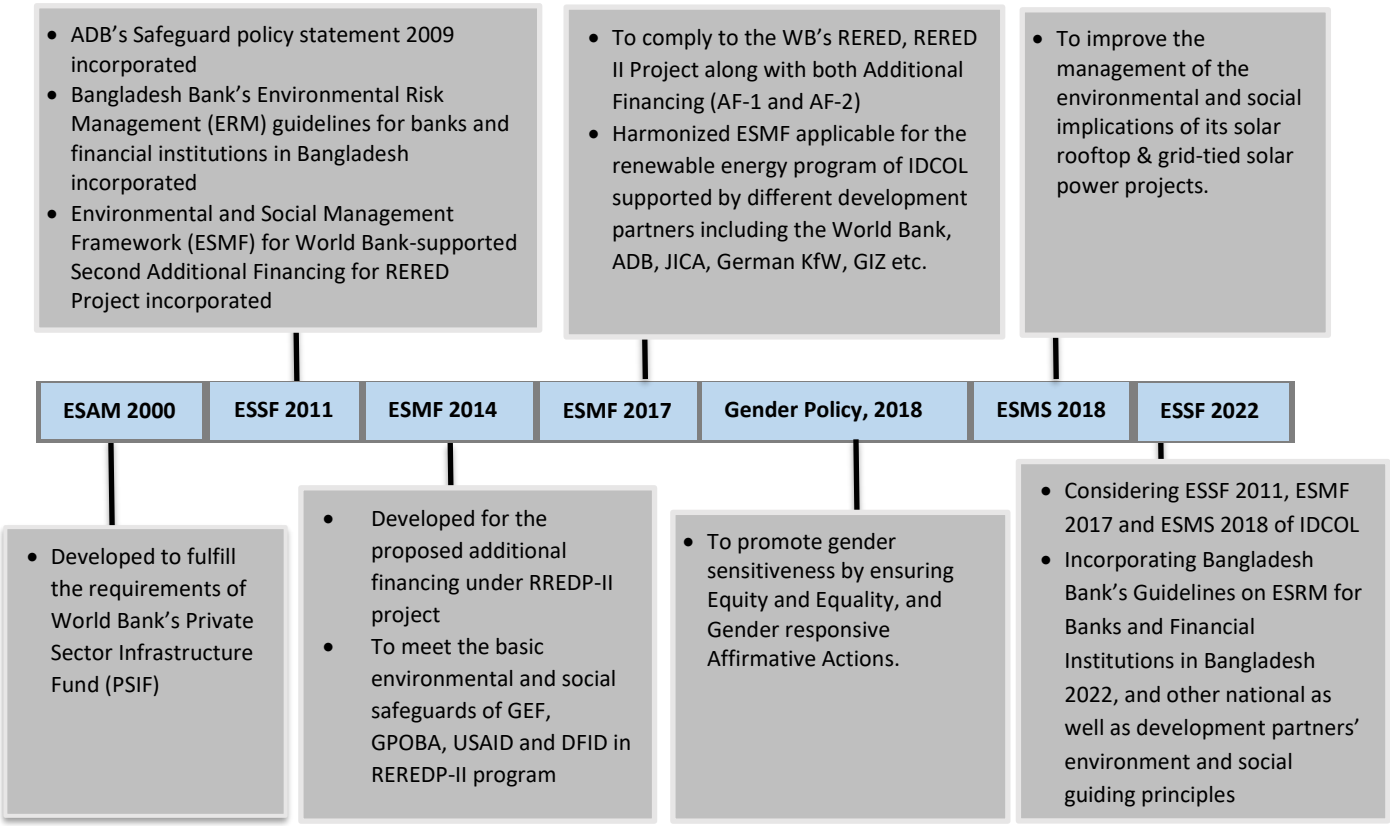

Figure 1.2 Chronological Development of IDCOL's Environment and Social Safeguard Requirements

CHAPTER 02: OVERVIEW OF RELEVANT POLICIES, LEGAL AND ADMINISTRATIVE FRAMEWORKS

39. IDCOL's ESSF complies with the environmental and social requirements of different national regulatory frameworks, acts and policies of Bangladesh, Bangladesh Bank's Guidelines on Environmental & Social Risk Management (ESRM) for Banks and Financial Institutions in Bangladesh 2022, and requirements of different development partners in project development and implementation. Different relevant policies, legal and administrative frameworks are described in **annex 1**.

2.1. Environmental and Social Regulatory Framework in Bangladesh

40. Environmental and social regulatory frameworks of Bangladesh that has been discussed under this ESSF are listed below. The listed regulatory frameworks have been described in **Annex 1**.

Table 2.1: National Environmental and Social Regulatory Frameworks

Sl No.	Name	Sl No.	Name
1	National Environmental Policy, 1992	18	National Adaptation Plan
2	National Conservation Strategy, 1992	19	Constitution of Bangladesh on Resettlement and Ethnic Minorities/Indigenous People
3	National Environmental Management Action Plan (NEMAP), 1995	20	Chittagong Hill Tracts Regulation, 1900
4	Bangladesh Environment Conservation Act (ECA), 1995	21	Workmen's Compensation Act, 1923
5	Environmental Conservation Rules (ECR), 1997	22	Forest Act, 1927 (Act XVI of 1927)
6	Environment Court Act, 2000	23	East Bengal State Acquisition and Tenancy Act, 1950 (Revised 1994)
7	National Biodiversity Strategy & Action Plan (NBSAP), 2004	24	Chittagong Hill –Tracts (Land Acquisition) Regulation, 1958
8	Remote Area Power Supply Systems (RAPSS) Guideline, 2007	25	Factories Act, 1965 and Factories Rules, 1979
9	Renewable Energy Policy of Bangladesh, 2008	26	The Chittagong Hill Tracts Peace Accord of 1997
10	Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009	27	Fire Prevention and Extinction Act, 2003 and Fire Prevention and Extinction Rules, 2014
11	Climate Change Trust Act, 2010 (Act No. 57 of 2010)	28	Ethnic Minority/Indigenous People Rights in PRSP, 2005
12	National 3R Strategy, 2010	29	Bangladesh Labor Act, 2006 and Labor Rules, 2015
13	Hazardous Wastes and Shipbreaking Waste Management Rules, 2011	30	Draft National Policy on Involuntary Resettlement and Rehabilitation, 2008
14	Disaster Management Act, 2012	31	OSH Policy, 2013
15	Industrial Policy, 2016	32	Acquisition and Requisition of Immovable Property Act (ARIPA), 2017
16	Nationally Determined Contribution of Bangladesh	33	International Treaties and Conventions
17	Mujib Climate Prosperity Plan, 2030		

2.2. Bangladesh Bank's Guidelines on Environmental & Social Risk Management (ESRM) for Banks and Financial Institutions in Bangladesh, 2022

41. After Bangladesh Bank (BB)'s Guidelines on Environmental Risk Management (ERM) in 2011 which has been the pioneering initiative from any central bank or financial sector regulator, BB issued Guidelines on ESRM in February 2017. BB further updated the ESRM guideline in 2022 which along with other elements includes Guidance Notes on ESRM for 10 sectors, Guidance Note on Environmental and Social Impact Assessment (ESIA) and updated Excel-based Risk Rating Template. The ESRM has been described in **Annex 1**.

2.3. Guidelines of Development Partners

42. Guidelines of different development partners that have been discussed under this ESSF are listed below. The listed guidelines are described in Annex 1.

Table 2.2: Environmental and Social Regulatory Frameworks of Development Partners

Sl No.	Name
1	**ADB's Safeguard Policy Statement**
	(i) Safeguard Requirements 1: Environment
	(ii) Safeguard Requirements 2: Involuntary Resettlement
	(iii) Safeguard Requirements 3: Indigenous Peoples
	(iv) Safeguard Requirements 4: Special Requirements for Different Finance Modalities
2	**The World Bank's Safeguard Policies and Environmental and Social Framework**
	OP 4.01 Environmental Assessment
	OP 4.04 Natural Habitats
	OP 4.10 Indigenous People
	OP 4.12 Involuntary Resettlement
	OP 4.03 Performance Standards for Private Sector Activities
	Environmental and Social Standards (ESS) of World Bank (ESS 1-10)
3	International Financial Corporations (IFC) Environmental and Social Policies, Guidelines and Standards
4	Japan International Cooperation Agency's (JICA) Guideline for Environment and Social Considerations
5	KfW Development Banks' Sustainability Guidelines
6	Green Climate Fund (GCF) Sustainability Policies
7	Asian Infrastructure Investment Bank (AIIB) Environmental and Social Framework
8	Agence Française de Développement's (AFD) Environmental and Social Risk Management Policy

CHAPTER 03: SPECIFIC ACTIVITIES AND REQUIREMENTS ON ENVIRONMENTAL AND SOCIAL SAFEGUARDS FRAMEWORK (ESSF) OF IDCOL

3.1. Environmental and Social (E&S) Policy of IDCOL

43. IDCOL's E&S policy statement emphasizes IDCOL's sensitivity and concern towards environmental and social issues, commitment towards legal compliance, and responsiveness towards E&S requirements of its development partners and is communicated to all its stakeholders. The E&S Policy of IDCOL provides the necessary direction for implementation of the operational framework of the ESSF.

Environmental and Social Policy Statement of IDCOL's ESSF
IDCOL has a mandate of financing private sector for developing medium to large scale infrastructure, energy efficiency, PPP projects and renewable energy projects in Bangladesh. *IDCOL recognizes the significance of environmental, health/safety and social considerations in infrastructure, energy efficiency, PPP and renewable energy development and believes in sustainable development.* **In order to achieve the above, IDCOL is committed to:** • Mainstream environmental, health/safety and social (E&S) considerations in appraising and financing infrastructure, energy efficiency, PPP and renewable energy projects to avoid/minimize adverse impacts and risks to the environment and people that may be affected • Ensure compliance with all relevant E&S policy and legislative requirements and laws of the lands with which it engages and remain responsive to the E&S requirements of international best practices • Where land acquisition and/or resettlement is unavoidable, either compensation of the replacement value of such acquired land/property will be paid before displacement from the project site or resettlement will be made with land having equal value and quality together with other facilities such as housing and basic infrastructure facilities • Ensure protection of vulnerable groups, such as the economically and socially disadvantaged, women, and children, physically handicapped and Ethnic Minorities/Indigenous Peoples and take appropriate measures to restore their livelihood as relevant • Ensure adherence to prohibition list of Bangladesh Bank and respective development partners for financing projects

44. For ensuring its relevance, robustness and applicability with respect to the E&S concerns and obligations of IDCOL's operations, the E&S policy statement will be reviewed when needed. It will be governed by the changes in IDCOL's business mandates, project canvas and investment processes along with updates in relevant safeguard policies and regulation. IDCOL's ESSF will also be reviewed and updated when required.

3.2. Structure of Operational Procedure of ESSF

45. The operational procedures under IDCOL's ESSF for different projects depend on the E&S risk categories of those particular projects as well as the availability and applicability of requirements from national regulators and development partners. Hence the procedures and requirements differ for different risk categories. The operational procedures described in this section are applicable to all IDCOL lending activities and shall be implemented by E&S Specialists of Environment and Social Safeguard Unit (ESSU) of IDCOL in coordination with the business units' investment and loan teams. A descriptive figure on mainstreaming ESSF operational framework with IDCOL's business process is given in below. Initially every loan proposal of the project proponent has to go through the processes naming Know-Your-Client (KYC) Meeting, Prohibited Investment Activities List and E&S Risk Rating System. The activities of these three processes are as follows.

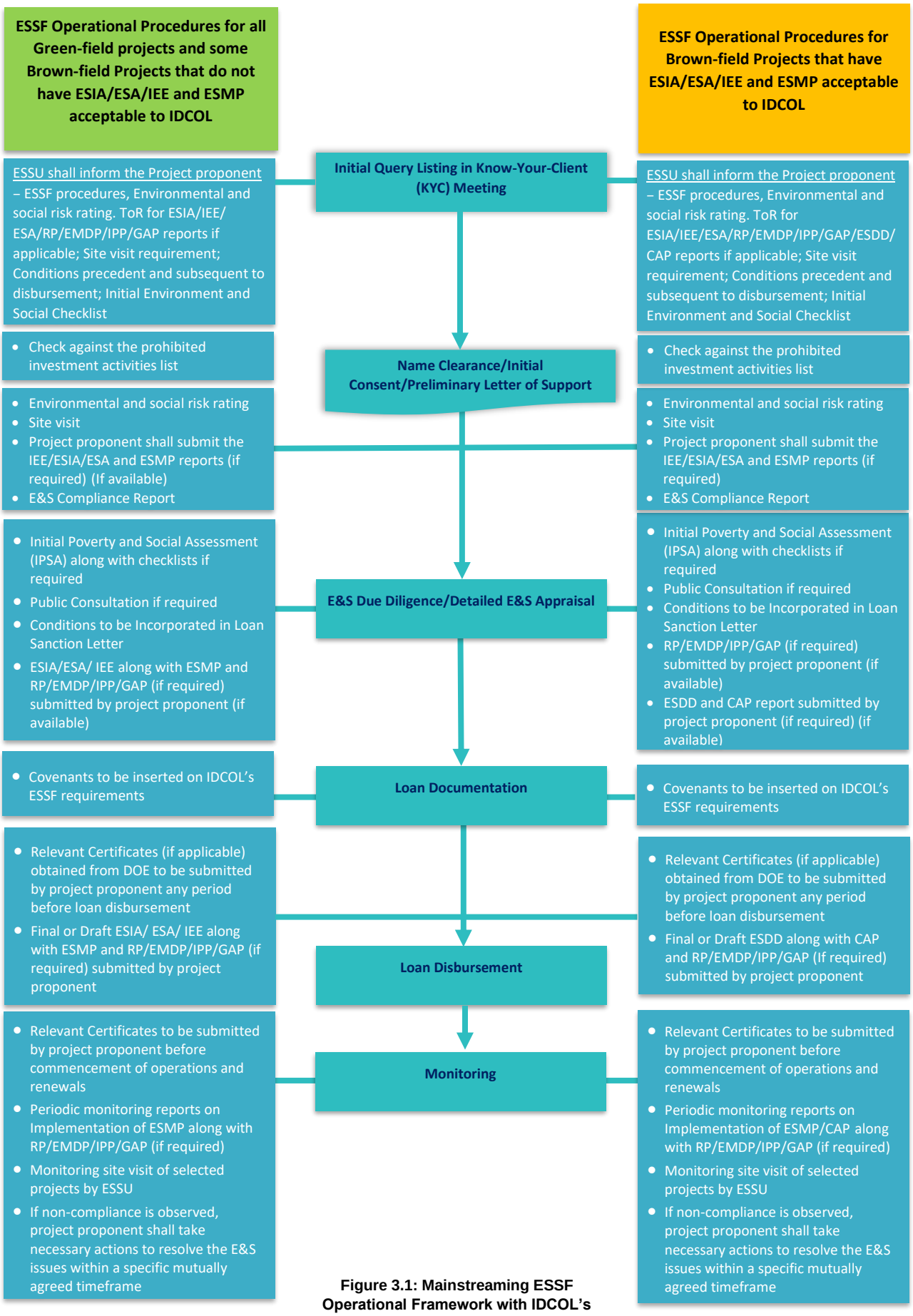

Figure 3.1: Mainstreaming ESSF Operational Framework with IDCOL's Business Process

Know-Your-Client Meeting

46. A Know-Your-Client (KYC) meeting shall be conducted between the project proponent and IDCOL. The project proponent at this stage shall also be referred to the ESSU to be introduced to the requirements and procedures of IDCOL's ESSF for the project. The ESSU shall guide the project proponent for filling the Initial Environmental and Social Checklist **(Annex 2)** and disclose information on -

- IDCOL's business process with ESSF integration
- E&S risk rating
- Terms of Reference (ToR) for Environmental and Social Impact Assessment (ESIA) or Environmental and Social Assessment (ESA) or Initial Environmental Examination (IEE) or Environmental and Social Due Diligence (ESDD) studies as applicable
- Site visit requirement
- Condition's precedent and subsequent to disbursement and/or conditions on loan documentation and/or conditions as an undertaking from the project proponent on its letterhead.

Prohibited Investment Activities List (PIAL)

47. When a project comes to IDCOL for financing, it shall be forwarded to the ESSU and E&S specialists shall verify it against prohibited investment activities. IDCOL shall reject any project which features in the exclusion list of Bangladesh Bank (**Annex 28**). In case of financial support from any development partners, IDCOL will also review their prohibited investment list and finalize the pipeline for the respective development partners' financing. Example of some exclusion lists which will be followed by IDCOL as per respective development partners' financing are given in **Annex 28**. It would be necessary for IDCOL to ascertain prior information from the project proponents, on activities specific to prohibited sectors and if confirmed, exclude them from financing or convince the proponent to consider alternatives.

E&S Risk Rating System of IDCOL

48. This section presents the risk rating criteria to be followed according to the ESSF for projects that have cleared the list of prohibited investment activities. The risk rating criteria is applicable to all IDCOL projects. Bangladesh Bank has Environmental and Social Due Diligence (ESDD) Risk Assessment Tool **(Annex 5)** to determine the project category (High, Medium or Low). The Department of Environment (DoE) has categorized the industrial and development activities into four categories naming Red, Orange B, Orange A and Green in its Environmental Conservation Rules (ECR), 1997. DoE revises the list of sectors under

each category (Schedule I of ECR-97) from time to time. IDCOL will adopt all newly published Bangladesh Bank and DoE gazettes regarding E&S risk categories.

49. Various development partners have formulated their environmental and social management framework and categorized the projects to undertake necessary actions to minimize, mitigate and, if possible, avoid the negative impacts triggered by the project activities. The projects are categorized by the regulatory bodies of Bangladesh and the development partners based on the project's probable impacts on surrounding environmental and social elements through operation of the projects. IDCOL recognizes the risk categories of regulatory bodies of Bangladesh as well as all the development partners. High risk projects are those which is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented in nature. These impacts may affect an area larger than the sites or facilities subject to physical works. A project is declared as medium risk if its potential adverse environmental impacts are less adverse than those of high-risk 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 high-risk projects. Low risk projects are those which is likely to have minimal or no adverse environmental impacts. Project E&S risk categorization of IDCOL, different national regulators as well as development partners is given in **Annex 6**. However, this does not represent any mapping of risk category across different organizations.

50. IDCOL categorizes the infrastructure, energy efficiency and PPP projects into High, Medium and Low risk category under ESSF. The risk rating criteria and rules for determining risk rating for infrastructure, energy efficiency and PPP projects are given in **Annex 4**. Risk categorization criteria of IDCOL complies with the categorization criteria of all related regulatory bodies and development partners that are applicable to specific projects. Both site visit and desk review of the project documents (as available) is recommended before evaluating the risk rating of the project. Each infrastructure, energy efficiency and PPP project needs the following – risk category according to ECR-97 of DoE (Schedule I of Environmental Conservation Rules, 1997), Bangladesh Bank ESDD Risk Assessment Tool **(Annex 5)** and risk rating criteria of ESSF of IDCOL.

51. Risk categorization process of renewable energy projects will be done as per ESMS and ESMF. The screening process for renewable energy projects of IDCOL will follow project-based checklist which will help to identify the screening components that are needed to be investigated in detail during the preliminary stages of evaluation.

52. IDCOL will categorize the financial intermediaries that will handle funds from some of the development partners in FI category. Operational procedure for FI category will differ from other three project categories. These categories are defined by the impact significances of respective development partners.

53. The operational procedures for IDCOL's infrastructure, energy efficiency, PPP and renewable energy projects are described below:

Operational Procedure for Infrastructure, Energy Efficiency and PPP Projects

Operational Procedure for High-Risk Projects

54. *All green-field projects (projects that initiate from early construction stage) and some brown-field projects (projects that are in advanced/operational stage) that do not have ESIA and ESMP acceptable to IDCOL*:

55. The E&S Specialists of ESSU shall visit the project area and associated facilities to check the environmental and social conditions of the project and status of works. A generic site visit checklist is attached in **Annex 7**. Based on risk rating, Initial Environmental and Social Checklist **(Annex 2)** and site visit, the E&S Specialists of ESSU shall prepare the E&S Compliance Report. The E&S Compliance Report shall be submitted to the Credit Risk Management Committee of IDCOL. The E&S Compliance Report is the environment and social section of the credit memo of any project which contains brief environment and social information about the project **(Annex 3)**.

56. The project proponent shall prepare the ESIA and ESMP report and submit to IDCOL for review. In case, there is an ESIA and ESMP which was prepared at the early stage of the project, proponent will be advised to prepare the updated ESIA and ESMP and submit to IDCOL for review. IDCOL will review them based on the safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies, the requirements of relevant development partners and the sector specific checklist given in **Annex 10** and suggest modifications if required.

57. Some conditions that shall be incorporated in the sanction letter along with the condition of compliance with other project specific safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners, after approval of loan by IDCOL Board are as follows:

- Preparation of ESIA based on Safeguard Requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners
- Preparation of ESMP including mitigation measures for the key issues identified for the applicable sector given in the sector specific checklist for detailed environmental and social review (**Annex 10).** A generic outline for ESMP report is given in **Annex 12**.
- If required engagement of third party consultant(s)/ monitor(s) by the project proponent for ESIA/ monitoring/ other required environment and social due

diligences. The qualification of the consultant(s)/ monitor(s) will depend on the project extent and the requirements of national regulators and relevant development partners.

58. The requirements of IDCOL ESSF on GOB legal compliance, implementation of ESMP, monitoring, reporting, information disclosure, and grievance redress mechanism, (as applicable) shall be inserted in the loan documentation as covenants or agreed on through an undertaking from the project proponent on its letterhead. IDCOL will also advise the project proponents to obtain Environmental Clearance Certificate (ECC) as needed to comply with the Environmental Conservation Act 1995 and Environmental Conservation Rules 1997 (if required). These conditions/requirements may vary on project to project basis depending on the industry/sector as well as applicability of GOB legal compliance on that specific industry/sector. Guidance for incorporation of ESMP in contract documents is given in annexure (**Annex 14)**. The conditions precedent to disbursement of loan shall include compliance status of project specific E&S requirements and E&S specialists of ESSU shall verify the compliance status of the project proponent.

59. If required by development partners, E&S Specialists of ESSU shall also prepare an Initial Poverty and Social Analysis (IPSA) including screening checklist for requirements of Involuntary Resettlements and Impacts on Ethnic Minority/Indigenous People through respective checklist for Involuntary Resettlement (IR) **(Annex 8)** as well as checklist for Ethnic Minority/Indigenous People (IP) **(Annex 9).** These shall be sent to development partners by designated officials of IDCOL if required. If any requirement of Resettlement Plan (RP) and/or Ethnic Minority Development Plan/ Indigenous Peoples Plan (EMDP/IPP) is found, the project proponent shall prepare the respective. The gender assessment is also included in the Involuntary Resettlement and Ethnic Minority/Indigenous People Screening Checklist. Based on the gender assessment, a gender category shall be provided, and specific measures shall be taken by the project proponent based on gender category and if required, a project specific Gender Action Plan (GAP) shall be developed by the project proponent **(Annex 13)**. The detailed description for the gender assessment and gender-based categorization of projects has been depicted in Chapter 06. Public consultation shall also be conducted by E&S Specialists of IDCOL if required.

60. Project proponent shall finalize the ESIA and ESMP addressing comments of IDCOL and the development partners, if any and disclose on their website (if they have any). The same will be applicable for RP/EMDP/IPP/GAP if required by the project. Project proponent shall ensure consultation with relevant stakeholder at the design and implementation of the project.

61. Project proponent must monitor the implementation of approved ESMP along with the RP/EMDP/IPP/GAP (if required) on a periodic basis. A generic outline for monitoring plan

has been added in **Annex 15**. Monitoring field visits shall be conducted for some projects by IDCOL if required. If any non-compliance is found during monitoring and field visits, the non-compliant issues shall be communicated to the proponent through respective business units and the issues shall be resolved within a specific mutually agreed timeframe. Monitoring and reporting frequency of IDCOL is given in **Annex 16**.

62. The project proponent shall submit the following documents to IDCOL within a specific mutually agreed timeframe:

- Relevant certificates (if applicable) from DOE to IDCOL any period before loan disbursement
- Draft ESIA report along with ESMP for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final ESIA and ESMP report (if available) (**Annex 12**) before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Draft RP/EMDP/IPP/GAP (if required) for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final RP/EMDP/IPP/GAP (if required and available) before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Other clearances if needed as per project type and category
- Environmental Clearance Certificate (ECC) as obtained before commencement of a project and at each renewal of ECC
- Periodic monitoring reports **(Annex 15)** on implementation of ESMP along with RP/EMDP/IPP/GAP (if required) which shall also be sent to the development partners (if required) in respective formats specified by the development partner as well as national regulatory authorities (if required)

63. *Brown-field projects (projects that are in advanced/operational stage) that have ESIA and ESMP, acceptable to IDCOL*:

64. The project proponent shall submit the ESIA and ESMP which will be reviewed by IDCOL based on the Safeguard Requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies, the requirements of relevant development partners and the sector specific checklist given in **Annex 10**. The E&S Specialists of ESSU shall visit the project area and associated facilities to check the environmental and social conditions of the project and status of works. A generic site visit checklist is attached in **Annex 7**. Based on the risk

rating, Initial Environmental and Social Checklist **(Annex 2)** and site visit, the E&S Specialists of ESSU shall prepare the E&S Compliance Report. The E&S Compliance Report shall be submitted to the Credit Risk Management Committee of IDCOL. The E&S Compliance Report is the environment and social section of the credit memo of any project which contains brief environment and social information about the project **(Annex 3)**. In this case, the project proponent shall prepare ESDD and CAP.

65. Some conditions that shall be incorporated in the sanction letter along with the condition of compliance with other project specific safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners, after approval of loan by IDCOL Board are as follows:

- An Environmental and Social Due Diligence (ESDD) (**Annex 17**) and Corrective Action Plan (CAP) shall be prepared by the project proponent based on the ToR provided by the E&S specialists of ESSU. The Corrective Action Plan (CAP) shall be implemented by the project proponent within a suitable timeframe.
- If required engagement of third party consultant(s)/ monitor(s) by the project proponent for ESDD and CAP preparation/ monitoring/ other required environment and social due diligences. The qualification of the consultant(s)/ monitor(s) will depend on the project extent and the requirements of national regulators and relevant development partners.

66. The requirements of IDCOL ESSF on GOB legal compliance, implementation of ESMP/CAP, monitoring, reporting, information disclosure, and grievance redress mechanism, (as applicable) shall be inserted in the loan documentation as covenants or agreed on through an undertaking from the project proponent on its letterhead. IDCOL will also advise the project proponents to obtain Environmental Clearance Certificate (ECC) as needed to comply with the Environmental Conservation Act 1995 and Environmental Conservation Rules 1997 (if required). These conditions/requirements may vary on project to project basis depending on the industry/sector as well as applicability of GOB legal compliance on that specific industry/sector. Guidance for incorporation of ESMP in contract documents is given in annexure (**Annex 14)**. The conditions precedent to disbursement of loan shall include compliance status of project specific E&S requirements and E&S specialists of ESSU shall verify the compliance status of the project proponent.

67. If required by development partners, E&S Specialists of ESSU shall also prepare an Initial Poverty and Social Analysis (IPSA) including screening checklist for requirements of Involuntary Resettlements and Impacts on Ethnic Minority/Indigenous People through respective checklist for Involuntary Resettlement (IR) **(Annex 8)** as well as checklist for Ethnic Minority/Indigenous People (IP) **(Annex 9).** These shall be sent to development

partners by designated officials of IDCOL if required. If any requirement of Resettlement Plan (RP) and/or Ethnic Minority Development Plan/ Indigenous Peoples Plan (EMDP/IPP) is found, the project proponent shall prepare the respective and submit to IDCOL. The gender assessment is included in the Involuntary Resettlement and Ethnic Minority/Indigenous People Screening Checklist. Based on the gender assessment, a gender category shall be provided and specific measures shall be taken by the project proponent based on gender category and if required, a project specific Gender Action Plan (GAP) shall be developed by the project proponent **(Annex 13)**. Public consultation shall also be conducted by E&S Specialists of IDCOL if required.

68. Project proponent shall finalize the ESDD and CAP addressing comments of IDCOL and the development partners, if any and disclose on their website (if they have any). The same will be applicable for RP/EMDP/IPP/GAP if required by the project. Project proponent shall ensure consultation with relevant stakeholder at the design and implementation of the project.

69. Project proponent must monitor the implementation of approved ESMP/CAP along with the RP/EMDP/IPP/GAP (if applicable) on a periodic basis. A generic outline for monitoring plan has been added in **Annex 15**. Monitoring field visits shall be conducted for some projects by IDCOL if required. If any non-compliance is found during monitoring and field visits, the non-compliant issues shall be communicated to the proponent through respective business units and the issues shall be resolved within a specific mutually agreed timeframe. Monitoring and reporting frequency of IDCOL is given in **Annex 16**.

70. The project proponent shall submit the following documents to IDCOL within a specific mutually agreed timeframe:

- Relevant certificates (if applicable) from DOE to IDCOL any period before loan disbursement
- Draft ESDD along with CAP report for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final ESDD and CAP (if available) before loan disbursement that will be shared with development partners by designated officials of IDCOL (if required)
- Draft RP/EMDP/IPP/GAP (if required) for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final RP/EMDP/IPP/GAP (if required and available) before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Other clearances if needed as per project type and category

- Environmental Clearance Certificate (ECC) as obtained before commencement of a project and at each renewal of ECC
- Periodic monitoring reports **(Annex 15)** on implementation of ESMP/CAP along with RP/EMDP/IPP/GAP (if required) which shall also be sent to the development partners (if required) in respective formats specified by the development partner as well as national regulatory authorities (if required)

Operational Procedures for Medium Risk Projects

71. *All green-field projects (projects that initiate from early construction stage) and some brown-field projects (projects that are in advanced/operational stage) that do not have IEE and ESMP acceptable to IDCOL*:

72. The E&S Specialists of ESSU shall visit the project area and associated facilities to check the environmental and social conditions of the project and status of works. A generic site visit checklist is attached in **Annex 7**. Based on the risk rating, Initial Environmental and Social Checklist **(Annex 2)** and site visit, the E&S Specialists of ESSU shall prepare the E&S Compliance Report. The E&S Compliance Report shall be submitted to the Credit Risk Management Committee of IDCOL. The E&S Compliance Report is the environment and social section of the credit memo of any project which contains brief environment and social information about the project **(Annex 3).**

73. The project proponent shall prepare the IEE and ESMP report and submit to IDCOL for review. In case, there is an IEE and ESMP which was prepared at the early stage of the project, proponent will be advised to prepare the updated IEE and ESMP and submit to IDCOL for review. IDCOL will review them based on the safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies, the requirements of relevant development partners and the sector specific checklist given in **Annex 10** and suggest modifications if required.

74. Some conditions that shall be incorporated in the sanction letter along with the condition of compliance with other project specific safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners, after approval of loan by IDCOL Board are as follows:
    - Preparation of Initial Environmental Examination (IEE) based on Safeguard Requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners
    - Preparation of ESMP including mitigation measures for the key issues identified for the applicable sector given in the sector specific checklist for detailed environmental and social review **(Annex 10)**. A generic outline for ESMP report is given in **Annex 12.**

- If required engagement of third party consultant(s)/ monitor(s) by the project proponent for IEE/ monitoring/ other required environment and social due diligences. The qualification of the consultant(s)/ monitor(s) will depend on the project extent and the requirements of national regulators and relevant development partners.

75. The requirements of IDCOL ESSF on GOB legal compliance, implementation of ESMP, monitoring, reporting, information disclosure, and grievance redress mechanism, (as applicable) shall be inserted in the loan documentation as covenants or agreed on through an undertaking from the project proponent on its letterhead. IDCOL will also advise the project proponents to obtain Environmental Clearance Certificate (ECC) as needed to comply with the Environmental Conservation Act 1995 and Environmental Conservation Rules 1997 (if required). These conditions/requirements may vary on project to project basis depending on the industry/sector as well as applicability of GOB legal compliance on that specific industry/sector. Guidance for incorporation of ESMP in contract documents is given in annexure (**Annex 14)**. The conditions precedent to disbursement of loan shall include compliance status of project specific E&S requirements and E&S specialists of ESSU shall verify the compliance status of the project proponent.

76. If required by development partners, E&S Specialists of ESSU shall also prepare an Initial Poverty and Social Analysis (IPSA) including screening checklist for requirements of Involuntary Resettlements and Impacts on Ethnic Minority/Indigenous People through respective checklist for Involuntary Resettlement (IR) **(Annex 8)** as well as checklist for Ethnic Minority/Indigenous People (IP) **(Annex 9).** These shall be sent to development partners by designated officials of IDCOL if required. If any requirement of Resettlement Plan (RP) and/or Ethnic Minority Development Plan/ Indigenous Peoples Plan (EMDP/IPP) is found, the project proponent shall prepare the respective. The gender assessment is also included in the Involuntary Resettlement and Ethnic Minority/Indigenous People Screening Checklist. Based on the gender assessment, a gender category shall be provided, and specific measures shall be taken by the project proponent based on gender category and if required, a project specific Gender Action Plan (GAP) shall be developed by the project proponent **(Annex 13)**. The detailed description for the gender assessment and gender-based categorization of projects has been depicted in Chapter 06. Public consultation shall also be conducted by E&S Specialists of IDCOL if required.

77. Project proponent shall finalize the IEE and ESMP addressing comments of IDCOL and the development partners, if any and disclose on their website (if they have any). The same will be applicable for RP/EMDP/IPP/GAP if required by the project. Project proponent shall ensure consultation with relevant stakeholder at the design and implementation of the project.

78. Project proponent must monitor the implementation of approved ESMP along with the RP/EMDP/IPP/GAP (if applicable) on a periodic basis. A generic outline for monitoring plan has been added in **Annex 15**. Monitoring field visits shall be conducted for some projects by IDCOL if required. If any non-compliance is found during monitoring and field visits, the non-compliant issues shall be communicated to the proponent through respective business units and the issues shall be resolved within a specific mutually agreed timeframe. Monitoring and reporting frequency of IDCOL is given in **Annex 16**.

79. The project proponent shall submit the following documents to IDCOL within a specific mutually agreed timeframe:

- Relevant certificates (if applicable) from DOE to IDCOL any period before loan disbursement
- Draft IEE report along with ESMP **(Annex 12)** for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final IEE report along with ESMP (if available) before loan disbursement that will be shared with development partners by designated officials of IDCOL, if required
- Draft RP/EMDP/IPP/GAP (if required) for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final RP/EMDP/IPP/GAP (if required and available) before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Other clearances if needed per project type and category
- ECC as obtained before commencement of a project and at each renewal of ECC
- Periodic monitoring reports **(Annex 15)** on implementation of ESMP along with RP/EMDP/IPP/GAP (if required) which shall also be sent to the development partners (if required) in respective formats specified by the development partner as well as national regulatory authorities (if required)

80. *Brown-field projects (projects that are in advanced/operational stage) that have IEE and ESMP acceptable to IDCOL:*

81. The project proponent shall submit the IEE and ESMP which will be reviewed by IDCOL based on the Safeguard Requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies, the requirements of relevant development partners and the sector specific checklist given in **Annex 10**. The E&S Specialists of ESSU shall visit the project area and associated facilities to check the environmental and social conditions of the project and status of works. Based on the risk rating, Initial Environmental and Social Checklist

(Annex 2) and site visit, the E&S Specialists of ESSU shall prepare the E&S Compliance Report. The E&S Compliance Report shall be submitted to the Credit Risk Management Committee of IDCOL. The E&S Compliance Report is the environment and social section of the credit memo of any project which contains brief environment and social information about the project (**Annex 3**). In this case, the project proponent shall prepare ESDD and CAP.

82. Some conditions that shall be incorporated in the sanction letter along with the condition of compliance with other project specific safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners, after approval of loan by IDCOL Board are as follows:

- An Environmental and Social Due Diligence (ESDD) (**Annex 17**) and Corrective Action Plan (CAP) shall be prepared by the project proponent based on the ToR provided by the E&S specialists of ESSU. The CAP shall be implemented by the project proponent.
- If required engagement of third party consultant(s)/ monitor(s) by the project proponent for ESDD and CAP preparation/ monitoring/ other required environment and social due diligences. The qualification of the consultant(s)/ monitor(s) will depend on the project extent and the requirements of national regulators and relevant development partners.

83. The requirements of IDCOL ESSF on GOB legal compliance, implementation of ESMP/CAP, monitoring, reporting, information disclosure, and grievance redress mechanism, (as applicable) shall be inserted in the loan documentation as covenants or agreed on through an undertaking from the project proponent on its letterhead. IDCOL will also advise the project proponents to obtain Environmental Clearance Certificate (ECC) as needed to comply with the Environmental Conservation Act 1995 and Environmental Conservation Rules 1997 (if required). These conditions/requirements may vary on project to project basis depending on the industry/sector as well as applicability of GOB legal compliance on that specific industry/sector. Guidance for incorporation of ESMP in contract documents is given in annexure (**Annex 14)**. The conditions precedent to disbursement of loan shall include compliance status of project specific E&S requirements and E&S specialists of ESSU shall verify the compliance status of the project proponent.

84. If required by development partners, E&S Specialists of ESSU shall also prepare an Initial Poverty and Social Analysis (IPSA) including screening checklist for requirements of Involuntary Resettlements and Impacts on Ethnic Minority/Indigenous People through respective checklist for Involuntary Resettlement (IR) **(Annex 8)** as well as checklist for Ethnic Minority/Indigenous People (IP) **(Annex 9).** These shall be sent to development partners by designated officials of IDCOL if required. If any requirement of Resettlement

Plan (RP) and/or Ethnic Minority Development Plan/ Indigenous Peoples Plan (EMDP/IPP) is found, the project proponent shall prepare the respective. The gender assessment is also included in the Involuntary Resettlement and Ethnic Minority/Indigenous People Screening Checklist. Based on the gender assessment, a gender category shall be provided and specific measures shall be taken by the project proponent based on gender category and if required, a project specific Gender Action Plan (GAP) shall be developed by the project proponent **(Annex 13)**. Public consultation shall also be conducted by E&S Specialists of IDCOL if required.

85. Project proponent shall finalize the ESDD and CAP addressing comments of IDCOL and the development partners, if any and disclose on their website (if they have any). The same will be applicable for RP/EMDP/IPP/GAP if required by the project. Project proponent shall ensure consultation with relevant stakeholder at the design and implementation of the project.

86. Project proponent must monitor the implementation of approved ESMP/CAP along with the RP/EMDP/IPP/GAP (if applicable) on a periodic basis. A generic outline for monitoring plan has been added in **Annex 15**. Monitoring field visits shall be conducted for some projects by IDCOL if required. If any non-compliance is found during monitoring and field visits, the non-compliant issues shall be communicated to the proponent through respective business units and the issues shall be resolved within a specific mutually agreed timeframe. Monitoring and reporting frequency of IDCOL is given in **Annex 16**.

87. The project proponent shall submit the following documents to IDCOL within a specific mutually agreed timeframe:

- Relevant certificates (if applicable) from DOE to IDCOL any period before loan disbursement
- Draft ESDD along with CAP report for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final version of ESDD and CAP (if available) before loan disbursement that will be shared with development partners by designated officials of IDCOL (if required)
- Draft RP/EMDP/IPP/GAP (if required) for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final RP/EMDP/IPP/GAP (if required and available) before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Other clearances if needed per project type and category
- ECC as obtained before commencement of a project and at each renewal of ECC

- Periodic monitoring reports **(Annex 15)** on implementation of ESMP/CAP along with RP/EMDP/IPP/GAP (if required) which shall also be sent to the development partners (if required) in respective formats specified by the development partner as well as national regulatory authorities (if required)

Operational Procedures for Low-Risk Projects

88. For all green-field and brown-field projects, the E&S Specialists of ESSU shall visit the project area and associated facilities and prepare the site visit checklist **(Annex 7)**. Based on the risk rating, Initial Environmental and Social Checklist **(Annex 2)** and site visit, the E&S Specialists of ESSU shall prepare the E&S Compliance Report. The E&S Compliance Report shall be submitted to the Credit Risk Management Committee of IDCOL. The E&S Compliance Report is the environment and social section of the credit memo of any project which contains brief environment and social information about the project **(Annex 3)**. Condition of compliance with E&S safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners shall be included in the sanction letter after approval of loan by IDCOL Board.

89. If required considering GoB or national regulators or relevant development partners' requirements, following conditions shall also be incorporated in the sanction letter after approval of loan by IDCOL Board,

- Preparation of IEE/ESIA based on Safeguard Requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies and E&S safeguard requirements of relevant development partners
- Preparation of ESMP including mitigation measures for the key issues identified for the applicable sector given in the sector specific checklist for detailed environmental and social review **(Annex 10)**. A generic outline for ESMP report is given in **Annex 12.**
- If required engagement of third party consultant(s)/ monitor(s) by the project proponent for IEE/ESIA/ monitoring/ other required environment and social due diligences. The qualification of the consultant(s)/ monitor(s) will depend on the project extent and the requirements of national regulators and relevant development partners.

90. If required considering GoB or national regulators or relevant development partners' requirements, project proponent shall prepare the IEE/ESIA and ESMP report and submit to IDCOL for review. In case, there is an IEE/ESIA and ESMP which was prepared at the early stage of the project, proponent will be advised to prepare the updated IEE/ESIA and ESMP

and submit to IDCOL for review. IDCOL will review them based on the safeguard requirements of ESSF of IDCOL, E&S rules and regulations of national regulatory bodies, the requirements of relevant development partners and the sector specific checklist given in **Annex 10** and suggest modifications if required.

91. Project proponent shall finalize the IEE/ESIA and ESMP addressing comments of IDCOL and the development partners, if any and disclose on their website (if they have any). Project proponent shall ensure consultation with relevant stakeholder at the design and implementation of the project if required.

92. The requirements of IDCOL ESSF on GOB legal compliance, monitoring, reporting, information disclosure, and grievance redress mechanism, (as applicable) shall be inserted in the loan documentation as covenants or agreed on through an undertaking from the project proponent on its letterhead. IDCOL will also advise the project proponents to obtain Environmental Clearance Certificate (ECC) as needed to comply with the Environmental Conservation Act 1995 and Environmental Conservation Rules 1997 (if required). These conditions/requirements may vary on project-to-project basis depending on the industry/sector as well as applicability of GOB legal compliance on that specific industry/sector. The conditions precedent to disbursement of loan shall include compliance status of project specific E&S requirements and E&S specialists of ESSU shall verify the compliance status of the project proponent.

93. If required by development partners, E&S Specialists of ESSU shall also prepare an Initial Poverty and Social Analysis (IPSA) including screening checklist for requirements of Involuntary Resettlements and Impacts on Ethnic Minority/Indigenous People through respective checklist for Involuntary Resettlement (IR) **(Annex 8)** as well as checklist for Ethnic Minority/Indigenous People (IP) **(Annex 9).** These shall be sent to development partners by designated officials of IDCOL if required. The gender assessment is also included in the Involuntary Resettlement and Ethnic Minority/Indigenous People Screening Checklist. Based on the gender assessment, a gender category shall be provided and specific measures shall be taken by the project proponent based on gender category and if required, a project specific Gender Action Plan (GAP) shall be developed by the project proponent **(Annex 13)**. The detailed description for the gender assessment and gender-based categorization of projects has been depicted in Chapter 06. Public consultation shall also be conducted by E&S Specialists of IDCOL if required.

94. Project proponent must monitor the E&S issues. Monitoring field visits shall be conducted for some projects by IDCOL if required. If any non-compliance is found during monitoring and field visits, the non-compliant issues shall be communicated to the proponent through respective business units and the issues shall be resolved within a specific mutually agreed timeframe. Monitoring and reporting frequency of IDCOL is given in **Annex 16**.

95. The project proponent shall submit the following documents to IDCOL within a specific mutually agreed timeframe:

- Relevant certificates (if applicable) from DOE to IDCOL any period before loan disbursement
- If applicable considering GoB or development partners' requirements Draft IEE/ESIA for review and Final IEE/ESIA before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Draft GAP (if required) for review before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Final GAP (if required and available) before loan disbursement that will also be shared with relevant development partners by designated officials of IDCOL, if required
- Other clearances if needed per project type and category
- ECC as obtained before commencement of a project and at each renewal of ECC
- Periodic monitoring reports **(Annex 15)** which shall also be sent to the development partners (if required) in respective formats specified by the development partner as well as national regulatory authorities (if required)

Operational Procedure for FI category

96. IDCOL will ensure the Financial Institution (FI) has an Environmental and Social Management System (ESMS). An ESMS states an FI's commitment to E&S management, explains its procedures for identifying, assessing and managing E&S risk of financial transactions, defines the decision-making process, describes the roles, responsibilities and capacity needs of staff in doing so and states the documentation and recordkeeping requirements. It also provides guidance on how to screen transactions, categorize transactions based on their E&S risk, conduct E&S due diligence and monitor the client's E&S performance. The ESMS includes the financial institution's environmental and social policy and designated roles and responsibilities of its staff. It is implemented through a set of procedures for:

- Screening transactions,
- Conducting environmental and social due diligence,
- Categorizing transactions based on their environmental and social risk,
- Decision-making process,
- Monitoring the client's environmental and social performance, and
- Managing a client's non-compliance with the environmental and social standards of financial institutions

97. The procedures outlined in the ESMS need to be applied to each transaction as part of overall risk management framework. For each transaction, this also requires a financial institution to formally document its environmental and social review as part of its record-keeping process, consider environmental and social findings during the decision-making process, and incorporate environmental and social requirements such as a corrective action plan as clauses in legal agreements with clients.

98. To ensure the effective implementation of the ESMS across operations, the financial institution needs to allocate the necessary resources for internal communication and training. As part of its commitment to good corporate practices, financial institution will need to periodically report on the environmental and social performance of transactions and measures taken to reduce overall exposure to environmental and social risk. The frequency of periodic reporting will depend on the monitoring requirements of respective national regulators and development partners.

Operational Procedure for Renewable Energy Projects

99. Different renewable energy projects such as solar rooftop, grid tied solar project, solar mini grid/ micro grid (SMG) projects, solar irrigation project (SIP), biogas and biomass-based power projects as well as improved cook stove (ICS) program can fall under both medium or low risk category based on the project nature and impact. The E&S Specialists of ESSU shall visit the project area to assess the environmental and social conditions. Based on the risk rating, Initial Environmental and Social Checklist (**Annex 2**) and site visit, the E&S Specialists of ESSU shall prepare the E&S Compliance Report. The E&S Compliance Report shall be submitted to the Credit Risk Management Committee of IDCOL. The E&S Compliance Report is the environment and social section of the credit memo of any project which contains brief environment and social information about the project **(Annex 3)**. In case of Renewable energy projects, IDCOL's Environmental and Social Management Framework (ESMF) and Environmental and Social Management System (ESMS) will be used simultaneously with this ESSF. Some brief information on renewable energy projects is given below,

Grid-Tied Solar Power Project

100. For the grid-tied solar power project, the project component and its different aspects in the surrounding areas related to environmental and social issues will primarily be reviewed in the screening process. A checklist has been prepared and attached in **Annex 20** which will help to identify the screening components that are needed to be investigated in detail during the preliminary stages of evaluation. An ESIA will be carried out after a project is identified and screened by IDCOL. The ESIA report will include an ESMP based on the identified

impacts. A generic Terms of Reference (ToR) is attached in annex **(Annex 11)**. The ToR will be prepared to conduct the ESIA and to prepare an ESMP with necessary mitigation measures. The ESMP aims to ensure the compliance of all activities undertaken during the implementation and the operation of the proposed project with the environmental safeguard requirements of the ESSF of IDCOL, Govt. of Bangladesh and the relevant development partners, if any.

101. A Resettlement Plan (RP) shall be prepared, if required by the proponent of a grid-tied project, addressing the issues limited to the project for resettlement and rehabilitation of the project affected persons (PAPs). At the project proponent's level, gender analysis (if required) will be part of the social assessment and the analysis will be based on findings from gender specific queries during the primary data collection process and available secondary data in the ESIA preparation. The quantitative and qualitative analysis will bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential for gender based inequitable risks, benefits and opportunities. Based on the analysis, the specific interventions will be designed and if required gender action plan will be prepared. The overall monitoring framework of the project will include sex disaggregated indicator and gender relevant indicator.

102. IDCOL shall determine if a project involving impacts on tribal people and/ or small ethnic communities (Ethnic Minorities/Indigenous Peoples) can be financed (based on IDCOL's internal E&S risk management capacity), ascertaining those adequate risks and impacts management measures are included in project sponsors' action plans and the compliance requirements of the same are incorporated in the legal documentation for project financing. While the proponent is responsible to implement the action plan and monitor that the own company or its subcontractors adhere to the defined actions/standards, IDCOL's responsibility is to monitor if the implementation by the proponent is done as desired. The risk category of grid tied solar power projects as per DoE can be found in the gazette published by DoE in 2017[3].

Solar Rooftops

103. For solar rooftops, environmental and social safeguard compliance shall be required for both the PV cell manufacturers as well as the project proponents. PV cell manufacturing process involves significant environmental and health safety impacts. Therefore, IDCOL shall require ISO 14001:2004 and OHSAS 18001:2007 certifications from PV panel manufacturing plants.

[3] **Bangladesh Gazette, Additional, December 24, 2017, Ministry of Environment, Forest and Climate Change**

The detail of the PV panel supplier enlistment criteria has been provided in **Annex 22** which covers the requirements applicable to local and imported PV panel suppliers for the said enlistment. For the project proponent, an initial environmental and social screening will be carried out in accordance with the provisions of the funding partners' safeguard policy and EHS Guidelines by using the Environmental and Social Checklist enclosed in **Annex 18.** The project proponents shall be required conducting an Environmental Social Assessment (ESA), if applicable. Terms of references (ToRs) will be prepared for the ESA reports based on the respective projects/ industry's category (DOE category; under ECR 1997). The ESA report is expected to meet the requirement of WB's OP 4.01/ESS and ADB's environmental safeguard requirements and energy policy if the project is financed by WB and/or ADB and the project proponents will duly inform the DoE the nature of business associated with the concerned roof-top facility to DoE.

Mini-grids/Micro-grids

104. Mini-grids/micro-grids are usually implemented on existing rights of way, which are largely rural roadways and the planning will be carried out jointly with the local community. An initial environmental examination (IEE)/ environmental and social impact assessment (ESIA) will be carried out and proper mitigation measures will be undertaken by the project proponent. The IEE/ESIA report will be submitted to the DoE and respective development partners for review and clearance prior to construction. A ToR for ESIA report is attached in annex **(Annex 11)** which will be followed (with necessary modifications in accordance with the scope of the project) by the project proponents. For solar mini-grid project, IDCOL has prepared a template for a battery recycling agreement to be executed between the project proponents and the battery suppliers **(Annex 23).**

Biogas and Biomass Based Power Project

105. In parallel of ensuring the requirement of the DOE in case of biogas and biomass based power project, the respective official of IDCOL will visit the project site and will assess the suitability of the site. For small-scale household level biomass and biogas project, no environmental assessment will be carried out. Only for commercial plants, detailed environmental assessment will be carried out and site specific environmental management plan will be prepared. An IEE/ESIA report will be prepared by the project proponent which will be reviewed by IDCOL and if required be duly submitted to relevant development partners during the appraisal process of each new project. In case of operational phase, there will be a regular monitoring of environmental and social safeguards.

Improved Cook Stove (ICS)

106. Improved Cook Stove (ICS) is a low-risk Energy Efficient Component. IDCOL will ensure that improved cook stove (ICS) is being prepared in an environment friendly atmosphere. Households generally use traditional fuels such as wood, twigs, leaves, agricultural and plant residues, paddy husk, jute sticks and dried animal dung for cooking. Under this program, the combustion process of these fuels will be improved by raising the stove efficiency that will reduce the smoke containing large amount of particulate matter and gaseous pollutants. E&S specialist of IDCOL ESSU will monitor the compliance and efficiency of the certain percentage of ICS manufacturing plant. For ICS program, IDCOL has prepared an environmental & social field observation format **(Annex 24).**

Solar Irrigation Pumps

107. For the solar irrigation pumps, environmental screening will be carried out for the purpose of preparing an environmental management plan. IDCOL will monitor and ensure the environmental compliance as per the management plan. A format of assessing environmental impact of solar irrigation project is attached in annex **(Annex 19)** which is to be duly filled up by the project proponent and verified by the respective official of IDCOL. According to the Groundwater Management Rules for Agricultural Works, 2019 published by Department of Environment (DoE), each irrigation pumps has to obtain a boring license from the Upazila Irrigation Committee (UIP) during laying of the pump. The project proponent needs to submit the license as well as subsequent renewal of the same to IDCOL. For solar irrigation project, IDCOL has developed the EHS monitoring format and using it for regular monitoring purpose **(Annex 25).**

Biogas Plants

108. The Department of Environment (DoE) states that, if any cattle farm belongs to 10 cattle in urban area or 25 cattle in rural areas, the project has been categorized as Orange A category", meaning that it requires a brief Environmental Impact Assessment Report (IEE). In case of poultry- "the numbers are up to 250 and up to 1000 respectively." But "if any cattle farm belongs to more than 10 cattle in urban area or more than 25 cattle in rural areas, the project has been categorized as Orange B category", meaning that it requires detail Environmental and Social Impact Assessment Report (ESIA). For domestic biogas plants, IDCOL's targeted farms usually have up to 10 cattle. For small-scale household level biomass and biogas project, no environmental assessment will be carried out. For any commercially operated biogas project, there should be an environmental and social impact assessment (ESIA) by the project sponsor for any number of cattle's/birds or any location (urban or rural). The respective official of IDCOL will visit the project site and will assess the

suitability of the site. The IEE/ESIA report prepared by the project proponent will be reviewed by IDCOL and if required be duly submitted to relevant development partners.

109. No land acquisition or displacement of people from public or private lands is permitted under biogas/biomass-based power projects, solar irrigation pump, solar mini-grid/micro-grid, improved cook stove and biogas projects. The IP areas, if applicable for projects, will be screened to identify relevant communities and a culturally appropriate communication process will be used to clearly describe the products and services as well as warranty issues and other provisions of the terms and conditions of payments etc.

CHAPTER 04: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

110. The environmental and social impact assessment will be based on the requirements of Bangladesh Bank's ESRM guideline 2022, requirements of DoE, different national and international regulations and requirements of different development partners.

4.1. Environmental and Social Baseline

4.1.1. Environmental Baseline

111. Baseline condition of environment indicates the current status of different components of environment in absence of a particular project. The main objective of examining the current environment is to provide an environmental baseline against which potential impacts from construction and operational phases of any project can be compared. Another important function of establishing a baseline for parameters is to ensure that any problems arising from existing sources are not erroneously attributed to the project under study. Following baseline information/data will be required from various aspects:

112. **Physical Environment**: climate/meteorology, physiography, topography, geology, geomorphology, soil type and quality, sediment quality, land use, ambient air quality, noise level, vibration level, surface and groundwater quality, seismicity, drainage and hydrology, flood pattern, cyclone pattern, unstable and erosion-prone areas, siltation etc.

113. **Biological Environment:** bio-ecological zones of Bangladesh, ecologically sensitive areas (protected areas, reserve forests, eco-parks, wetlands), flora and faunal species diversity, rare and threatened species, human uses of natural resources etc.

114. The specific objectives of the baseline study are to gather information on the existing physical and ecological surveys and other studies (e.g., physical infrastructures, water supply and sanitation, solid waste management, water quality, and noise level measurements) of the areas within and around the project sites, and to assess peoples' perception on different aspects of a project. The data and information gathered during the baseline study will provide a detailed description of the existing conditions of physical and biological environment in and around the project areas. The possible environmental impacts of the projects will be evaluated against these baseline environmental conditions.

115. For proper environmental assessment, it is very important to adequately define the environmental baseline against which environmental impacts of a particular project would be subsequently evaluated. The characteristics of environmental baseline would depend on:

- Nature of the project location,
- Nature/ extent of a project and its likely impact,
- Level of environmental assessment (e.g., screening versus full scale impact assessment)

116. The baseline description should take into account the existing socio-economic condition, physical environment of selected indicators and proposed developments in the area so that cumulative impacts can be assessed. On the field visit baseline data needs to be collected from secondary sources and public consultation to describe baseline condition.

4.1.2. Socioeconomic Baseline

117. Socioeconomic baseline condition indicates the current status of different socioeconomic components in absence of a particular project. The main objective of examining the current social environment is to provide a baseline against which potential impacts from construction and operational phases of any project can be compared. Another important function of establishing a baseline for parameters is to ensure that any problems arising from existing sources are not erroneously attributed to the project under study.

118. Socio-economic baseline may include the following issues:

Socio-economic Condition-This would include demographic features such as beneficiary population, housing status, literacy and education, distribution of income by occupation, annual income, gender issues, indigenous and vulnerable groups, current forms of settlement and trade structures.

119. **Economic Development-**Information to be gathered should include infrastructure facilities like water supply, power source etc., transportation such as road type, network, accessibility etc., industries including cottage industries and tourism facilities.

4.2. Environmental and Social Impact Assessment Procedure

120. This section discusses the guideline to predict the potential and mostly typical impacts on the key environmental and social parameters of the project influence area based on the overall baseline, assessment of project components/sub-components and the primary assessment of the activities for different projects.

4.2.1. Environmental & Social Screening

121. Environmental and social screening identifies the consequence of the proposed projects in broader sense based on similar project experiences, stakeholder's perceptions and expert judgment, without having very much detailed investigation. Critical issues are also identified through the screening which needs detailed investigation. The extent of the environmental and social impacts obtained from the screening will help in further decision making.

122. The environmental screening is usually carried out with the help of simple screening matrix that includes a set of check list to identify the baseline and potential impacts of the project intervention. The environmental screening would involve: (i) reconnaissance of the project area and its surroundings; (ii) identification of the major project activities; (iii) preliminary assessment of the risks and impacts of project activities on the ecological and physic-chemical environment of the project surrounding areas; (iv) identify applicable safeguard

standards; (v) determine the category of the project; and, (vi) determine the specific instrument/s to be prepared for each project. The participation and consultation with local communities are important identifying the potential impacts of the project interventions.

123. The social screening will provide a rapid assessment of the project characteristics, its beneficiaries, the socioeconomic dimensions of the communities and relevant stakeholders, and its potential impacts and risks. Results of the social screening will determine whether project qualifies for financing and if detailed social impact assessment is required.

4.2.2. Impact Assessment Methodology

124. The assessment of effects and identification of impacts takes account of any incorporated mitigation measures adopted due to any anticipated potential impact of project activities and will be largely dependent on the extent and duration of change, the number of people or size of the resource affected and their sensitivity to the change. Potential impacts can be both negative and positive (beneficial). The criteria for determining significance are generally specific for each environmental and social aspect but generally the magnitude of each potential impact is defined along with the sensitivity of the receptor. An illustrative generalized impact assessment process flow is given in a flow chart below. (See figure 4.1)

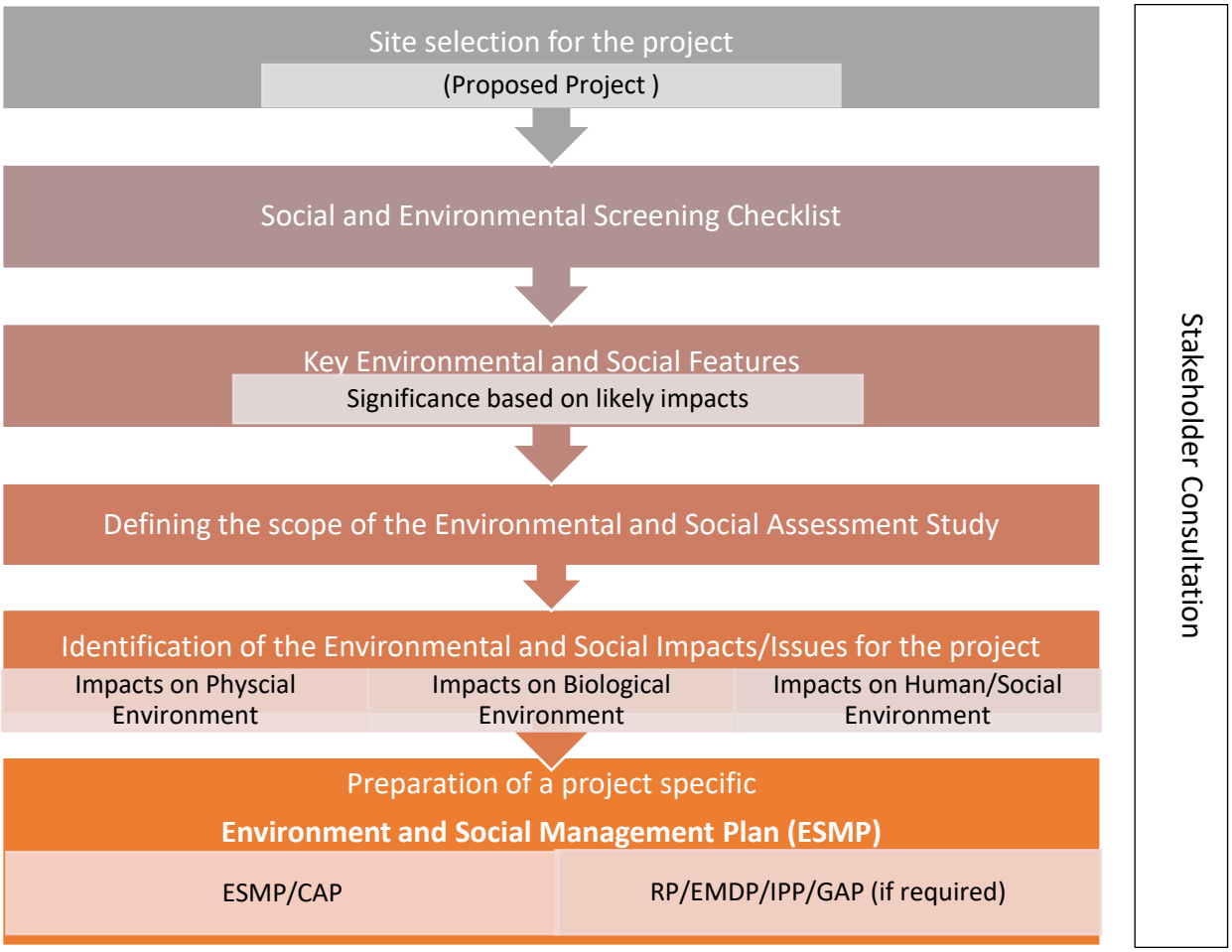

Figure 4.1- Impact Assessment Process Flow

Impact Magnitude and Sensitivity of Receptor

125. The assessment of magnitude shall be undertaken in two steps. Firstly, the key issues associated with the project will be categorized as beneficial or adverse. Secondly, potential impacts shall be categorized as High, Medium and Low based on consideration of the parameters such as:

- Duration of the potential impact;
- Extendibility of the potential impact;
- Reversibility;
- Likelihood; and
- Legal standards and established professional criteria.

126. Duration of potential impact indicates the timeframe of the potential environmental and social impacts. Extendibility of the potential impact deals with the spatial extent over which an impact is expected to occur. Reversibility of the impacts means the ability of being reversed or in other words the degree to which the impacts of a project can be mitigated. Likelihood of

impacts means the probability or possibility of occurrence of a potential impact. Legal standards and established professional criteria indicate different national and international guideline which needs to be complied with for a project. The magnitude of potential impacts of the project shall be identified according to the categories outlined in Table 4.1. The sensitivity of a receptor shall be determined based on review of the population (including proximity/numbers/vulnerability) and presence of features on the site or the surrounding area. Criteria for determining receptor sensitivity of the project's potential impacts are outlined in Table 4.2.

Table 4.1: Parameters for Determining Magnitude

Parameter	High	Medium	Low
Duration of potential impact	Long term	Medium Term	Temporary with no detectable potential impact
Extendibility of the potential impact	Widespread far beyond project boundaries	Beyond immediate project components, site boundaries or local area	Impacts can be mitigated within the project boundary with mitigation measures
Reversibility of potential impacts	Potential impact is effectively permanent, requiring considerable intervention to return to baseline	Potential impact requires a year or so with some interventions to return to baseline	Baseline returns naturally or with limited intervention within a few months/ Baselines remains constant
Likelihood of potential impacts occurring	Occurs under typical operating or construction conditions (Certain)	Occurs under worst case (negative impact) or best case (positive impact) operating conditions (Likely)	Occurs under abnormal, exceptional or emergency conditions (occasional)/ Unlikely to occur
Legal standards and established professional criteria (optional)	Breaches national standards and or international guidelines/ obligations	Complies with limits given in national standards but breaches international lender guidelines in one or more parameters	Meets required national standard limits or international guidelines

Table 4.2: Criteria for Determining Sensitivity

Sensitivity Determination	Definition
Very Severe	Vulnerable receptor with little or no capacity to absorb proposed changes or minimal opportunities for mitigation.
Severe	Vulnerable receptor with little or no capacity to absorb proposed changes or limited opportunities for mitigation.

Sensitivity Determination	Definition
Mild	Vulnerable receptor with some capacity to absorb proposed changes or moderate opportunities for mitigation
Low/Negligible	Vulnerable receptor with good capacity to absorb proposed changes or/and good opportunities for mitigation

4.2.3. Considerations during ESIA/ESA/IEE Study in a Project

127. The ESIA/ESA/IEE study will be conducted under the projects based on their level of impacts. A ToR for the ESIA study is attached in **Annex 11**. The main purpose of this ESIA/ESA/IEE is to evaluate the impact of project location from the environmental and social point of view along with possible measures to be included in an ESMP to minimize the potential impacts resulting from project activities during the implementation and operation phase of the project. Following considerations should be taken into account while conducting ESIA/ESA/IEE:

128. **Analysis of the Project Components**: Specific components of the projects will be examined thoroughly which will in fact guide the development of checklist for reconnaissance survey.

129. **Preparation of Checklist:** A comprehensive checklist of potential environmental and social components likely to be impacted need to be prepared based on the guidelines of different agencies such as DoE and development partners.

130. **Initial Screening/Survey:** Not all the parameters selected in previous step may be significant for the project; hence the first activity will be to shorten this list to concentrate on significant effects. Data should be collected from all possible sources, if available, and conduct an environmental and social reconnaissance with the relevant checklist in hand to identify and delineate the significant effects of the project and eliminate the others from further considerations. Public consultation will play an important role in initial screening. An environmental and social screening checklist/site visit checklist is given annex (**Annex 7)**.

131. A screening checklist for the Grid tied Solar Project (**Annex 20**) and Solar Rooftop Project has been attached in annex (**Annex 18**) based on different environmental and social aspects for these projects. For grid tied projects, this checklist will help to identify the scope of the ESIA and timeframe required for obtaining the regulatory clearances (if any) for the project. The environmental and social safeguard screening will occur during the project preparation stage of any grid tied solar power project as soon as the project site is identified and selected.

132. **Analysis of Alternatives:** Alternative site and technological design should be analyzed for the proposed project interventions considering environmental, social, and technological criteria.

133. **Identification and Scaling of Impacts:** All the potential short and long term environmental and social impacts should be identified. The impacts can be graded qualitatively (e.g., high, medium, and low) in order to identify major impacts and relevant components. In addition, cumulative and residual impacts of the project interventions need to be clearly addressed.

134. **Identification of Enhancement and Mitigating Measures:** From literature survey and applying expert judgment and based on assessed impacts, a list of possible enhancement and mitigating measures for beneficial and adverse effects respectively should be prepared.

135. **Preparation Environmental and Social Management and Monitoring Plan:** The ESMP will be prepared suggesting mitigation measures for minimizing the effect of the negative impacts, compensation measures for the negative impacts which cannot be mitigated, enhancement measures for increasing the benefits of the positive impacts, emergency plan for taking care of natural hazards and accidental events. A monitoring plan will also be suggested in the ESMP. Each component of the ESMP will be divided into different project phases. Responsibilities of the institutions in the implementation of the monitoring plan will be suggested to ensure efficient utilization of all the parties involved. The ESMP should also include institutional capacity assessment and capacity building plan. The ESMP will also include measures for health and safety measures in response to any pandemic.

136. In the case of Grid tied Solar Power Project, Resettlement Plan (if required) will be prepared addressing the issues related to resettlement and rehabilitation of the project affected persons (PAPs), if any, in this stage along with the preparation of ESMP. A Gender Action Plan (if required) will also be prepared under the project which will help analyse gender issues during the preparation stage of the project and design interventions. The project proponent shall inform IDCOL about presence of tribal people/small ethnic communities (Ethnic Minority/Indigenous People) in the proposed project area (if any). IDCOL should determine if a project involving impacts on tribal people and/ or small ethnic communities (Ethnic Minorities/Indigenous Peoples) can be financed. Proponent will implement the action plan and monitor own company/ it's subcontractors' compliance and IDCOL will monitor the implementation by the proponent.

137. **Contingency Plan for Pandemics:** Project proponent will develop a contingency plan following the WHO guidelines and the development partners' requirements to put in place procedures in the event of any pandemic. The contingency plan will be developed in consultation with national and local healthcare facilities, to ensure that arrangements are in place for the effective containment, care and treatment of workers. The contingency plan will also consider the responses during spreading of infections among the workforce, possible

community transmission as well as determining the moment when it is deemed necessary to restrict the entry to a targeted area to avoid further spread. The contingency plan will include Gender Based Violence/Sexual Harassment, Exploitation and Abuse (SHEA) risks screening and putting in the corresponding measures to prevent and mitigate the SHEA risks. The Contingency Plan will be developed in consideration of the potential challenges with the project staff and workers in pandemic situations including health and safety of the workforce as well as the beneficiary communities.

138. **Traffic Management:** Project proponent will identify, evaluate and monitor the potential traffic impacts and road safety risks throughout the project life cycle and, if needed, will develop necessary measures and plans for addressing them. If needed, a traffic assessment and road safety assessment for each project phase will be undertaken for monitoring traffic conditions and incidents and preparing regular monitoring reports. For project vehicles, the proponent will consider issues like driver training, improving driver and vehicle safety, systems for monitoring and enforcement, safety record or rating of vehicles and regular maintenance etc. If using any project equipment has an impact on public roads or other public infrastructure, the project proponent should take necessary safety measures for that as well.

4.3. Specific Activities and Responsibilities in the Environmental and Social Assessment Process

139. The major activities and the relevant responsibilities for environmental and social assessment process for different projects are shown in Table 4.3.

Table 4.3: Major Activities and Responsibilities During Different Project Stages for Conducting Environmental and Social Assessment Studies

Project Stage	Steps/ Activities	Description	Responsibility
Step-1: Screening			
Planning and Pre-feasibility	Undertake Screening	Prepare a document containing environmental and social information covering potential environmental and social impacts/mitigation measures/evidence of public consultation etc. Take no further action for projects, which do not require environmental and social assessment.	Project Proponent
Step-2: Scoping to identify types of environmental and social assessment study			
Pre-feasibility/	Scoping	Identify, by using checklists and preliminary field	Project

Project Stage	Steps/ Activities	Description	Responsibility
planning	Exercise	examination the necessity to conduct an ESIA/ESA/IEE, as per ECR, 1997 and the requirements of all the development partners	Proponent
		Produce relevant environmental and social documents for competent authority for approval.	
Step-3: Terms of Reference (ToR) for environmental and social assessment study			
Pre-feasibility/ planning	Preparation of ToR	Define the main environmental and social concerns and issues related to any project.	IDCOL
	Approval of ToR	Review, comment and approve ToR (if required)	IDCOL
Step-4: Preparatory work for environmental and social assessment study			
Pre-feasibility and planning	Assigning the work	Determine whether to conduct environment and social assessment using in-house staff or whether to outsource it.	Project Proponent
	Environmental and Social Assessment team formation	Form team as per approved ToR (if required)	Project Proponent
	Prepare Work Plan	Establish a work plan that gives appropriate weight to all activities.	
Step-5: Undertake environmental and social assessment study			
Step-5.1: Desk Studies			
Planning and design (ESIA/ESA/IEE preparation)	Secondary data	Collect and review relevant and appropriate published data, such as maps, reports etc.	Project Proponent
	Initiation, interaction and consultation	Discuss the proposed project and its potential environmental and social impacts with knowledgeable persons and concerned stakeholders.	
	Preparation of information summary	Draft a summary of the information that is relevant to the project and its possible environmental and social effects.	

Project Stage	Steps/ Activities	Description	Responsibility
	Methods and Techniques	Determine the methods by which the field work for environmental and social assessment will be conducted.	
	Work Plan	Revise the work plan on the basis of desk studies	
Step-5.2: Field Work			
Planning and design (ESIA/ESA/IEE preparation)	Field equipment	Collect and arrange field equipment required for Environmental and Social Assessment Studies (if required)	Project Proponent
	Field survey for collection of baseline information	Survey at project location, interact with the local community and investigate the issues identified during desk study; collect baseline (physical, biological and socioeconomic aspects) information (if required)	
	Stakeholder consultation	Discuss with local community and relevant project stakeholders	
Step-5.3: Data Analysis and Interpretation			
Planning and design (ESMP preparation)	Impacts Identification	Establish what environmental and social impacts will take place as result	Project Proponent
	Impact Prediction	Establish the extent of environmental and social consequences of the proposed project construction and operation	
	Impact assessment	Judge whether the consequences are significant enough to require action to be taken	
	Mitigation Measures	Design mitigation measures to avoid, reduce, minimize & compensate for adverse impacts & maximize beneficial impacts	
	Environmental and Social Management	Prepare ESMP covering monitoring and project management to ensure the implementation of mitigation measures. (If required)	

Project Stage	Steps/ Activities	Description	Responsibility
	Plan		
	Stakeholder/ Public Consultation	Carry out at various stages in the assessment process to ensure quality, comprehensiveness and effectiveness and make sure that stakeholders' views are adequately addressed.	
	Disclosure	Disclosure of the ESIA/ESA/IEE for public comments	Project Proponent & IDCOL
Review and Approval	Review & approval of environmental and social assessment report	Check completeness, adequacy, and credibility and facilitate the decision-making process; decide if project should proceed or if further alternatives must be examined.	IDCOL
		Approval or rejection of environmental and social assessment report (if required)	IDCOL
Design Implementation (E&S Monitoring)	Implementation of ESMP, Monitoring	Determine compliance with ESMP.	IDCOL
Step-6: Undertake audit			
Environmental and Social Audit	Auditing	Independent Environmental and Social Audit for random projects	IDCOL

4.4. Assessment and Prediction of Impacts of the Project

140. Potential environmental and social impacts during site preparation stage among others may include site-specific land cover and land use changes, loss of trees & vegetation and impacts on vulnerable and disadvantaged groups/communities/individuals.

141. Potential environmental and social Impacts during project construction stage among others may include air pollution, water pollution, soil pollution, noise pollution, impacts of land filling (at new construction site), solid waste generation, drainage congestion, homestead tree cutting, site clearance and restoration, poverty and socioeconomic vulnerability, community health, safety and security, occupational health and safety, involuntary resettlement impacts,

gender vulnerability and impact on disadvantaged groups, vulnerable women/youth/disabled persons and Ethnic Minorities/Indigenous Peoples.

142. Anticipated environmental and social impacts for renewable energy projects such as SIP, ICS, SMG, Biogas/biomass projects, Biogas/biomass based power projects may occur due to the technologies used for operating these projects.

143. The chemicals typically used in PV module manufacturing are aluminum, hydrochloric acid, silicon, phosphine, etc. Materials used in some solar systems can create health and safety hazards for workers and anyone else coming into contact with them. Workers involved in manufacturing photovoltaic modules and components must consequently be protected from exposure to these materials, as well as proper disposal is required after expire of the efficiency of these panels.

144. The mini-grid/micro-grid mainly comprise of solar modules and storage battery. Improper disposal and recycling of lead acid storage batteries result in lead sulfate contamination in lands and water bodies. Through percolation, lead sulfate can contaminate groundwater and transfer up the food chain. Lead can enter body in two ways: by breathing or by swallowing it. Lead Sulfide dust enters the body through breathing. Very fine lead particles may penetrate into the lungs result in absorption in the bloodstream. In addition, there is an impending threat for the workers due to the inhalation of lead fumes. The possibility of GHG emission during manufacturing, operation and recycling of lead-acid batteries could be a matter of concern. So, required measures need to be adopted to mitigate as well as compensate. Long exposure to lead pollution results in the adverse impact in nervous system and cause headaches, dizziness, irritability, memory problems, and disturbance in sleep.

145. The concerns related to the small-scale wind energy projects results from noise impact and potential interference with bird migration pattern. Windmills make some noise, and the amount of noise increases with the speed of the sails/blades. Since the environmental impacts of small-scale windmills are not significant, environmental assessment will be included in the feasibility and design study of the windmills.

146. Biomass power i.e., combustion of biomass and biomass-derived fuels may produce air pollution if not properly designed, constructed and operated. Advanced technologies with proper operation should generate much lower emissions.

147. Environmental and social impacts during operation stage of the project among others may include loss of homestead vegetation, agro and wildlife biodiversity, generation of solid waste, noise generation, water pollution, impacts on local livelihoods and impact associated with living condition. In table 4.4 and table 4.5, a generic summary of potential environmental and social impacts and their significance is given.

Table 4.4: Summary of Potential Environmental Impacts and their Significance

Potential Impacts	Duration of Impact	Spatial Extent	Reversible or not	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Impacts related to project site preparation stage								
Land cover and land use changes	–	–	–	–	–	–	–	–
Loss of vegetation	–	–	–	–	–	–	–	–
Impacts during project construction stage								
Air pollution	–	–	–	–	–	–	–	–
Water pollution	–	–	–	–	–	–	–	–
Soil pollution	–	–	–	–	–	–	–	–
Noise pollution	–	–	–	–	–	–	–	–
Land filling	–	–	–	–	–	–	–	–
Solid waste	–	–	–	–	–	–	–	–
Impacts during project operation stage								
Loss of Homestead and agro Vegetation	–	–	–	–	–	–	–	–
Generation of Solid Waste	–	–	–	–	–	–	–	–

Potential Impacts	Duration of Impact	Spatial Extent	Reversible or not	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Noise generation	_	_	_	_	_	_	_	_
Water pollution	_	_	_	_	_	_	_	_

Table 4.5: Summary of Potential Social Impacts and their Significance

Potential Impacts	Duration of Impact	Spatial Extent	Reversible or not	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Impacts related to project site preparation stage								
Impacts on vulnerable and disadvantaged groups/communities/individuals	_	_	_	_	_	_	_	_
Impacts during project construction stage								
Poverty and socioeconomic vulnerability	_	_	_	_	_	_	_	_
Labor and working conditions	_	_	_	_	_	_	_	_
Occupational health and safety	_	_	_	_	_	_	_	_
Community health, safety and security including SEA/SH	_	_	_	_	_	_	_	_
Involuntary Resettlement Impacts	_	_	_	_	_	_	_	_
Gender dynamics	_	_	_	_	_	_	_	_
Impacts on disadvantaged groups, vulnerable women/youth/disabled persons	_	_	_	_	_	_	_	_

Potential Impacts	Duration of Impact	Spatial Extent	Reversible or not	Likelihood	Magnitude	Sensitivity	Significance Prior to Mitigation	Significance after Mitigation
Impacts on Ethnic Minorities/Indigenous Peoples	–	–	–	–	–	–	–	–
Impacts during project operation stage								
Impacts on local livelihoods	–	–	–	–	–	–	–	–
SEA/SH	–	–	–	–	–	–	–	–

CHAPTER 05 : ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

148. The ESSF of IDCOL will take a structured approach to environmental and social management to allow project development process following environmental and social safeguard principles of all the development partners and national regulatory authorities to follow the mitigation hierarchy of avoidance, minimization, mitigation and compensation/offset for negative impacts and enhancement of positive impacts where practically feasible.

149. Environmental and Social Management Plan (ESMP) aims to record environmental and social impacts resulting from the project activities and to ensure implementation of the mitigation measures identified in impact assessment in order to reduce adverse impacts and enhance positive impacts from project activities. Apart from general monitoring of mitigation/enhancement measures, important environmental and social safeguard parameters will be monitored during various phase of a project life cycle. However, the selection of monitoring parameters and the frequency of monitoring would depend on the nature of projects and their extent of impact on the environmental and social elements. The parameters and their frequency of monitoring will be a part of the ESMP developed for a project which will also contain cost of implementing the ESMP and the institutional arrangements required for ESMP implementation.

5.1. Environmental and Social Management

150. The projects which will require an environmental and social impact assessment will need an ESMP suggesting mitigation measures for minimizing the effect of the negative impacts, compensation measures for the negative impacts which cannot be mitigated, enhancement measures for increasing the benefits of the positive impacts, emergency plan for taking care of natural hazards and accidental events. The ESMP should include institutional capacity assessment and capacity building plan. The ESMP will also include health and safety measures in response to any emergency pandemic situation, the project's social, economic and cultural impacts and the measures proposed to avoid, manage, mitigate or offset the predicted impacts of the project throughout the project cycle, and special arrangement for community engagement, managing risks of Gender Based Violence (GBV) and grievance resolution. During implementation phase, the project proponent will supervise and monitor E&S risks and impacts of the entire project activities, in accordance with the E&S safeguards instruments and documents. An environmental and social monitoring plan will also be suggested in the ESMP. Responsibilities for the implementation of the ESMP will be included to ensure efficient utilization of all the parties involved.

151. IDCOL will ensure that environmental and social impact assessment addresses all potential environmental and social direct and indirect impacts of the project throughout pre-project,

during project and operation stages; and also suggest appropriate mitigation measures. If any additional impacts are identified, ESIA/ESA/IEE and ESMP will be reviewed and updated.

152. During the preparation of the ESMP for a particular project considering the baseline environmental and social conditions and potential impacts found in the environmental and social impact assessment, consideration of the environmental and social management processes discussed in this section will be required by any project.

153. Physical Environment: Soil erosion and compaction may occur due to site clearing, sand filling and site preparation, laying of gas pipeline, use of heavy loaders from the construction and operation activities of a project. Soil and sediment contamination through spills and leaks may be caused by fueling and operation of heavy machinery and transport vehicles, unloading and loading activities near the temporary jetty and storage and handling of chemicals as well as storage, handling and disposal of construction waste.

154. Excavation, run-off from stockpiled materials and chemical contamination from fuels and lubricants may result in silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. Surface water contamination may occur due to wastewater discharge from washing of equipment and machineries and sludge disposal from sanitary facilities. Groundwater contamination can happen through leaks and spills of oil, lubricants, fuel as well as improper handling of sewage or chemicals.

155. As with the development of any large-scale industrial facility, the construction of the project can pose hazards to air quality. Such threats include the release of soil-carried pathogens and result in increased amount of air particulate matter which has the effect of contaminating water reservoirs. During both construction and operation of a project, noise might be generated from construction work and operational machineries. Movement of construction materials, handling of equipment can cause significant noise which has an impact on the environment. Heavy machinery operations for construction works, piling for equipment foundation, and transportation related activities may generate excessive noise in and around the project site.

156. The extent of impact of a project can be beyond above mentioned issues and will differ for project to project. The mitigation measures and monitoring requirements will depend on the impact assessment of the project.

157. Biological Environment: Impacts on terrestrial and aquatic flora and fauna, habitat loss and disturbance might occur due to clearance of vegetation at natural gas pipeline, clearance of site before sand filling and levelling and other relevant project based activities during the construction and operation phase may hinder the surrounding ecosystem that might be irreversible in nature. Avoidance strategies of any activities and if avoidance is not possible, mitigation measures will have to be taken in ESMP depending on the extent of impact.

158. There are several features for renewable energy projects that must be considered during ESMP preparation. Following project based mitigation measures as well as measures suggested during the impact assessment of these project will be included in the ESMP of these project.

i. Only for commercial plants, detailed environmental assessment and site-specific environmental management plan will be applicable. In general, the following are the mitigation and enhancement measures to be taken for biomass and biogas-based electricity project.

- Proper design, operation and maintenance of waste storage facilities and gas collection facilities
- Regular monitoring to ensure compliance of operation and maintenance agreed practices
- Frequent monitoring to prevent/minimize biogas leakage during normal operation conditions
- Consider treatment of raw biogas on site to eliminate hydrogen sulfide and ammonia content in order to prevent the formation of corrosive sulfurous, sulfuric and nitrogen oxides
- Planning and carrying out proper waste disposal practices (avoiding discharge of untreated effluents in nearby agricultural land or waterways)
- Provision of fire prevention measures in case of large plant

ii. The biomass and biogas-based electricity projects will be of small to medium scale (below 1 MW). These projects will be mostly captive type and if required, micro grid may need to be established. The following are the key environmental risks if the system is not properly designed, constructed, operated and maintained.

Effluent emission, On-site contamination, Hazardous materials issues such as:

- Methane emissions from waste storage facility
- Contamination of surface and groundwater due to disposal of anaerobic digestion effluents- pathogens, particulate matter, COD/BOD
- Emission of nitrogen oxides, sulfur oxides, particulates, trace amounts of toxic materials, including dioxins due to biogas combustion
- Impacts due to waste storage: odor, visual intrusion, windblown litter, attraction of flies and rodents

iii. Mini grid solar project is generally established in the existing right of ways. Therefore, this mini-grid comprising small rural area will not create any potential adverse environmental impacts. Care will be taken to minimize deforestation in securing rights of way. Mini/micro grids based on solar PV require battery storage room and proper

maintenance of these batteries. The project will promote the capacity development of local operator to maintain the system.

159. Battery suppliers: Manufacturing of lead-acid battery is associated with significant environmental and health safety impacts. So, IDCOL will require ISO 14001:2004 and OHSAS 18001:2007 certifications for battery manufacturing plant and expired battery recycling plant. The detail of the battery supplier enlistment criteria has been provided in **Annex 21,** which has covered the requirements as are applicable to local and imported battery supplier. It is also assumed that that during formation of lead-acid battery, significant amount of Sulfur-di-Oxide (SO2) and Hydrogen sulfide (H2S) will emit, which results in serious health hazard to the workers and adjacent neighbourhood. So, IDCOL has required all battery suppliers to install the Air treatment Plant (ATP) with proper design and scrubber facility especially in the formation unit. In addition, there should also be arrangement of safety wash and emergency eye wash facility in case of any accidents/incidents.

160. PV panel suppliers: Manufacturing of PV panel more specifically PV cell manufacturing process is associated with significant environmental and health safety impacts. So, IDCOL will require ISO 14001:2004 and OHSAS 18001:2007 certifications for PV panel manufacturing plants. The detail of the PV panel supplier enlistment criteria has been provided in **Annex 22**, which has covered the requirements as are applicable to local and imported PV panel supplier. In addition, IDCOL will try to formulate technical requirement for ensuring application of PV panel with more lifetime and less disposal requirement.

161. Proper disposal of PV Panels: According to the 'Study on the Impact of Photovoltaic Panels (PV panel)' by European Commission in 2011, PV Panels associate with Lead and Cadmium leaching having potential risk to contaminate soil and water. Moreover, there is also hazards associated with glass and aluminum. So, there is a dire need of a PV Panel Disposal Policy. Moreover, there is informal concern that quality of some of the PV panels may not be good enough to survive up to the anticipated warranty period. An Action Plan shall be formulated to determine the actual course of actions in case of proper disposal of PV Panel.

162. Divisional battery breaking point: In general, almost half of electrolyte (Sulfuric Acid) of a Lead-acid battery remains un-utilized after the expiration of life period. But none of the expired battery recyclers in Bangladesh collect expired battery with electrolyte. They raise the issue of weight and fire hazard. So, initiative has to be adopted to convince the battery recyclers to collect expired battery with electrolyte and set-up divisional breaking point at all seven divisions in Bangladesh.

163. De-listing Criteria:

- De-listing criteria for ISO 14001:2004 (Environmental Management System) and OHSAS 18001:2007 (Occupational Health and Safety Management System)

- Certification Agency: IDCOL has required the ISO 14001 and OHSAS 18001 certifications to make sure the extra vigilance in implementation of EMS and OHSAS properly. So, IDCOL will go for permanent delisting for certification body according to different criteria if there is inadequate response from the certification bodies.
- De-listing criteria for battery suppliers: If any battery supplier fails to submit the quarterly EHS compliance report and/or fails to attend the compliance meeting it has to explain the reason within two weeks (14 days) in writing. If any battery supplier fails to meet this requirement, it will be temporarily de-listed from IDCOL list of suppliers for at least three months. The same measures will be applicable to any battery supplier as is found significantly non-responsive about the desired level EHS compliances.

164. Waste Management: For effective segregation, handling, storage and disposal of solid and hazardous wastes generated from the project operations, a waste management plan will be developed by the project proponent.

165. Health and Safety Management: The project proponent will ensure preparation and implementation of a Health and Safety Plan prior to commencing work in the construction phase. This plan will include method statements for work activities, plant utilisation, construction sequence and safety arrangements. Measures will be implemented to reduce the likelihood and consequence of the hazards i.e. falling from height, falling into water, entanglement with machinery, tripping over permanent obstacles or temporary obstructions, slipping on greasy or oily walkways, falling objects, explosion, contact with dangerous substances, electric shock, variable weather conditions, lifting excessive weights, and traffic operations.

166. EHS for Emergency Pandemic Situation: The project proponent will develop a contingency plan following the WHO guidelines to put in place procedures in the emergency pandemic situation such as COVID-19 **(Annex 26)**. The contingency plan will be developed in consultation with national and local healthcare facilities, to ensure that arrangements are in place for the effective containment, care and treatment of workers. The contingency plan will also consider the response at the events of infections among the workforce, community transmission is taking place and when it is likely that access to and from a target area will be restricted to avoid spread of the disease. The plan will consider cleaning and waste disposal system, disposal of personal protective equipment (PPE) and other medical equipment, as well as the continuity of supplies of raw materials and necessaries in case of any lockdown procedures to continue the project activities. The EHS plan will include required emergency protocol and general hygiene guidelines for the workers, process of managing instances for

spread of the virus, adjusting process of work practices and training arrangement for the workers as well as communication process to them.

5.2. Labor and Working Conditions Management

167. The Labor Management sets out the projects' approach to meet national requirements as well as the guidelines of the development partners. To translate the procedure into real actions the project proponent will recruit required specialists with relevant experience and knowledge. The areas that these experts will cover are OHS, labor and working conditions, worker grievance, training, and raising the level of awareness of people engaged with the project directly and indirectly. The main labor risks associated with a project are assessed to be related to the potentially hazardous work environment, the associated risk of accidents and labor influx and the risk of a child or forced labor.

168. The labor management guidelines for a project will consider the relevant national regulatory requirements as well as requirements of global financial institutions related to equal opportunity and non-discrimination, timely payment, working hours and overtime, worker rights, prevention of use of all forms of forced labour and child labour, OHS, children at the working age, women, person with disabilities (PWD), migrant workers, contractor workers, community workers, freedom of association and collective bargaining, access to a grievance redress mechanism etc.

169. Decisions relating to the employment or treatment of project workers will not be made based on personal characteristics unrelated to inherent job requirements. The employment of project workers will be based on the principle of equal opportunity and fair treatment, and there will be no discrimination concerning any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, and promotion, termination of employment or retirement, or disciplinary practices.

170. In order to ensure an occupational health safety plan for a project, IDCOL is committed to:

1. Complying with legislation and other applicable requirements which relate to the occupational health and safety hazards.
2. Enabling active participation in OHS risks elimination through the promotion of appropriate skills, knowledge and attitudes towards hazards.
3. Continually improving the OHS management system and performance.
4. Communicating this policy statement to all persons with emphasis on individual OHS responsibilities.

171. To avoid work-related accidents and injuries, the project proponent will:

1. Provide occupational health and safety training to all employees involved in works.

2. Provide protective masks, helmet, overalls and safety shoes, and safety goggles, as appropriate.
3. Provide workers in high noise areas with earplugs or earmuffs.
4. Ensure availability of first aid box.
5. Provide employees with access to toilets and potable drinking water.
6. Provide occupational safety measures to workers with Personal Protection Equipment (PPE).
7. Properly dispose solid waste at designated permitted sites landfill allocated by the local authorities and cleaning funds and attach the receipt of waste from the relevant landfill authority.
8. Carry out all procedures to prevent leakage of generator oil into the site.
9. Ensure that the head of the well is covered tightly.
10. Provide a secondary tank for oil and grease to avoid spills.

172. Further to enforce the compliance of environmental management, contractors are responsible and liable of the safety of site equipment, labors and daily workers attending to the construction site and safety of citizens for each project site, as mandatory measures. A register of incidents can also be maintained for keeping the proper track of any occupational health and safety incidents.

173. Emergency Response and Disaster Management: Based on the outcome of the impact assessment as well as detailed quantitative risk assessment of the project by the project proponent, an emergency response and disaster management plan will be developed. This will define protocols to be followed in the event of emergencies such as fire hazards or disasters in order to limit the impact on the employees and the local community. The plan will address both on-site and off-site emergency situations due to the operation of the project. The plan will disclose potential disasters and potential risks from the plant to the local community as well as the plan of action on emergency protocol in the event of any such eventuality. This will also include awareness programs for the project personnel, local community and local administration.

5.3. Gender

174. The gender considerations in project cycle are necessary to promote gender equality and mainstreaming of gendered concerns in all the projects. The gender requirements vary from project to project. The gender components will ascertain and assess the extent to which gender concerns and favorable gender outcomes can be integrated into different projects financed by IDCOL. This is in recognition of the fact that gender equality and women's empowerment are critical for achieving economic growth, reducing poverty, and supporting socially inclusive development. It also aims to recognize and address the matter that project

induced impacts are often differential in nature and highly gendered. If required by any development partner, detailed analysis of gender requirements for the projects can be done which has been depicted in Chapter 06 of this ESSF.

175. Project proponent will maintain labor relations with local communities through a code of conduct. The code of conduct will commit all persons engaged by the project proponent to acceptable standards of behavior to avoid any gender based discriminatory activities as well as harassment. The code of conduct shall include sanctions for non-compliance, including non-compliance with specific policies related to gender-based violence, sexual exploitation and harassment etc.

5.4. Climate Risk Management

176. Climate Risk Management is the process by which climate threats are assessed, addressed and managed adaptively. Climate risks are potential negative effects due to changing climatic conditions on programs or operations. Climate Risk Management's goal is to work in a more climate resilient (i.e., better able to anticipate, prepare and adapt to changing climatic conditions and resist, respond and recover quickly from disruptions) and avoid maladaptation (i.e., development efforts that inadvertently increase climate risks).

177. Bangladesh is extremely vulnerable to natural disasters like cyclones, storm surges, tidal floods, river erosion and salinity intrusion. Due to increasing impacts of climate change, the risk and vulnerability of the country is increasing rapidly. These impacts eventually have adverse effects on the socio-economic systems of the vulnerable areas because of the strong reliance of coastal livelihoods on ecosystem services.

178. Climate change is predicted to raise sea level by around 30 centimeters by 2050 and could make an additional 14 percent of the country extremely vulnerable to floods by 2030[4]. Recent analysis for Bangladesh shows that the temperature will rise in all regions in future in a similar trend with the global pattern. So, it can be estimated that due to climate change temperature might rise in the country in a range of 0.8 to 1.1°C by 2030. Further rise in temperature is expected in the latter half of the century. The rainfall pattern is going to be more variable and erratic in the future. There is an indication that pre monsoon and monsoon rainfall will increase. With two-thirds of Bangladesh's landmass less than 5 meters above sea level and 30 percent of its arable land in coastal areas.

179. Extreme heat, floods, cyclones, sea level rise, salinity intrusion, and increasingly irregular rainfall are expected to negatively affect livestock production and growth, as well as fish species composition, leading to up to 10 percent potential decrease in fish production. Overall, climate change is projected to increase the poverty head count ratio and risk of

[4] **Mahtab, F., 1989. Effect of Climate Change and Sea Level Rise on Bangladesh, (for Expert Group on Climate Change and Sea Level Rise). Commonwealth Secretariat, London, United Kingdom**.

chronic poverty: An estimated 5.3 million poor people are expected to become highly vulnerable to the effects of climate change by 2050.[5]

180. A list of some potential climatic and disaster risks on a project intervention are shown in the table (Table 5.1). The risks may vary on project to project basis depending on the extent of project intervention into the surrounding environment as well as location of the project activities.

Table 5.1: Potential Climatic and Disaster Risks on the Project Interventions

Climatic/Disaster Risk	**Impact**
Increased flood intensity	Flood embankment heights and drains capacity calculated with climate statistics of the last about 10 years may be insufficient to manage future increased flood events.
Sea level rise in coastal areas	Sea level rise and storm surges during monsoon may reduce the slope of the water surface, which may cause higher flood water levels and longer flooding periods due to lower drainage discharges. Flood embankment heights calculated with current climate statistics may be insufficient to retain increase in flood intensities. It will also increase the risk of salinity intrusion in coastal areas.
Prolonged drought conditions/ Water logging	Disturbed rainfall distribution (untimely rainfall, reduced rainfall/ short duration heavy rainfall) and temperature increase may result in imbalanced irrigation water demand and water availability. This may lead to reduced irrigated area and/or crop production or greater dependence on the ground water for irrigation. Excessive rainfall may lead to damage to crops and vegetables by submerging under water for longer periods.
Increased cyclone conditions with higher wind velocities	Increased wind velocities and incidences including cyclonic weather conditions may result in greater damages to crops reducing the yields and productivities unless the cultivated crops are changed to wind resistant high yielding shorter term varieties.
Increased water temperature	The overall effects of climate change on freshwater systems will likely be increased water temperatures, decreased dissolved oxygen levels, and increased toxicity of pollutants that may directly affect the fisheries in both capture and natural systems.

181. Mitigation measures to overcome the above-mentioned impacts may include:

[5]**Bangladesh Climate-Smart Agriculture Investment Plan, World Bank (2019).**

- Raising awareness for climate change and risks among project proponents.
- The establishment and improving the management capacity and increased technical support to communities will help better manage the flood control infrastructure to cope with increase flood intensity and drought conditions.
- Increased water management efficiency will help reduced vulnerability to climate change impacts such as droughts and salinity intrusion.
- Promoting resilience building and adaptation strategies (e.g., through capacity building, climate-resilient infrastructure and climate-smart agriculture practices and livelihood improvement activities, diversification toward non-farm economic activities where agriculture is not viable anymore).
- The ecosystem approaches to fisheries and ecosystem approaches to aquaculture should be adopted to reduce the vulnerability of capture fisheries that will be established for promoting fisheries that will improve food security and protein supply to aquatic resource dependent communities.

5.5. Community Health and Safety Management

182. Poorly managed project interventions may lead to the proliferation of harmful contents on surrounding air and water resources resulting health hazard for the community people as well as hampering biodiversity. Similarly, safety issues of workers, beneficiaries, and trespassers need to be addressed during the construction and operational periods of a project.

183. Typically, health and safety measures primarily extend to the workers engaged at construction site and also nearby communities. There are two components of health and safety management, one is the physical safety of project communities who are exposed to the project activities during construction and operation, including risks of accidents and risks of violence due to increase in crimes and cultural conflict between locals and migrant population. The other pertains to the exposure and/or increased risks of diseases by the community due to influx of people during construction and operation stages of the project implementation and due to the changes in the project area, including pollution and ecological change. Proper proponent shall maintain proper community health and safety arrangements. A register of incidents can also be maintained for keeping the proper track of any community health and safety incidents.

5.6. Traffic Management

184. Traffic management is necessary to properly manage and reduce hurdles by surrounding community residents as a result of new project activities. Disturbance to existing road users through increase in road traffic occurs due to transportation of personnel and use of road

network. Avoiding peak hours for heavy vehicles movement, restricting speed limit within access road in less than 20 km/hr, and training and awareness amongst drivers to encourage systematic parking, following traffic rules, preventing unnecessary stoppages and overtaking may reduce the hurdles created by the project activities.

5.7. Project Affected Population and Involuntary Resettlement

185. It is essential to identify the population who will be affected both directly and indirectly by the project activities. Active participation of the project affected persons is essential for ensuring the sustainability. However, based on the evaluation of the project affected population, compensatory measures may need to be designed and implemented.

186. Buying Land – Willing Buyer & Willing Seller: The land necessary for implementation of the project may need to be purchased directly from land owners through "willing-buyer willing-seller" method in case of any private ownership of proposed project site. Project proponent will ensure that the displacement of squatters from public/private lands, disruption or closure of livelihood activities carried out by untitled farmers, sharecroppers, crop loss or damage of any sort is identified properly and addressed in the resettlement plan.

187. Under the willing buyer and willing seller norm, the price needs to be at least equal to the prevailing and actual market price in the area, (not that which is available at the DC's office, as these are often registered at rates far below actual market rates).

188. Impacts on livelihoods and employment: Construction of new facilities or projects may have impacts on the livelihoods or employment of individual residents living in the area. A provision of alternative livelihood or employment (either with the same project or elsewhere) will be one of the objectives to be maintained by project proponent in such cases.

5.8. Ethnic Minorities/Indigenous Peoples and Vulnerable and Excluded Social Groups

189. The project coverage areas may include considerable number of people belonging to different Ethnic Minorities/Indigenous Peoples. These projects may have adverse impacts on small and vulnerable indigenous population groups. These impacts may be loss of livelihood, price changes, or adverse changes in social and physical environments. The Ethnic Minority Development Plan/ Indigenous People Plan (EMDP/IPP) involves adopting socio-culturally acceptable measures and sometimes special measures to avoid or minimize adverse impacts on the communities, participation of the Ethnic Minority/Indigenous People into the project beneficiaries and ensuring proper compensation measures taken due to the adverse impacts on the lives of the Ethnic Minorities/Indigenous Peoples.

190. The Ethnic Minority Development Plan/ Indigenous People Plan (EMDP/IPP) should be prepared where the Ethnic Minority/Indigenous People and vulnerable population is affected through displacement of residents or affecting the livelihood. Therefore, the preparation of

EMDP/IPP also aims to design a comprehensive process of inclusive socio-economic development, and cultural integrity of the Ethnic Minorities/Indigenous Peoples. Moreover, the preparation needs to adopt culturally and socially compatible economic benefit for the Ethnic Minorities/Indigenous Peoples. The preparation of EMDP/IPP will consider ethnic and demographic characteristics of the affected community, prevailing institutions, e.g., family, religion, language, education, social stigma, and plan to accommodate local tradition of leadership ideas, gender issues, civil society and NGOs participations. The points also include impacts of pre-existing formal and informal institutions and incorporation of active consultation and communication of the Ethnic Minorities/Indigenous Peoples to achieve their participation and agreement on the project inputs and mitigation plan.

5.9. Cultural/Historical Sites

191. Cultural and historic sites (temples, shrines, religious sites, festival sites, caves, graveyards, forts, palaces, etc.) may be threatened by a project activities and associated works (such as extraction of construction materials, etc.). So, cultural/historical sites should remain safe from the project implementation works.

In Bangladesh, traditional practices in using natural resources are interlinked with numerous festivals, rituals, and group activities. This linkage has created a fabric of cultural norms and social values. Thus, an assessment in this regard is also essential to determine possible consequences of a proposed project interventions.

5.10. Stakeholder Consultation and Information Disclosure

5.10.1. Stakeholder Consultation and Discussion

192. Stakeholder consultation is an important part for designing and implementing any project. Meaningful consultation is a process that ensures the following,

(a) Begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle;

(b) Provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people;

(c) Undertaken in an atmosphere free of intimidation or coercion;

(d) Gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and

(e) Enables the incorporation of all relevant views of affected people and other stakeholders into decision makings, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

193. Objectives of stakeholder consultation are,

- To keep stakeholders informed about the projects at different stages of implementation

- To address the environmental and social concerns/impacts and device necessary mitigation measures taking into account the opinions and suggestions of the stakeholders
- To generate and document broad community support for the projects
- To improve communications among interested parties
- To establish formal complaint submittal/resolution mechanisms

194. Stakeholder Identification and Analysis: Stakeholders are people, groups or institutions which are likely to be impacted either negatively/positively by the proposed project interventions or those who can influence the outcome of the project. Through stakeholder mapping, relevant project stakeholders/groups of stakeholders are identified, key stakeholder issues and concerns are characterized and appropriate level of engagement for each stakeholder/ stakeholder groups are determined.

Methodology of Consultation:

195. Green-field projects: For a green-field project (projects that initiate from early construction stage), public consultation shall be conducted at the scoping stage of the environmental and social assessment process to identify environmental impacts of the project as well as before appraisal and after preparation of the draft ESIA/ESA/IEE before receipt of Site Clearance Certificate from DOE (as appliable).

196. Brown-field projects: For brown-field (projects that are in advanced/operational stage) projects that are sensitive, public consultations shall be carried out during the implementation of ESMP and the conclusions and recommendations should be incorporated into a revised ESMP.

197. Consultation for Involuntary Resettlement: For all new projects, the project proponent will conduct meaningful consultation with affected persons, their host communities, and civil society for the project and subprojects having involuntary resettlement impacts. In the process of consultation, the project proponent or specific consultants who are conducting the consultation process should follow qualitative methods (FGDs, KIIs, and observation) while carrying out other methods.

198. The consultation will be carried out in a manner commensurate with the impacts on affected communities. The project proponent will pay particular attention to the need of disadvantaged or vulnerable groups, especially those below the poverty line, the landless, the elderly, female headed households, women and children, Ethnic Minorities/Indigenous Peoples, and those without legal title to land.

199. Consultations with Ethnic Minorities/Indigenous Peoples: The project proponent will have to prepare an Ethnic Minority Development Plan/ Indigenous Peoples Plan (EMDP/IPP) in the context of the ESIA/ESA/IEE and through meaningful consultation with the affected Ethnic

Minorities/Indigenous Peoples if required. The EMDP/IPP will set out the measures whereby the project proponent will ensure that affected Ethnic Minorities/Indigenous Peoples receive culturally appropriate social and economic benefits; and when potential adverse impacts on Ethnic Minorities/Indigenous Peoples are identified, these will be avoided to the maximum extent possible. Where this avoidance is proven to be impossible, based on meaningful consultation with Ethnic Minorities/Indigenous Peoples, the EMDP/IPP will outline measures to minimize, mitigate, and compensate for the adverse impacts.

200. In the process of consultation, the project proponent or specific consultants who are conducting the consultation process should follow qualitative methods (FGDs and observation) while carrying out other methods. Public consultation may be combined if found relevant and more effective for environmental assessment as well as involuntary resettlement, especially when there are interlinkages between E&S issues.

201. Community participation: To achieve meaningful participation, it is necessary that project documents describe in detail the mechanisms for project affected persons and potentially vulnerable Ethnic Minorities/Indigenous Peoples to participate during project design and implementation. The participation of adversely affected groups will be useful in determining compensation and/or resettlement options and in assessing alternative livelihoods.

5.10.2. Information Disclosure

202. In case of all green-field as well as brown-field projects that do not have ESIA/ESA/IEE and ESMP acceptable to IDCOL, IDCOL will submit the following documents to development partners based on their requirements:

(a) Draft ESIA/ESA/IEE including ESMP (if required)
(b) The final ESIA/ESA/IEE (if required)
(c) Draft RP/EMDP/IPP/GAP (if required)
(d) The final RP/EMDP/IPP/GAP (if required)
(e) The E&S monitoring reports monitoring reports (as per requirement) generated periodically during monitoring of the project in different phases of the project

203. For brown-field projects that have an ESIA/ESA/IEE and ESMP acceptable to IDCOL, IDCOL will submit the following documents to development partners based on their requirements:

(a) ESDD report (if required)
(b) CAP prepared during project implementation, if any (if required)
(c) A draft RP/EMDP/IPP/GAP (if required)
(d) The final RP/EMDP/IPP/GAP (if required)
(e) The E&S monitoring reports monitoring reports (as per requirement) generated periodically during monitoring of the project in different phases of the project

204. Disclosure Platform and Medium: The above-mentioned documents will be posted on the website of IDCOL as well as that of the project proponent if the project proponent has a website. The project proponent will provide relevant resettlement information, including information from the above-mentioned documents in a timely manner, in an accessible place and in a form and language(s) understandable to affected persons and other stakeholders. All documents disclosed on development partners' website shall also be disclosed on IDCOL's website where a page shall be dedicated for disclosure of the ESSF as well.

5.11. Institutional Arrangement

205. The project proponent must develop a management unit for overviewing and implementing the ESMP as well as EHS measures in both construction and operation phase. The overview of responsible staff and oversight mechanisms will have to be described in further detail in the ESMP. Project Management Unit (PMU) of project proponent headed by the Managing Director (MD) will bear the overall responsibility to oversee all aspects of the implementation ESMP.

CHAPTER 06: GENDER MANAGEMENT

206. This section of the ESSF makes provisions for addressing the different gender impacts of projects by making provisions for gender issues and mainstreaming gender considerations into project operations. The information mentioned in this chapter will only be applicable if required by the project. The gender requirements will vary project to project basis and the requirement is determined and addressed by the following procedures (if required):

a) Including gender checks in the social screening checklists for the Initial Poverty & Social Analysis (IPSA) to assess gender requirements and assign gender categories to them, depending upon potential gender impacts. This also provides a guideline on what triggers the requirement of Gender Action Plan (GAP).
b) Mandating that data collection for each assessment for the project must be gender disaggregated.
c) Providing guidelines for including gender components in Screening & the Initial Poverty and Social Analysis, Social Impact Assessment, Consultation, Resettlement Plan, Ethnic Minority Development Plan/Indigenous Peoples Plan, Project Design and Implementation, Grievance Redress Mechanism, and Monitoring and Evaluation.

6.1. Gender Categorization

207. There are three gender categories with specific defining criteria that will direct the projects to necessary gender-based requirements. The gender categorization will be assigned through gender part of the Involuntary Resettlement Screening Checklist and Ethnic Minority/Indigenous People Screening Checklist for each project. A total of four gender checks for each social screening checklist needs to be conducted. based on the screening checks, projects should be assigned to the following gender categories:

Category I: When the proposed project has the potential to promote gender equality and improve outcomes for women by reducing gender disparities.

Category II: When the proposed project has significant potential to adversely affect women, involves involuntary resettlement and/or involves Ethnic Minority/Indigenous People.

Category III: When the project has no differential gender impacts or no gender elements.

Table 6.1: Summary of Gender Categories and Criteria

Gender category	Definition/Criteria	Requirements
Category – I	When the proposed project has the potential to promote gender equality and improve outcomes for	Apart from Screening checks during the IPSA, Category I projects require: (a) Gender components in Social Impact assessment, Consultation, Resettlement Plan, Ethnic Minority Development Plan/Indigenous Peoples Plan,

	women by reducing gender disparities.	Project Design and Implementation, Grievance Redressal Mechanism, and Monitoring and Evaluation (whichever of these documents are applicable for a project), and that all project related data be sex disaggregated. (b) Gender components be operationalized in project operations. This can take the form of a Gender Action Framework (an illustrative Gender Action Framework is attached in the Annex 13). (c) Gender Action Plan (GAP) that mainstreams Gender by setting Gender targets and outputs to correspond to each project output and outcome.
Category – II	When the proposed project has significant potential to adversely affect women, involves involuntary resettlement and/or involves Ethnic Minority/Indigenous People.	Apart from Screening checks during the IPSA, Category II require: (a) Gender components in Social Impact assessment, Consultation, Resettlement Plan, Ethnic Minority Development Plan/Indigenous Peoples Plan, Project Design and Implementation, Grievance Redressal Mechanism, and Monitoring and Evaluation (whichever of these documents are applicable for a project) and that all project related data be sex disaggregated. (b) Gender components be operationalized in project operations. This can take the form of a Gender Action Framework (an illustrative Gender Action Framework is attached in the Annex 13).
Category – III	When the project has no differential gender impacts or no gender elements.	Apart from Screening checks during the IPSA, No action required. However, important to mention that these projects should not have components of involuntary resettlement or Ethnic Minority/Indigenous People concerns.

6.2. Addressing Gender Issues in Different Stages of Environmental and Social Safeguard Process

208. Preliminary Project Appraisal Stage: through gender check part of the Involuntary Resettlement Screening Checklist and Ethnic Minority/Indigenous People Screening Checklist the project is categorized in one of three gender categories.

209. Detailed Project Report/Appraisal Stage: In ESIA/ESA/IEE, (if applicable for a project), data collected at baseline and thereafter, should be gender disaggregated and include a gender analysis. The gender-disaggregated data must be collected in a manner that informs gender targets, project design and monitoring, and evaluates the necessity of Gender Action Plan if required. The analysis should assess project impacts that are both adverse and positive. It may include the assessment of Men's and women's differential needs for any project interventions; cultural, social, legal, economic, and other constraints on women's involvement in project design and participation in project activates and possible strategies to address these constraints; direct benefits to women; gender risks associated with labour influx, and risks of gender-based violence (GBV) and sexual exploitation and abuse (SEA), etc. due to the project.

210. Public Consultations should be gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups. Thus, (a) both men and women should be consulted and involved in project design, (b) women groups should be consulted separately if possible and the consultations should be led by women, (c) consultations should be held at a time and place safely and easily accessible to the women.

211. In the ESMP (if applicable for a project), special attention shall be given to ensure that women's safety and women's safe access to livelihood opportunities is not compromised due to relocation and appropriate rehabilitation and restoration is provided with respect to community access resources on which women are particularly dependent. A system to capture gender-based violence, sexual exploitation and harassment in workplace related complaints/issues shall be developed and incorporated in the ESMP. When the resettlement plan (RP) becomes applicable for a project, the RP shall include (a) an assessment of customary rights and land use, (b) separate or joint compensation payments, (c) joint land/housing titles, (d) separate rehabilitation and livelihood restoration, (e) special assistance for women household heads/single women households or elderly females during relocation. If Ethnic Minority Development Plan/ Indigenous People Plan (EMDP/IPP) becomes applicable for a project, it shall ensure that the ESIA/ESA/IEE is undertaken in a culturally appropriate and gender-sensitive manner and consider options preferred by indigenous people and women.

212. Project Design and Implementation: Project Design shall integrate the results of the gender analysis and define gender related indicators and targets for performance monitoring and make budget allocations for gender-related activities. In the construction and operations phase, separate facilities (e.g. washrooms) and childcare shall be provided for women, wage rates should be equal, measures against SEA, GBV, and women should be included in awareness, training and capacity development activities, etc. Workers' health and safety in form of maternity leave and benefits, childcare facilities, and limited working hours shall be ensured.

213. Grievance Redress and Monitoring and Evaluation Stage: The Grievance Redress Mechanism (GRM) shall be understandable to women regardless of literacy, safely accessible to women at no costs and without retribution, transparent, and culturally appropriate. Gender components shall be included in all the monitoring documents (progress reports, monitoring report, audit report, E&S performance report, and final evaluation reports). Monitoring and evaluation should involve gender-related targets and indicators defined at project design stage to measure progress, gender-disaggregated data during implementation and involve both men and women in monitoring and evaluation.

6.3. Gender Action Plan

214. In addition to the above measures, a gender category I project require a Gender Action Plan (GAP). A GAP should be an easy to follow template increases women's participation in project activities, ensures more equitable access to project and program resources, improve practical benefits for women, such as increases income, and thus progress towards gender equality. A generic table of contents (TOC) for the GAP is given in **Annex 13**. The indicators/targets should be included from the project design, implementation, and monitoring/evaluation stages and requires the engagement of a consultation with significant gender-related experience.

215. The GAP will assess the adverse impacts to gender, in the case of physical dislocation of any women headed household who are vulnerable and their resettlement requirement, scope of giving other benefits to women like scope of involvement of women in planning, design, working as labourer, supervisor and contractor, participating in the implementation monitoring committee etc. are to be spelt out in detail which to be followed at the field level. The action plan will focus on some corresponding mitigation measures - sensitizing the communities and other stakeholders, strengthening the implementing capacities, etc.

CHAPTER 07: MONITORING AND REPORTING FRAMEWORK

216. IDCOL has multi-level dimension of monitoring procedure for its investment activities. It monitors both project level activities as well as projects undertaken by the sponsors and investment activities in portfolio level. IDCOL monitors the sponsors activities, project implementation, operation and decommissioning through periodic reporting and discloses the requirements to regulatory authorities and development partners.

217. The environmental impacts or issues which need to be monitored are air quality, surface water quality, ground water quality, noise quality, contamination of soil, impact on eco-system, climate risk, waste generation and management from construction activities, wastewater generation and management, hazardous material and oil spillage. The social impacts or issues which need to be monitored are impact on indigenous people, change in land use, physical displacement of homestead resources, economic displacement, involuntary resettlement, local economic benefit, impact on traffic, community health and safety, gender based violence, Grievance Redress Mechanism (GRM), stakeholder consultation and CSR activities. Under occupational health and safety, issues like labor and working conditions, protective equipment arrangements, firefighting arrangements, first aid arrangements, trainings and injuries/accidents need to be monitored. These lists of impacts are not exhaustive, and the measurement method, location and frequency of monitoring will vary based on the requirements of project impacts as well as the requirement of development partners. For ensuring proper health and safety, IDCOL will collect information regarding incidents through maintaining an incident register given in **Annex 27**.

218. IDCOL will periodically monitor the ESMP implementation in construction, operation and decommissioning (if required) phase of each project. All IDCOL projects will need periodic monitoring by the project proponent's E&S compliance officer who will engage and assess the environment and social safeguards compliances and other relevant compliances as required by ESSF. The frequency of monitoring of the projects depends on the potential impacts carried by the project activities. IDCOL will report the monitoring results to corresponding stakeholders through various mode of communication. If any noncompliance is found during periodic monitoring, it will be communicated to project proponent for necessary corrective measures. Monitoring frequency may vary due to pandemic/emergency situation.

219. A table showing a generic monitoring and reporting schedule of IDCOL for infrastructure, energy efficiency and PPP projects under different risk category is given in **annex 16**. Environmental, social and health safety assessment in compliance with the approved ESMP of all high-risk projects under construction/operation will be monitored quarterly. Environmental, social and health safety assessment in compliance with the approved ESMP

of all medium risk projects under construction/operation will be monitored quarterly/half-yearly (based on the impact assessment findings). In case of low-risk projects, it will be monitored half-yearly/annually (based on the findings of initial environmental assessment). Assessment of suitability of project and eligibility for financing in respect of basic environmental and social aspects for each project as is to be financed will also be monitored once for each project during appraisal process irrespective of their categories.

220. Projects under IDCOL Renewable Energy activities fall under medium and low-risk category and they differ in monitoring requirements. Sector-wise general overview of monitoring program for renewable energy projects is added in the **annex 16**.

221. Monitoring the EHS compliance of solar rooftop and grid tied solar power project: IDCOL will quarterly monitor the implementation of ESMP and relevant environmental, health and social compliances of at least 2 (two) construction/operational solar rooftop and grid tied (including the transmission line) power projects. But in case of new project, IDCOL will visit the project site and assess the suitability of site in respect of basic environmental and social aspects, which is to be duly submitted to the relevant stakeholders with the attachment of ESA or ESIA report as is to be prepared by the project sponsor.

222. Monitoring the EHS compliance of solar mini-grid project and solar irrigation project: IDCOL will half-yearly monitor the implementation of ESMP and relevant environmental and social compliances of at least 2 (two) construction/operational solar mini-grid projects. IDCOL will quarterly monitor environmental and social compliances of at least 3 (three) operational solar irrigation projects. But in case of new projects, the respective official of IDCOL will visit the project site and assess the suitability of site in respect of basic environmental and social aspects, which is to be duly submitted to the relevant stakeholders with the relevant attachments as is to be prepared by the project sponsor.

223. Monitoring of land purchase: IDCOL will regularly monitor the land purchase processes and application of screening mechanism to rule out any displacement. In this regard, the respective official of IDCOL will visit the project site in case of solar irrigation and mini-grid and will have focus group discussion with male and female group, in case of necessity. In addition, he needs to have consultation with the representatives of civil society, relevant local government authority to ensure that here is no dispute with land, gender impact and valuation issue.

224. Monitoring of commercial bio-gas project: IDCOL will half-yearly monitor the implementation of ESMP and relevant environmental and social compliances of construction/operational commercial bio-gas projects. But in case of new commercial bio-gas project (where biogas is used from cooking purpose), IDCOL will visit and assess the suitability of the site in respect of environmental and social safeguards.

225. Monitoring of biogas and biomass-based power project: IDCOL will half-yearly monitor the implementation of ESMP and relevant environmental and social compliances of at least 2 (two) construction/operational biogas and biomass-based power projects. But in case of new biogas and biomass-based power projects, IDCOL will visit and assess the suitability of the site in respect of environmental and social safeguards.

226. In case of monitoring of ICS manufacturing plant, IDCOL will quarterly monitor at least two operational ICS manufacturing plants to assess the basic environmental and health safety compliances.

227. For ensuring different project's compliance with IDCOL ESSF requirements, periodic audit of random projects will be conducted by a third-party environment and social auditor.

CHAPTER 08: INSTITUTIONAL ARRANGEMENT FOR SAFEGUARD COMPLIANCE AND CAPACITY BUILDING

228. The institutional arrangement for safeguard compliance and capacity building will be based on the requirements of Bangladesh Bank's ESRM guideline 2022, different national and international regulations and requirements of different development partners.

229. IDCOL has carried out several programs and projects which complied with the laws and regulations of the country as well as with requirements of several development partners. Those experience helped IDCOL to develop adequate expertise to meet different safeguard requirements. IDCOL management is committed towards environmental and social safeguards. IDCOL has a well-defined organizational structure and system in place that ensures that the relevant environmental and social safeguard guidelines are duly complied with. IDCOL has separate independent Environment and Social Safeguard Unit (ESSU) in both Investment and Renewable Energy Department to institutionalize the environmental and social management is in its operation.

230. The ESSU work on three core principles, which are: (1) developing general awareness among the stakeholders about the ESSF, its goals and actions needed to implement the ESSF; (2) communicating importance of the ESSF at all levels of the company; and (3) establishing effective monitoring and review of the ESSF so that it remains up to date.
Major responsibilities of IDCOL's ESSF team are described in the table 8.1 below:

Table 8.1: Responsibilities of ESSF at Different Levels of IDCOL

Position/Designation	Responsibilities
Management Committee	• Assigning a specific ESSF management representative with sufficient authority, awareness, competence and resources to oversee the ESSF responsibilities • Providing a structured approach for the environmental and social considerations • Supporting and promoting improvement of ESSF and • Participating in ESSF review meetings

ESSU	• Leading and implementing ESSF • Defining, documenting and communicating ESSF roles and responsibilities with the respective clients • Keeping management informed about the activities of ESSF implementation • Ensuring actions of feedbacks

231. IDCOL's ESSF will also be reviewed based on the experience gained and considering further changes in national and development partners' environment and social safeguard requirements (if any) and updated when required. IDCOL's ESSF will also be maintained on its website.

232. IDCOL's ESSU may require further capacity development training or workshop to have better understanding of the ESSF compliance requirements. The respective training plans as well as the required E&S skills and qualification necessary for the staff within the ESSU will be further detailed in IDCOL's internal Human Resources (HR) Manual.

CHAPTER 09 : ENVIRONMENTAL AND SOCIAL GRIEVANCE REDRESS MECHANISM

233. For the projects, the project proponent will establish a grievance redress mechanism (GRM) for addressing grievances and complaints received from the project affected persons due to environmental and social issues. Grievance redress mechanism (GRM) is a valuable tool which will allows affected people to voice concerns regarding environmental and social impacts for project's activities. The project proponent will ensure that grievance redress procedures are in place and would monitor those procedures to ensure that grievances are handled properly. The project proponent will establish a procedure to answer queries and address complaints, disputes, and grievances about any aspect of the project activities, including disagreements regarding the assessment and mitigation of environmental and social impacts. Details of the institutional arrangements and procedures are discussed in following sections.

9.1. Overview and Scope

234. The project proponent will establish and will follow a grievance redress mechanism (GRM) for answering queries, receiving suggestions and addressing complaints and grievances likely to raise in the project cycle. The GRM spans the entire implementation period and will cater to both the beneficiary communities and the directly and indirectly affected population including the staff, beneficiaries and other stakeholders.

9.2. Objectives of Grievance Redress Mechanism

235. The overall objective of the GRM is to provide a robust system of procedures and processes that provides for transparent and rapid resolution of concerns and complaints identified at the local level. The GRM will be accessible to diverse members of the community, including women, senior citizens and other vulnerable groups. Culturally appropriate communication mechanisms will be used at all project sites both to spread awareness regarding the GRM process as well as complaints management. Where project intervention areas cover beneficiaries from the ethnic minorities/indigenous peoples, project GRM will integrate traditional grievance management system available with the ethnic minorities/indigenous peoples.

236. In any working environment, both employers and employees need to be fully conversant with all aspects of disciplinary processes, the grievance handling procedures and the legal requirements and rights involved. In implementing an effective dispute management system consideration can be given to the disputes resulting from the following:

1. Disciplinary action
2. Individual grievances
3. Collective grievances and negotiation of collective grievances

4. Gender-based violence, sexual exploitation and harassment in workplace

9.2.1. Disciplinary Procedure

237. This is the starting point for all disciplinary action rules. These rules may be implied or explicit and of course, will vary from workplace to workplace. Some rules are implied in the contract of employment (e.g., rule against stealing from the employer), however, even implied rules should be included in the disciplinary code or schedule of offences. In an organized workplace these rules ideally are negotiated with the trade union and are often included in the Recognition Agreements signed by the employer and the trade union. These workplace rules must be:

a. Valid or reasonable.
b. Clear and unambiguous.
c. The employee is aware, or could reasonably be aware of the rule or standard; and
d. The procedure to be applied in the event the employee contravenes any of these rules

238. The project proponent will establish a fair and effective disciplinary procedure in the workplace, which should be fair and just. If an employee is dismissed, it must be given the reasons for dismissal and the right to refer the dispute concerning the fairness of the dismissal. Therefore, it is incumbent upon the employer to ensure that they have a disciplinary procedure and code and standards which the employees are aware of. Employer will maintain this procedure to ensure that employees are not treated unfairly.

9.2.2. Individual Grievance Procedure

239. Every employer has to have a formal grievance procedure which should be known and explained to the employee. It is recommended that such procedure should at least:

- Specify to whom the employee should lodge the grievance.
- Specific time frames to allow the grievance to be dealt with expeditiously.
- Allow the person to refer the grievance to a more senior level within the organization if it is not resolved at the lowest level.

9.2.3. Collective Grievances and Disputes resulting from the negotiations of Collective Agreements

240. Where a trade union is recognized, it is entitled to negotiate regularly with the employer over terms and conditions existing at the workplace and the employer is obliged to negotiate with it. The procedures followed in such instances is usually contained in the agreement, which states how the issues are raised, the procedure for negotiations, the composition of the parties involved in the negotiation and the procedure to deal issues that are not resolved through consensus. In the type of disputes, if the dispute is not resolved at the workplace,

the parties to the dispute can utilize the dispute resolutions mechanisms provided for in the labor legislation.

9.2.4. Gender-based Violence, Sexual Exploitation and Harassment in Workplace

241. Grievances related to gender-based violence will be reported. The nature of the complaint will be recorded along with the age of the complainant and his relation to the project. Also, the ESIA may identify additional mitigation measures related to gender and such measures will be reflected in site-specific ESMPs, including the contractors ESMP or contractors specific Labor Management Plans, where required. This will include engagement with communities on gender-related risks, grievance and response measures available.

9.3. Communication & Awareness raising on GRM

242. The final processes and procedures for the GRM will be translated into local language (i.e., Bangla) and disseminated at all project locations. These shall be made available to all project locations with the staff on site and in the offices. The affected persons and their communities will be informed of the project's grievance mechanism in open meetings at important locations and in the Project Affected Person (PAP) group meetings. The PAPs will also be briefed on the scope of the GRC, the procedure for lodging grievances cases and the procedure of grievance resolution.

9.4. Grievance Redress Committees

243. The project proponent shall constitute a Grievance Redress Committee (GRC) (where applicable). The existence of the GRC will be disseminated to the affected persons through printed handouts providing details of the structure and process in redressing grievances. The GRC will address different internal and external grievances throughout project life cycle.

Scope of GRC

244. The GRCs will receive and redress all complaints and grievance that relate to the project that are formally brought to the GRCs in writing only by the person and group of persons who have a grievance because of the project's adverse impact on him/her and them. The complaints/grievance could relate, among others, to:

- Access to project benefits such as financial assistance;
- Various adverse environmental impacts on the local community or other stakeholders;
- Selection of site for rural infrastructure and other facilities;
- Selection of sites for livelihoods;
- Payment of price for land purchase;
- Any other grievance.

245. The GRCs will record the details of the complaints and their resolution in a register, including intake details, resolution process and the closing procedures. Grievance resolution will be a continuous process in project activities and implementation of those projects. The GRC will keep records of all resolved and unresolved complaints and grievances (one file for each case record) and make them available for review as and when asked and any other interested persons/entities. The GRC also prepare periodic reports on the grievance resolution process and submit these to IDCOL.

246. If the GRC receives a case on sexual exploitation and abuse related to the project, it will be recorded, and the complainant will be referred to the relevant assistance, if needed, for referral to any other service providers. The supervision consultant will keep the information confidential to protect privacy of GBV and SEA complainants. In cases, where the perpetrator(s) is linked to project activities then the contractor will take appropriate actions as per the Code of Conduct signed by the particular person and under the effective law in Bangladesh. Project will report activities and outcomes of GBV and SEA surveillance and management to the World Bank on a regular basis. The project proponent will address issues through GRC to receive and facilitate the resolution of affected persons' concerns and grievances about physical and economic displacement and other project impacts, paying particular attention to the impacts on vulnerable groups. The GRC should be scaled to the risks and adverse impacts of the project.

247. The project proponent will document all complaints received, the action taken on each of them and send a report of the same to the ESSU which shall also be communicated to the development partners (if necessary) in the monitoring reports. IDCOL will also have a grievance redress mechanism, through which project stakeholders can directly communicate their grievances to IDCOL through verbal/written means and consequently IDCOL shall facilitate resolution of the received grievances.

Annexure

Annex 1: Environmental and Social Regulatory Framework

National Environmental Policy, 1992[6]

The Bangladesh National Environment Policy, approved in May 1992, sets out the basic framework for environmental action together with a set of broad sectoral action guidelines. National Environment Policy 2018 was published adding a few more elements in the 1992's policy. Additional elements include:

- Air pollution control
- Hill ecosystem
- Ecotourism
- Climate change preparedness and adaptation
- Disaster management
- Management of chemical substance
- Other pollution control
- Environment Friendly Economic Development, Sustainable Production and Consumption

Focus of this policy are as follows:

- Ensure sustainable development by reducing dependency on natural resources
- Consideration of environmental risk and impact while collecting natural resources
- Ensure moderate use of water, land, natural gas and other natural resources during all production processes
- Promoting sustainable usage of renewable energy
- Collection of compensation from responsible person/institution for environmental pollution through Polluter's Pay Principle
- Prioritizing preventive measure than curative measure
- Implementing 3R principle: Reduce, Reuse, Recycle
- Institutional and regulatory capacity building of government and private organizations to implement environmental laws and policies
- Promoting economic development for sustainable environment

[6] **http://www.moef.gov.bd/site/page/1c05e31e-1bb0-46ce-95a3-6ee3c82b439f/Environment-Laws-&-Acts**

National Conservation Strategy, 1992

National Conservation Strategy (GOB/IUCN, 1992) was drafted in late 1991 and submitted to the Government in early 1992. For sustainable development in industrial sector, the report offered various recommendations; some of those are as follows:

- Industries based on nonrenewable resources should be made to adopt technology which conserves raw materials, and existing industries should be given incentives to install technical fixes to reduce wastage rate.
- All industries, especially those based on imported raw materials, should be subjected to EIA and adoption of pollution prevention/control technologies should be enforced.
- No hazardous or toxic materials/wastes should be imported for use as raw material.
- Import of appropriate and environmentally sound technology should be ensured.
- Complete dependence on imported technology and machinery for industrial development should gradually be reduced, so that industrial development is sustainable with local skills and resources.

Bangladesh National Conservation Strategy (2016-2031)[7] was also prepared in 2016 focusing on creating a conducive policy environment and strategy for conservation, development and enhancement of natural resources in the country.

National Environmental Management Action Plan (NEMAP), 1995[8]

National Environmental Management Action Plan, also referred to as NEMAP (GOB, 1995) is a wide-ranging and multi-faceted plan, which builds on and extends the statements set out in the National Environmental Policy. NEMAP was developed to address issues and management requirements during the period 1995 to 2005 and sets out the framework within which the recommendations of the National Conservation Strategy are to be implemented. NEMAP has the broad objectives of:

- Identification of key environmental issues affecting Bangladesh;
- Identification of actions necessary to halt or reduce the rate of environmental degradation;
- Improvement of the natural and built environment;
- Conservation of habitats and biodiversity;
- Promotion of sustainable development;
- Improvement in the quality of life of the people.

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[7] **http://bforest.portal.gov.bd/sites/default/files/files/bforest.portal.gov.bd/notices/c3379d22_ee62_4dec_9e29_75171074d885/Executive%20Summary(NCS).pdf**

[8] **https://documents.worldbank.org/en/publication/documents-reports/documentdetail/329001468741610744/bangladesh-national-environment-management-action-plan-nemap**

One of the key elements of NEMAP is that sectoral environmental concerns are identified. In outline, the environmental issues of the industrial sector include the following:

- Pollution arising from various industrial processes and plants throughout the country causing varying degrees of degradation of the receiving environment (Air, Water, and Land).
- There is a general absence of pollution abatement in terms of waste minimization and treatment.
- Low level of environmental awareness amongst industrialists and entrepreneurs.
- Lack of technology, appropriate to efficient use of resources and waste minimization leading to unnecessary pollution loading in the environment.
- Economic constraints on pollution abatement and waste minimization such as the cost of new technology, the competitiveness of labor, and intensive production methods as compared to more modern methods.
- Concentration of industry and hence pollution in specific areas which exacerbate localized environmental degradation and exceed the carrying capacity of the receiving bodies.
- Unplanned industrial development has resulted in several industries located within or close to residential areas, which adversely affects human health and quality of human environment.
- Establishment of industries at the cost of good agricultural lands and in the residential areas.
- Lack of incentives to industrialists to incorporate emission/discharge treatment plant in their industries.

Bangladesh Environment Conservation Act (ECA), 1995[9]

In order to expand the scope of environmental management and to strengthen the powers for achieving it, the Government issued the Environmental Pollution Control Ordinance in 1977. The ordinance provided for the establishment of an Environmental Pollution Control Board, which was charged with formulating policies and proposing measures for their implementation. In 1982, the board was renamed as Department of Environmental Pollution Control (DEPC). A special presidential order again renamed the DEPC to the Department of Environment (DOE) and placed under newly formed ministry of Environment, Forest and Climate Change (MoEF) in 1989. The national environmental legislation known as Environmental Conservation Act, 1995 (ECA'95) is currently the main legislative document relating to environmental protection in Bangladesh, which repealed the earlier environment

[9] **The Bangladesh Environment Conservation Act, (1995), Department of Environment, Ministry of Environment, Forest and Climate Change**

pollution control ordinance of 1977 and has been promulgated in 1995. The main objectives of ECA'95 are:

- Conservation and improvement of environment, and
- Control and mitigation of pollution of environment.

The main strategies of the act can be summarized as:

- Declaration of ecologically critical areas, and restriction on the operation and process, which can be carried out or cannot be initiated in the ecologically critical areas.
- Regulation in respect of vehicles emitting smoke harmful for the environment.
- Environmental clearance.
- Regulation of the industries and other development activities - discharge permit.
- Promulgation of standards for quality of air, water, noise and soil for different areas for different purposes.
- Promulgation of standard limit for discharging and emitting waste.
- Formulation and declaration of environmental guidelines.

Department of Environment (DOE) is implementing the Act. DOE is under the ministry of Environment and Forest and is headed by a Director General (DG). The DG has complete control over the DOE. The power of DG, as given in the Act, may be outlined as follows:

- The DG has the power to close down the activities considered harmful to human life or the environment. The operator does have the right to appeal and procedures are in place for this. However, if the incident is considered an emergency, there is no opportunity for appeal.
- The DG has the power to declare an area affected by pollution as an ecologically critical area. DOE governs the type of work or process, which can take place in such an area.
- Before going for any new development project, the project proponent must have to take Environmental Clearance from DOE. The procedures to take such clearance are in place.
- Failure to comply with any part of ECA'95 may result in punishment by a maximum of 05 years imprisonment or a maximum fine of Tk. 100,000 or both.

ECA-95 amended in 2010, provided clarification of defining wetlands as well as Ecologically Critical Areas and included many important environmental concerns such as conservation of wetlands, hill cutting, ship breaking, and hazardous waste disposal. This amendment empowered the government to enforce more penalties than before. Moreover, affected persons were given provision for putting objections or taking legal actions against the polluters or any entity creating nuisance to affected person.

The amendment of the act in 2010 introduces new rules and restriction on:

- Ensure proper management of hazardous wastes to prevent environmental pollution and health risk
- No remarked water body cannot be filled up/changed; in case of national interest; it can be done after getting clearance from the respective department; and
- Emitter of any activities/incident will be bound to control emission of environmental pollutants that exceeds the existing emission standards

Environmental Conservation Rules (ECR), 1997[10]

The Environment Conservation Rules, 1997 were issued by the Government of Bangladesh in exercise of the power conferred under the Environment Conservation Act (Section 20), 1995. Under these Rules, the following aspects, among others, are covered:

- Declaration of ecologically critical areas;
- Classification of industries and projects into four categories;
- Procedures for issuing the Environmental Clearance Certificate;
- Determination of environmental standards;

The Rule 3 defines the factors to be considered in declaring an area 'ecologically critical area' (ECA) as per Section 5 of ECA'95. It empowers the Government to declare an area 'ECA', if it is satisfied that the ecosystem of the area has reached or is threatened to reach a critical state or condition due to environmental degradation. The Government is also empowered to specify which of the operations or processes shall be carried out or shall not be initiated in the ecologically critical area. Under this mandate, MOEF has declared Sundarban, Cox's Bazar-Tekhnaf Sea Shore, Saint Martin Island, Sonadia Island, Hakaluki Haor, Tanguar Haor, Marzat Baor and Gulshan-Baridhara Lake as ecologically critical areas and prohibited certain activities in those areas.

ECR'97 (Rule 7) classifies industrial units and projects into four categories depending on environmental impact and location for the purpose of issuance of ECC as are:

- Green
- Orange A
- Orange B, and
- Red

All existing industrial units and projects and proposed industrial units and projects, that are considered to be low polluting are categorized under "Green" and shall be granted Environmental Clearance. For proposed industrial units and projects falling in the Orange- A,

[10] **The Environment Conservation Rules, (1997), Department of Environment, Ministry of Environment, Forest and Climate Change**

Orange- B and Red Categories, firstly a site clearance certificate and thereafter an environmental clearance certificate will be issued. A detailed description of those four categories of industries has been given in Schedule-1 of ECR'97.

Apart from general requirement, for every Orange-B and Red category proposed industrial unit or project; the application must be accompanied with feasibility report on Initial Environmental Examination (IEE), Environmental Impact Assessment (EIA) based on approved TOR by DOE, Environmental Management Plan (EMP) along with lay-out plan (showing location of ETP), time schedule of ETP, etc. The ECR'97 also contains the procedures for obtaining Environmental Clearance Certificates (ECC) from the Department of Environment for different types of proposed units or projects. The Environmental Conservation Rules 1997 (ECR-97) was amended in 2002.

Environment Court Act, 2000[11]

This act provides for the establishment of environment courts whereas it is expedient and necessary for the trial of offences relating to environmental pollution and matters incidental thereto. This was amended in 2010 to consolidate the existing laws in establishing courts and related matters to expedite the trials of environmental crimes.

National Biodiversity Strategy & Action Plan (NBSAP), 2004[12]

NBSAP for Bangladesh, 2004 provides a framework for conservation, sustainable use and sharing the benefits of Biodiversity of the country. A major focus of the NBSAP, 2004 is the need for cross-sectoral linkages, reflecting the fact that in Bangladesh, biodiversity conservation is closely inter-woven with social and economic development. Thus, the NBSAP also provides a framework for securing the necessary environmental conditions to reduce poverty, ensure sustainable development and respond to the implementation of elements of the country's PRSP.

The NBSAP is updated later and NBSAP 2016-2021 is prepared for fulfilling the commitment of Bangladesh towards implementing the three objectives of Convention of Biological Diversity. These three objectives are conservation of biodiversity, the sustainable use of its components and fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

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[11] **http://bdlaws.minlaw.gov.bd/act-1061.html**

[12] **https://www.cbd.int/doc/world/bd/bd-nbsap-v2-en.pdf**

Remote Area Power Supply Systems (RAPSS) Guideline, 2007[13]

The Remote Area Power Supply Systems (RAPSS) guideline of 2007 allows for private sector participation in development, operation, and maintenance of electricity generation system and distribution networks in remote rural areas including isolated islands to supplement GOB efforts at achieving universal access by 2020. However, there has not been much progress in implementing the RAPSS schemes.

Renewable Energy Policy of Bangladesh, 2008[14]

The renewable energy policy of Bangladesh has been approved on December 18, 2008 with the target of developing renewable energy resources. This Policy laid out the target of meeting 5% of total power demand from renewable energy sources by 2015 and 10% by 2020. The policy provides an overall guidance of

- institutional arrangements
- resource, technology and program development
- investment and fiscal incentives
- regulatory policy

The policy promotes appropriate, efficient and environment friendly use of renewable energy. It also suggests that for large biomass electricity projects (i.e., greater than 1 MW) the project developer must demonstrate that the biomass is being sustainably harvested and that no adverse social impact will result from that development. It also restricted the larger scale production and use of bio-fuels which may jeopardize the existing crops.

Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009[15]

The thrust of the strategy is on sustainable development, poverty eradication and increased well-being of all vulnerable groups in the society with special emphasis on gender sensitivity. The climate change action plan is built on six pillars, food security, social protection and health; comprehensive disaster management; infrastructure; research and knowledge management; mitigation and low carbon development; and capacity building and institutional strengthening.

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[13] **berc.portal.gov.bd/sites/default/files/files/berc.portal.gov.bd/policies/0bfbc428_b364_44e8_a5b8_39b9c7d03621/Remote%20Area%20Power%20Supply%20System%20(RAPSS)%20Guidelines.pdf**

[14] **http://www.pd.gov.bd/pdf/REP_English.pdf**

[15] **http://nda.erd.gov.bd/en/c/publication/bangladesh-climate-change-strategy-action-plan-bccsap-2009**

Climate Change Trust Act, 2010 (Act No. 57 of 2010)[16]

This is an Act for establishing a trust to be called the Climate Change Trust for redressing the adverse impact of climate change on Bangladesh and for taking measures on other matters relating thereto. The aims of the trust are

- Making necessary action plan for capacity building for adjustment of the people or groups of people of the affected and risky areas resulting from climate change, upgrading their life and livelihood and facing the long term risk, and to take measures for implementation thereof;
- Taking measures for adaptation, mitigation, technology development and transfer, capacity building and funds for facing adverse effect of climate change on man, biodiversity and the nature.

National 3R Strategy, 2010[17]

"3Rs" is the principle of reducing waste, reusing and recycling resources and products. Efficient waste minimization can be achieved through focusing primarily on the first of the 3Rs, "reduce," followed by "reuse" and then "recycle." The main objective of the 3R strategy is delineating ways and means of achieving national 3R goals through providing a uniform guideline for all stakeholders. Specific objectives are to:

- Address the key issues and challenges of waste management acting as a barrier for promotion of 3R in the country;
- Define the roles of various actors to promote 3R in the country; and
- Guide the creation of enabling conditions for success regarding implementation of 3R in the country

Hazardous Wastes and Shipbreaking Waste Management Rules, 2011[18]

The Hazardous Wastes and Shipbreaking Waste Management Rules provides detailed regulation on environment-friendly ship-breaking and hazardous waste management. This includes topics like National technical committee, Management cell, Initial safety report, Safety inspection report, Emergency response plan, Creating awareness among local

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[16] **https://www.fao.org/faolex/results/details/en/c/LEX-FAOC179684/**

[17] **http://www.doe.gov.bd/sites/default/files/files/doe.portal.gov.bd/publications/7dc258b2_4501_400d_b066_5e56d84f439f/National_3R_Strategy%20(1).pdf**

[18] **http://doe.portal.gov.bd/sites/default/files/files/doe.portal.gov.bd/page/ad7db23c_aa9d_439f_adca_eecb06c37bd0/2021-10-24-07-09-df45450e93750ab57f9a74f10b7be216.pdf**

people regarding accidents, Notification about accidents, Hazardous material, Hazardous material import and export, Annual report in case of industrial establishments and factories related to hazardous waste, Rules and restrictions regarding providing clearance, Ship breaking, Occupational health and safety for workers/employees, Compensation related to accidents etc.

Disaster Management Act, 2012[19]

GoB introduced Disaster Management Act, 2012 to make the activities about disaster management coordinated, object oriented and strengthened and to formulate rules to build up infrastructure of effective disaster management to fight all types of disaster. This act has the following chapter: Preamble, Organizational Structure of Disaster Management, Disaster zone declaration, participation of different forces, etc., Disaster Management Fund, Relief vault, etc., Offense, punishment, etc., and Miscellaneous.

Industrial Policy, 2016[20]

The first Industrial and Investment Policy was formulated in 1973 and afterwards it was amended in 1975. After then, industrial policies have been formulated and amended several times. Now, the 2016 policy is in force. The three objectives of this policy are– (1) to improve the socio-economic condition of the people by achieving industrial growth and creating employment through industrialization from public and private initiatives, (2) increasing the contribution of industrial sector and labor forces from 29% to 35% and 18% to 25% respectively to the national income, and (3) achieving inclusive growth through standard industrialization and income centric employment. This industrial policy also has a separate section on environment friendly industrial management which focuses on different issues like impact assessment of industrial projects, installation of ETP, CETP, clean development mechanism, promoting green industries and climate change mitigation efficient industries etc. and many more.

Nationally Determined Contribution of Bangladesh[21]

The Paris Agreement which was adopted by COP21 in 2015, was subsequently signed and ratified by 191 Parties. Its aim is to change the current course towards combating climate change, harboring sustainable development pathway by limiting global warming within 1.5 - 2 degrees Celsius above pre-industrial levels. One of the key elements of the Paris

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[19] **https://emi-megacities.org/wp-content/uploads/2015/03/Disaster-Mgt-Act-2012-English.pdf**

[20] **http://www.moind.gov.bd/sites/default/files/files/moind.portal.gov.bd/policies/55dad52c_913d_487d_b59a_26db59742b49/Industry%20Policy%202016%20Scan%20Copy.pdf**

[21] **http://nda.erd.gov.bd/en/c/publication/nationally-determined-contributions-ndcs-2021-bangladesh-updated**

Agreement is the Nationally Determined Contributions (NDCs) previously referred to as Intended Nationally Determined Contributions (INDCs) before the ratification of Paris Agreement. Bangladesh has submitted its INDC to UNFCCC on 25 September 2015, for three sectors (Power, Industry and Transport). Subsequently, Bangladesh has prepared the NDC Implementation Roadmap and Action Plan in 2018.

Bangladesh's INDC has proposed for 12 million tons (5%) unconditional reduction in GHG emission from Business as Usual (BAU) scenario by 2030 and a further 24 million tons (10%) conditional reduction in GHG emission with support from the international community by taking 2011 as the base year. This updated NDC includes Energy, Industrial Processes and Product Use (IPPU), Agriculture, Forestry and other Land use (AFOLU) and Waste. For updating the NDC, 2012 has been considered as the base year following the Third National Communication of Bangladesh. It is aim of the NDC to further mitigation actions that Bangladesh may take for tackling its growing emissions and playing its role in global efforts. The NDC calls for several mitigation actions that will help in limiting the country's GHG emissions. A key role will be played by these actions in realizing the move to a low-carbon, climate-resilient economy and becoming a middle-income country while ensuring that it will not cross the average per capita emissions of the developing countries.

Mujib Climate Prosperity Plan, 2030[22]

Mujib Climate Prosperity Plan is built on the foundation of the 8th Five Year Plan (8FYP) 2021–2025 of Bangladesh. This plan was launched under Bangladesh's second tenure as president of the Climate Vulnerable Forum (CVF), and it includes several ambitious new and strengthened adaptation efforts to build resilience in populations and ecosystems. Key priority areas of this plan are Accelerated adaptation, Just transition of labor and future-proofing industry with technology transfer, Increasing public revenue to spend on the most vulnerable, Comprehensive climate and disaster risk financing and management, Leveraging 21st century technologies for well-being and Maximized renewable energy, energy efficiency and power & transportation sector resilience.

National Adaptation Plan

The National Adaptation Plan (NAP) process was formally established in 2010 under the Cancun Adaptation Framework for enabling the Least Developed Countries (LDCs) and other developing countries' planning and preparedness for climate change adaptation in the medium and long term. Bangladesh is currently preparing the NAP for addressing climate

[22] **https://mujibplan.com/wp-content/uploads/2021/12/Mujib-Climate-Prosperity-Plan_ao-21Dec2021_small.pdf**

change which will include an overview on climate change hazard, risk and vulnerability for Bangladesh. Here, current adaptation strategies for different impacts due to climate change undertaken in different projects/initiatives from both the government and NGO/CSOs will be identified along with inclusion of success stories/case studies on resilient adaptation options. The plan will also provide future recommendations on mentioned issues focusing on regional and local level solutions and strategies at national level. Apart from that, it will include a set of recommendations for institutions and implementation mechanism for NAP.

Constitution of Bangladesh on Resettlement and Ethnic Minorities/Indigenous Peoples

The fundamental rights under the Constitution indicate the general guidelines for a policy on resettlement/rehabilitation of citizens adversely affected (whatever be the mechanism) due to any activity of the State. Article 40 of the constitution states categorically that every citizen has the right to practice any lawful occupation which implies that anything that impedes such right (a) should not be done or (b) there should be supplementary measures to make good the losses incurred by the citizen. Resettlement and rehabilitation of adversely affected people due to infrastructure projects very clearly falls within this requirement for supplementary measures. However, as per Article 42, sub-clause 2, no law with provision of compensation for acquisition of land can be challenged in a court on the ground that such compensation has been inadequate.

In the context of People's Republic of Bangladesh, the Constitution of Bangladesh does not mention the existence of the cultural and ethnic minorities in Bangladesh. The only protective provision for the ethnic minorities that the policy makers often refer to in the context is Article 28 (4) which states that: Nothing shall prevent the state from making special provision in favour of women and children or for the advancement of any backward section of the citizens. The above provision is an ambiguous one and it does not define who or what constitutes "backward". However, the Government recognizes existence of tribal peoples and the need for special attention and in general tribal people are essentially viewed as backward, poor and socio-economically & culturally inferior. Towards this end a special program was initiated in 1996-97 by the Prime Minister's Secretariat aimed at improving the socio-economic situation of the indigenous people of Bangladesh, resident outside the Chittagong Hill Tracts.

Chittagong Hill Tracts Regulation, 1900[23]

The Chittagong Hill Tracts Regulation, 1900 (Regulation I of 1900) is the regulatory framework for State sovereignty over the traditional rights of the Ethnic Minorities/Indigenous

[23] **http://bdlaws.minlaw.gov.bd/act-1313.html**

Peoples living in the Chittagong Hill Tracts (CHTs) region. They are governed through Revenue Circle Chiefs who are local revenue collectors vide an *amalnama* (authorization by the Government). The Deputy Commissioner and the Commissioner from the Central Government reserve the authority to settle land to the hill-men or non-hill residents or lease out land (nontransferable) for rubber plantation or establishing industries in the CHTs. The regulation provides the right to possessing plough cultivable land up to 5 acres by hill men or non-hill residents. The headman is responsible for the conservation of the resources of his mouza through exercising his authority to (i) prohibit the removal of forest produces by residents of respective mouzas other than for their domestic purposes or by non-residents for any purpose, (ii) exclude any area or areas in his mouzas from the jhuming (shifting cultivation), (iii) prevent new comers from cutting jhums in his mouza, and (iv) prevent a person from grazing cattle in his mouza.

Workmen's Compensation Act, 1923[24]

The Workmen's Compensation Act of 1923, provides legal basis for the payment by certain classes of employers to their workmen of compensation for injury by accident. The Act applies to those who are industrially employed workers as specified in Schedule II of the Workmen's Compensation Act. The Act provides the workers with protection from losses or injuries caused by accidents which resulted from and during the course of employment subject to certain exceptions as set out in the Act. This act was repealed after introduction of Bangladesh Labour Act.

The Forest Act, 1927 (Act XVI of 1927) [25]

The Forest Act, 1927 (Act XVI of 1927) revised as of 2000 deals with Reserved Forest, Village Forest, Protected Forest, control over forests on lands not being the property of Government. The law applies all over the country, but its application in the CHT region is subject to the extent of its consistency with the CHT Regulation, 1900 and the rules framed there under. According to the CHT Local Govt. Councils Act of 1989, the hill district councils of the CHT also have an advisory prerogative with regard to legislation. The Forest Act, 2019 (draft) is on the way which has taken some minor changes considering the Acquisition and Requisition of Immovable Properties Act, 2017.

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[24] **www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=47329&p_country=BGD&p_count=137**

[25] **moef.portal.gov.bd/sites/default/files/files/moef.portal.gov.bd/page/8593534d_101e_46c9_b82d_97d442e46de5/Forest%20Act%201927.pdf**

East Bengal State Acquisition and Tenancy Act, 1950 (Revised 1994)[26]

This Act (Sections 86 & 87) define the ownership and use right of alluvion (*payosti* or reformation *in situ* or original site) and diluvion land (*nadi sikosti*) in the country. In legal terms, eroded lands (sikosti) inside the alluvion-diluvion (AD) line (i.e. including submerged land or underwater land) are considered khas land once declared by demarcating the AD Line. However, the "original" owner(s) can claim the land if it reappears through natural process within 30 years.

Chittagong Hill –Tracts (Land Acquisition) Regulation, 1958[27]

The Chittagong Hill Tracts (CHT) region has been enjoying the status of a special region since British period. Most of the land in CHT belongs to the Government either as reserve forest or as unclassified state forest. The CHT Regulation I of 1900 was the sole legal instrument for the governance and administration of the Hill Tracts.

The CHT districts comprise the reserved forests, the circle of the three Chiefs, viz. the Chakmas Chief, the Bohmong Chief and Mogh Chief and the Maini Valley (rule 35). The Circle Chiefs form an Advisory Council to the Deputy Commissioner (DC) for administration of their respective circles and exercise their authority as Chiefs in the prompt enforcement in the mouzas of their circles of all orders of the DC. Under the regulation, the DC could resume land even though settlement of the same might have been given earlier. The rule prescribed payment of compensation for various interests as in the case of land acquisition. It was expedient to provide for the acquisition of land in CHT the Government made the Chittagong Hill-Tracts (Land Acquisition) Regulation, 1958. This regulation has provision for payment of compensation for requisitioned property. The compensation may be fixed by agreement or by rules framed on this behalf.

Factories Act, 1965 and Factories Rules, 1979[28]

Factories Act 1965 (Act XXV of 1934) details out issues regarding regulation of the appointment of workers, their wages and the working conditions in factories, which includes health and hygiene, safety, welfare, working hours, leave and holidays, and punishments and penalties for both the owners and workers in case of non-compliance of requirements. This act also describes provisions regarding obtaining approval of factory plans, including the construction or extension, class or description of factories from the chief inspector, fees for licensing and registration, provisions of appeal and repeal etc. Bangladesh Factory Rules 1979 was created in exercise of the power conferred by Factories Act, 1965. Bangladesh

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[26] **http://bdlaws.minlaw.gov.bd/act-241.html**
[27] **https://mochta.portal.gov.bd/site/page/49ecdae1-2e73-49d6-8f20-bec5e0f1e1e7/Rules**
[28] **https://www.ilo.org/dyn/natlex/docs/WEBTEXT/47346/65073/E65BGD01.htm**
https://www.ilo.org/dyn/natlex/docs/WEBTEXT/50617/65128/E79BGD01.htm

Factory Rules, 1979 has chapters on Approval of plans of factory, Fees for licensing and registration, Inspecting staff, Health, Safety, Welfare, Working hours of adults, Employment of young persons and exclusion of under-age children, Special provisions, Supplemental and Welfare officers. The Act and Rule were repealed after the introduction of Bangladesh Labour Act.

The Chittagong Hill Tracts Peace Accord of 1997[29]

The National Parliament of Bangladesh in 24 May 1998 passed the Peace Accord 1997 as the Chittagong Hill Tracts Regional Council Act, 1998 (Act 12 of 1998). In addition to reestablishing peace, the Accord recognized the ethnic people‘s right to land, culture, language, and religion. The Accord set out detailed provisions for strengthening the system of self-governance in the CHT and redressing the most urgent land-related problems. A ministry on CHT Affairs was established by appointing a Minister from among the Tribals/Ethnic Minorities/Indigenous Peoples of hill districts. An Advisory Council from the CHT region assists this ministry. However, there is a demand for extending the scope of the CHT Affairs Ministry to include the Ethnic Minorities/Indigenous Peoples in other areas of the country.

Fire Prevention and Extinction Act, 2003 and Fire Prevention and Extinction Rules, 2014[30]

Fire Prevention and Extinction Act 2003, Details out issues like Keeping firefighting brigade, License of warehouse and workshop, Cancellation of license, etc., Non-transferability of the license, Plan approval of Multistoried or commercial building, Rules regarding existing multistoried commercial building, Application of certain power at the time of fire extinction, Service charge, Forbidding restriction on water usage during fire extinguishing works, Entrance power, Investigation of the Fire Catching, Punishments etc. Fire Prevention and Extinction Rules was introduced in 2014 based on the provisions of Fire Prevention and Extinction Act, 2003. Fire Prevention and Extinction Rules was introduced in 2014 describes issues like Responsibilities and functions of the brigade during operations, List of inflammable materials, Application procedure for license, License grant procedure, License renewal, Duplicate license, Change is ownership, Cancellation of license, License fees,

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[29] **https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiDoofOpZv5AhUXIbcAHbpDDOUQFnoECCQQAQ&url=https%3A%2F%2Fwww.ilo.org%2Fdyn%2Fnatlex%2Fdocs%2FELECTRONIC%2F87975%2F100450%2FF1549787842%2FBGD87975.pdf&usg=AOvVaw3a5ooMlXqmsetPOcJGBDhF**

[30] **অগ্নি-প্রতিরোধ-ও-নির্বাপন-আইন-২০০৩ (fireservice.gov.bd)**
https://www.dpp.gov.bd/upload_file/gazettes/11671_56355.pdf

Inspection activities, Procedure of providing clearance, Fire prevention and extinction system for slums, Occupancy certificate etc. But a report of The Financial Express[31] in 2018 mentioned- "The Fire Prevention and Protection Rules 2014 still remains stalled even four years into its formulation due mainly to bureaucratic tangle".

Ethnic Minority/Indigenous People Rights in PRSP, 2005[32]

According to the Bangladesh Indigenous Peoples Forum, Bangladesh has at least 45 different communities that can be called indigenous. Apart from this, there are other minority communities as well.[33]

Relevant strategic suggestions in the PRSP 2005 to preserve the cultural, social and economic identity and interests of the Ethnic Minorities/Indigenous Peoples in and outside CHT are as follows:

i. Effective recognition of ethnic minority communities/indigenous peoples and their specific needs in all relevant government policies and programs towards improving the socio-economic conditions of these communities.
ii. Proper actions for protecting the rights of ethnic minority /indigenous people, particularly their rights to land and forests.
iii. Transfer of land administration in CHT to the hill districts councils in accordance with the "Hill District Councils Acts of 1989".
iv. Provide education to ethnic minority/indigenous people with a curriculum that allows learning in their own language at the primary level.
v. Strengthen their competence in job markets through affirmative actions at higher levels of education and skill training to promote their inclusion in mainstream economic life.
vi. Scale-up efforts to provide health care, clean water and sanitation facilities to ethnic minority /indigenous people areas in general and to the more disadvantaged groups among them in particular.
vii. Increase and utilize property the fund available in the Prime Minister's office for the development of the ethnic minority /indigenous people of the plain lands.
viii. Provide wider access to electrification and telecommunications for ethnic minority communities/indigenous peoples, particularly in the Hill Tracts.

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[31] **https://www.thefinancialexpress.com.bd/trade/fire-safety-rules-remain-stalled-four-years-after-formulation-1544069121**

[32] **https://www.imf.org/external/pubs/ft/scr/2005/cr05410.pdf**

[33] **https://documents1.worldbank.org/curated/en/627571467997887013/pdf/IPP2800IPP0P101Draft0March026102008.pdf**

Bangladesh Labour Act, 2006 and Labour Rules, 2015[34]

The Bangladesh Labour Act was adopted in 2006 and amended in 2013 and 2018. The act consolidated the laws relating to employment of workers, relations between workers and employers, determination of minimum rates of wages, payment of wages, compensation for injuries to workers during working hours, formation of trade unions, raising and settlement of industrial disputes, health, safety, welfare and working conditions and environment of workers and apprenticeship and matters ancillary. The act has widened benefits of the workers particularly women workers. This act repealed 25 previous legislations and consolidated the provisions of them into one legislation.

Bangladesh Labour Rules was introduced in 2015 based on Bangladesh Labour Act 2006. It includes rules on appointment condition of workers, contractors' registration, appointment of adolescent worker, maternity benefit, workers' health and safety, provident fund elaboration, wages, workers welfare etc. The primary government agencies for enforcement of employment statutes and regulations are the Department of Labour and the Department of Inspection for Factories and Establishments under the Ministry of Labour and Employment.

Draft National Policy on Involuntary Resettlement and Rehabilitation, 2008

The Government has prepared a draft national policy on involuntary resettlement and rehabilitation, which is consistent with the general policy of the Government that the rights of those displaced by development projects, river erosion and baste eviction shall be fully respected, and that those displaced shall be treated with dignity and assisted in such a manner that safeguards their welfare and livelihoods irrespective of title, gender, and ethnicity. This policy on involuntary resettlement recognizes that,

i. All those displaced involuntarily by either projects or non-project impacts like erosion and eviction must be resettled and rehabilitated in a productive and sustainable manner.
ii. People who are resettled must be able, through their own efforts and/or with support as may be required, to restore or improve upon their level of living.
iii. Cash compensation shall be paid in development projects at replacement value to those displaced for land and other assets acquired based on established prior ownership and/or user rights. In addition to cash compensation and resettlement, a benefit sharing will be considered where feasible.

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34 **https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjJi5HLqZv5AhVuUGwGHSwgBroQFnoECBMQAQ&url=https%3A%2F%2Fwww.ilo.org%2Fdyn%2Fnatlex%2Fdocs%2FELECTRONIC%2F76402%2F110637%2FF-1265526237%2FBGD76402%2520Eng.pdf&usg=AOvVaw1tXoeInWPf-5tkofqzMLlT**
বাংলাদেশ-শ্রম-বিধিমালা-২০১৫ **(dol.gov.bd)**

iv. Cultural and customary rights of people affected by projects are to be protected, particularly those belonging to ethnic minorities/indigenous peoples.
v. Gender equality and equity in all stages and processes of resettlement and rehabilitation will be fully respected.
vi. Affected persons will be informed and consulted in a transparent manner, including formal disclosure of project impacts and mitigation measures.
vii. Vulnerable groups, including landless, ethnic minorities/indigenous peoples, poor women headed households, physically challenged people, elderly and those falling below the nationally defined poverty line (by the government) displaced by project or non-project impacts, are entitled to additional benefits and assistance in a manner that addresses their specific needs related to socio-economic vulnerability.
viii. Similarly, affected persons and/or businesses on government leased land will be eligible for compensation for loss of access to land and sites.

OSH Policy, 2013[35]

For ensuring a safe and healthy working environment for all, the National Policy on Occupational Health and Safety was formulated and adopted in 2013. It was formulated and adopted with the notion that implementing such a policy would ensure the safety of workers and help increase industrial productivity. This policy applies to all workplaces in Bangladesh, including formal and informal sectors of industries, factories, enterprises, business and commercial entities and farms. The ultimate goal of this policy is the nationwide understanding and acceptance of OSH for all women and men working in the formal and informal sectors in Bangladesh.

Acquisition and Requisition of Immovable Property Act (ARIPA), 2017[36]

Land acquisition by eminent domain for infrastructure projects was previously governed by the Acquisition and Requisition of Immovable Property Ordinance II (1982) amended as of 1994. It is later repealed and replaced by 'Acquisition and Requisition of Immovable Properties Act 2017' (ARIPA 2017). Under the ARIPA 2017, The Deputy Commissioner (DC) determines the value of the acquired assets as at the date of issuing the notice of acquisition under section 4(1) of the Act. The DCs thereafter enhance the assessed value by 200% and another 100% premium for loss of standing crops, structures and income due to compulsory nature of the acquisition. The compensation such determined is called the Cash

[35] **https://dife.portal.gov.bd/sites/default/files/files/dife.portal.gov.bd/page/a51db80d_ca8e_4cae_9579_5f6f089d5754/2021-09-15-05-58-20b6eeb7481056b939b691d2d26a401a.pdf**

[36] **http://www.minland.gov.bd/site/page/c86a2410-254c-4440-85fd-d9ba6a1a378e/All-Laws-Relating-to-Land**

Compensation under Law (CCL). If the land acquired has standing crops cultivated by a tenant (Bargadar) under a legally constituted written agreement, the law requires that compensation money be paid in cash to the tenants as per the agreement. The previous ARIPO of 1982 did not prescribe the acquisition of officially registered places of worship, graveyards and cremation grounds for any purpose. However, the new Act of 2017 under section 4 (13) permits the acquisition of those properties if it is for a public purpose provided the project for which the land is acquired provides for similar types of assets in some other appropriate place. Households and assets moved from land already acquired in the past for project purposes and/or government khas land are not included in the acquisition proposal and therefore excluded for considerations for compensation under the law. Lands acquired for a particular public purpose cannot be used for any other purpose. The new Act under section 4 (2) also facilitates the private organizations to request from the government to acquire the land for their development activities. Furthermore, the new Act under its section 15 provides for the acquisition of entire houses/buildings if their owners request to acquire the entire house or building against partial acquisition.

International Treaties and Conventions [37]

Some of the relevant international treaties and conventions for which Bangladesh is a signatory are Occupational Hazards Due to Air Pollution, Noise and Vibration (Geneva), 1977; Prevention and Control of Occupational Hazard (Geneva), 1974; Occupational Safety and Health in Working Environment (Geneva), 1981; Occupational Health Services (Geneva), 1985; International Convention on Climate Change (Kyoto Protocol), 1997; UN Framework Convention on Climate Change (New York), 1992; Convention Relative to the Preservation of Fauna and Flora in Their Natural State (London), 1933; Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar), 1971; Convention on International Trade in Endangered Species of Wild Fauna and Flora; World Cultural and Natural Heritage (Paris), 1972 etc.

2. Bangladesh Bank's Guidelines on Environmental &Social Risk Management (ESRM) for Banks and Financial Institutions in Bangladesh, 2022 [38]

Bangladesh Bank (BB)'s Guidelines on Environmental Risk Management (ERM) in 2011 has been the pioneering initiative from any central bank or financial sector regulator. BB has issued Guidelines on ESRM in February 2017. The ESRM Guidelines expand the scope of social risk assessment and introduce several social parameters in addition to environmental parameters for risk assessment. The updated ESRM Guidelines in 2022 is supplemented

[37] **https://www.bb.org.bd/mediaroom/circulars/gbcrd/jun262022sfd03e.pdf**
[38] **https://www.bb.org.bd/mediaroom/circulars/gbcrd/jun262022sfd03e.pdf**

with Guidance Notes on ESRM for 10 sectors (Textile and Apparel, Cement Manufacturing, Tanning and Leather Finishing, Ceramic Tile and Sanitary Ware Manufacturing, Pharmaceutical, Power, Fertilizer Manufacturing, Pulp & Paper, Steel Re-Rolling, Ship Breaking), Guidance Note on Environmental and Social Impact Assessment (ESIA) and updated Excel-based Risk Rating Template. A third party ESIA will have to be conducted for financing in all Infrastructure Projects, apart from Exclusion List and Generic or sector specific ESDD checklist. ESIA will generally be arranged by the client at his/her/its own cost and submitted along with loan application. Banks/FIs will ensure that the third party will be qualified on the basis of criteria set by Bangladesh Bank in this purpose.

The core objective of this guideline is to make banks and FIs realize to integrate Environment & Social (E&S) risks and incorporate appropriate risk mitigation measures in overall credit management to be able for expanding the credit/investment portfolio rather than avoid investing in high E&S risks. The ESRM Guidelines extends to the following features to be more streamlined, interactive and user friendly in nature:

- The ESRM Guideline provides a robust, auto generated, quantitative risk rating system to reduce the subjectivity of a qualitative risk assessment method that was present in the ERM Guidelines.
- The ESRM guideline has a bigger focus on social and climatic risks which are becoming relevant and crucial for Bangladesh.
- The ESRM Guideline, in addition to investment threshold, define applicability based upon sector specific E&S impacts and the categories are expanded to include agriculture, cottage, micro, retail and trading enterprises, small enterprises, medium enterprises, large enterprises and infrastructure projects.
- The organisational roles and responsibility defined in the ESRM Guidelines are built upon the principles of integration of E&S risks into the bank or FI‘s overall credit policy. It clearly delineates the responsibility of different functions of a bank or FI in terms of E&S risk assessment and the decision-making process based upon E&S risk rating.
- This guideline is supplemented with guidance notes for ten (10) environmentally sensitive sectors for investment. These guidance notes will be the guiding principle for E&S risk management for those sectors and can be used as the template for developing guidance notes for other environmentally sensitive sectors.
- Accordingly this guideline includes an E&S Due Diligence (ESDD) checklist which is divided into three sections; (i) General risks, (ii) Environmental health and safety risks, (iii) Social risks. The checklist is integrated with the generic and the 10 environmentally sensitive sectors for investment. Thus it is broad in scope but at the same time the

process is much more streamlined for ease of use by the practitioners in the financial sector.

- In this guideline, the term 'loan' will synonymously be used as 'investment' for Shariah based banks and FIs.

Risks associated with E&S Risk in Credit Management: At the time of approval of a financial transaction, potential E&S risks may not seem significant or relevant, but may become so during execution, for instance because of higher regulatory standards and increased levels of enforcement.

Applicability of the Guidelines: The ESRM Guideline is applicable for the following loan categories- agriculture finance; cottage, micro small, medium enterprises (CMSME) finance; financing in retail and trading enterprises; consumer financing; financing in all large manufacturing and service enterprises (other than CMSME, retail and trading enterprises) and infrastructure finance. All loan proposals (New/Renewal/Rescheduling/Restructuring) for the above applicable sectors first need to be screened against the exclusion list.

Applicable Standards:

While carrying out E&S due diligence of a particular transaction all national regulations pertaining to E&S governance will be applicable. All relevant E&S permits, consents, licenses, and monitoring of E&S parameters as per the national regulations need to be complied by the borrowers and these will be considered as mandatory compliance requirements for evaluation of a loan application. Clients having management systems in place as per international frameworks such as ISO 14001 for environmental management, OHSAS 18001 for occupational health and safety, SA8000 for socially acceptable practices in the workplace, will be considered as good practices. Apart from that, adherence to IFC Performance Standards will be considered for large project financing as a good practice and optional requirement. For identifying, managing, and mitigating E&S risks in lending, all banks/FIs need to develop a robust Environmental and Social Management System (ESMS).

Environmental and Social Management System (ESMS):

An E&S Management System (ESMS) is a set of policies, procedures, tools and internal capacity to identify, monitor and manage a Bank/FI's exposure to the E&S risks of its clients. Key components of an ESMS are,

I. E&S Policy

An E&S policy deals with a Bank/FI's vision and mission with respect to the environment, society and contributions to sustainable development. It is a short, written statement that articulates the Bank/FI's commitment to integrating E&S considerations into its business

activities as well as contributions to sustainable development. It also serves as the Bank/FI's foundation within which the objectives and procedures of the ESMS are anchored. The approval of the E&S policy has to be done by the Board of Directors.

II. Organizational Structure

For an ESMS to function properly, it is essential that roles and responsibilities for carrying out the necessary procedures and making decisions are clearly defined. The following staff of a Bank/FI will be involved with implementing different aspects of the ESMS:

- Relationship Officials/Credit Officials (primarily deals with clients)
- Official in CRM/IRM Division
- Head of Business
- Head of CRM/IRM
- Senior Management and Board of Directors
- Loan/Credit Administration Department/Division (LAD/CAD)
- Sustainable Finance Unit (SFU)

III. Screening Transaction and Categorizing Transaction

After screening the transactions for determining the extent of ESDD for a particular transaction, an E&S risk category needs to be assigned to each transaction. The level of E&S risk varies greatly for different types of financial transactions and by industry sectors.

IV. Conducting environmental and social due diligence (ESDD)

In case of a bank/FI's ESMS, conducting ESDD on transactions is a critical component and its outcome needs to be factored in the decision-making process for proceeding with a transaction.

V. Decision making process

After completing the ESDD, the checklist will auto generate a risk rating- High, Medium or Low. All the low risk transactions may be approved by usual approval tier designated by the Credit/Investment Policy of bank/FI. All the medium risk transaction will be escalated to CRMC for approval. All the high risk transactions will be escalated to the Board, after review by the MD, for approval. In absence of the Board, the high risk transactions can be approved by the Executive Committee.

VI. Corrective Action Plan and Covenants

In case of Medium and High Risk projects there will be identified risks which will have to be mitigated. A corrective action plan can be developed identifying the risk, mitigation measure, timeline for implementation and who should be responsible for implementation. Also,

Transaction specific corrective action plan and covenants can be part of the legal loan documents.

VII. Monitoring

After a transaction has been approved, the bank/FI needs to monitor the client‘s ongoing compliance with the E&S clauses stipulated in the legal agreement. E&S risks or compliance status may change from the time of transaction approval.

VIII. Managing Eventualities in Investment Projects

Non-routine events do occur in conjunction with business development, with consideration of new clients and investments, during appraisal, and in the post-commitment monitoring cycle. In such as cases, as soon as the RO knows about any such occurrence, the RO will immediately inform Head of Business, collect factual information about the event, conduct a site visit and develop an action plan to mitigate the occurrence of such event in the future and communicate to the client what implication there might be due to the event.

IX. Internal/External Communication

ESMS of a bank/FI's needs to include periodic reporting on the E&S performance of transactions and measures taken to reduce its overall exposure to E&S risk. Bank/FI will need to compile all E&S findings from monitoring clients and aggregate findings at the portfolio level.

Implementing ESMS

Once the ESMS has been developed and formally approved by the BoD, it will be institutionalized accordingly. For implementing the ESMS, the bank/FI will develop an implementation plan, including an ESMS testing phase, with a time schedule for completing each task and the designated staff responsible for doing so. Tasks for this will include a review of the E&S regulations of the country in which the Bank/FI operates, testing phase, communications and training plan for employees, assigning responsibilities to applicable officials, review of international best practice that apply to clients and review of the ESMS on a periodic basis for continuous improvement.

Provision of Incentives and Disincentives

Based on the performance of the borrower(s) and banks and FIs dealing with transactions with high ESRR, incentives and disincentives need to be considered for the following.

- **High ESRR at transaction/application/proposal level**

During post-disbursal monitoring of the performance of the project, if change in ESRR is observed, the following options may be considered, provided any change to the interest rate

and repayment term has to be incorporated as part of the loan agreement linked with changes in ESRR.

Table: Options for incentives and disincentives

Particulars	Probable option(s)
Incentive(s) if change in ESRR is positive	• Issuance of appreciation letter and upload the name of project on bank's website • Reduction in interest rate • Higher debt-equity ratio for borrowers • Flexibility in loan conditions • Favourable loan to value ratio for borrowers
Disincentive(s) if change in ESRR is negative	• Increase in interest rate (within the concurrent regulatory cap) • Lower debt-equity ratio for borrowers • Tougher loan covenants/conditions • Tougher loan to value ratio for borrowers

- **High ESRR at portfolio level**

Bangladesh Bank will monitor the share of high ESRR transactions of individual banks or FIs in total loan profile and actions taken by the boards for high ESRR transactions. The following options will be considered by Bangladesh Bank with respect to the performance of banks and FIs towards meeting the sanction target for high ESRR projects:

- Impact in CAMELS rating;
- Impact on liquidity and capital requirements;
- Impact on credit growth;
- Impact on profit distribution.

3. Guidelines of Development Partners

3.1. ADB's Safeguard Policy Statement[39]

ADB affirms that environmental and social sustainability is a cornerstone of economic growth and poverty reduction in Asia and the Pacific. ADB is committed to ensuring the social and environmental sustainability of the projects it supports. The goal of ADB's Safeguard Policy Statement (SPS) is to promote the sustainability of project outcomes by protecting the environment and people from projects' potential adverse impacts. The objectives of ADB's safeguards are to:

- Avoid adverse impacts of projects on the environment and affected people, where possible;

[39] **https://www.adb.org/documents/safeguard-policy-statement**

- Minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible; and
- Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.

ADB's SPS, 2009 sets out the policy objectives, scope and triggers, and principles for three key safeguard areas:

i. Environmental safeguards,
ii. Involuntary resettlement safeguards, and
iii. Indigenous Peoples safeguards

The safeguard requirements of ADB are as follows:

(i) Safeguard Requirements 1: Environment,
(ii) Safeguard Requirements 2: Involuntary Resettlement,
(iii) Safeguard Requirements 3: Indigenous Peoples, and
(iv) Safeguard Requirements 4: Special Requirements for Different Finance Modalities.

Environmental Safeguards

The objective of it is to ensure the environmental soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process.

Involuntary Resettlement Safeguards

The objective of it is to avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups.

Indigenous Peoples Safeguards

The objective of it is to design and implement projects in a way that fosters full respect for Indigenous Peoples' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the Indigenous Peoples themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them.

Safeguard risk categorization: Every proposed project is assessed based on its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts and classified into four categories (A, B, C and FI). ADB also screens all projects focusing on involuntary resettlement and indigenous peoples related impacts.

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.

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.

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.

Category FI: A proposed project is classified as category Financial Intermediary (FI) if it involves investment of ADB funds to or through a financial intermediary. ADB's financing with IDCOL are categorized as FI.

ADB's commitment is to work with the borrower/client to ensure that relevant information (whether positive or negative) about social and environmental safeguard issues is made available in a timely manner, in an accessible place, and in a form and language(s) understandable to affected people and to other stakeholders, including the general public. ADB commits to work with borrowers/clients to put meaningful consultation processes into practice. In case of projects with significant adverse environmental, involuntary resettlement, or Indigenous Peoples impacts, ADB project teams will participate in consultation activities to understand the concerns of affected people and will ensure that such concerns are addressed in project design and safeguard plans. ADB and the borrower/client both will have their own separate monitoring responsibilities. Extent of different monitoring activities, including their scope and periodicity, will be commensurate with the project's risks and impacts. It is a requirement of ADB that the borrower/client establish and maintain a grievance redress mechanism to receive and facilitate resolution of affected peoples' concerns and grievances about the borrower's/client's social and environmental performance at project level. Scaling of the grievance redress mechanism should be done as per risks and impacts of the project. Also, the project-affected people can submit complaints to ADB's Accountability Mechanism.

Financial Intermediary

For projects involving investment of ADB funds to or through financial intermediaries (FI), ADB conducts safeguard due diligence to assess the potential environmental and social impacts and risks associated with the FI's existing and likely future portfolio, and its commitment and capacity in social and environmental management. All FIs will ensure that

their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list to subprojects financed by ADB. Where the FI's investments have minimal or no adverse environmental or social risks, the FI project will be treated as category C project and need not apply any other specific requirements. All other FIs will be required to have in place or establish an appropriate environmental and social management system (ESMS) commensurate with the nature and risks of the FI's likely future portfolio to be maintained as part of the FI's overall management system.

The ESMS will incorporate the following elements: (i) environmental and social policies; (ii) screening, categorization, and review procedure; (iii) organizational structure and staffing including skills and competencies in environmental and social areas; (iv) training requirements; and (v) monitoring and reporting. The system will be documented and agreed upon by ADB and the FI. Where the FI's subprojects to be funded by ADB, either through credit-line, other loans, equity, guarantee, or other financing instruments, have potential for significant environmental or social impacts, the FI will be required to ensure that such subprojects meet ADB's safeguard policy requirements, including those specified in Safeguard Requirements 1-3. ADB may also set additional requirements for the FI's activities more generally depending on the FI's portfolio and the host country's safeguard systems. ADB will monitor the FI's performance on the basis of its environment and social management system.

ADB will assess the adequacy of the FI's capacity to manage environment and social impacts and risks. Where there are gaps in the FI's capacity, the ADB and FI will establish a time-bound plan to address identified gaps. ADB will work with clients to improve their overall capacity to address environmental and social risks more generally.

Note: The SPS 2009 is being reviewed and updated through regional and country specific deep-dive stakeholder consultations in the developing member countries. The new policies will be applicable for ADB financing once approved by the Board in March 2023.

3.2. The World Bank's Safeguard Policies and Environmental and Social Framework[40]

The World Bank's environmental and social policies consist of different Operational Policies. Some of the relevant OP's are described below,

[40] **https://www.worldbank.org/en/projects-operations/environmental-and-social-policies#:~:text=The%20current%20environmental%20and%20social,communities%20and%20for%20public%20disclosure**

OP 4.01 Environmental Assessment

World Bank's Safeguard Policies, OP/BP 4.01 Environmental Assessment (EA) is considered as the umbrella Safeguard Policy. The objective of OP/BP 4.01 Environmental Assessment policy is to ensure that World Bank-financed projects are environmentally and socially sound and sustainable as well as the decision-making is improved.

EA is a tool to evaluate a project's potential environmental risks and impacts in its area of influence, examine project alternatives, identify ways of improving project selection, siting planning, design, and implementation by preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts and includes the process for mitigating and managing adverse environmental impacts throughout project implementation. Depending on the project, different instruments can be used to fulfill the World Bank's EA requirement including: EIA, regional or sectoral EA, strategic environmental and social assessment (SESA), environmental audit, risk assessment, environmental management plan (EMP) and environmental and social management framework (ESMF).

Environmental Screening: Environmental screening is used by the World Bank to determine the extent and type of EA. Depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental impacts, the Bank's project screening criteria classifies projects into four categories:

Category A: Full Environmental Assessment – A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented.

Category B: Partial Environmental Assessment – if proposed project has potential adverse environmental impacts on human populations or environmentally important areas including wetlands, forests, grasslands, and other habitats-that are less adverse that those of Category A projects. These impacts are site-specific, few if any of them are irreversible and in most cases, mitigation can be designed more readily than for Category A projects.

Category C: Minimal or no adverse impacts - A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

Category FI: A proposed project is classified as category F1 if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental aspects.

OP/BP 4.01, among its other provisions, stipulates the requirements for Bank-supported projects involving Financial Intermediaries (FIs) as follows:

(a) Develop and operate an Environmental & Social Management System (ESMS) that is commensurate with the level of social and environmental risks in its portfolio and prospective business activities; and

(b) Ensure that all subprojects supported by the Bank comply with applicable national and local laws and regulations.

The applicability of these policies is established during the environmental and social risk and impact identification process. If any environmental or social risks and impacts are identified, the project sponsor is required to manage them through its conformance with ESMS.

OP 4.04 Natural Habitats

The Policy describes the conservation of natural habitats like other measures that protect and enhance the environment for long term sustainable development. Therefore, the Bank supports the protection, maintenance and rehabilitation of natural habitats and their functions in its economic and sector work, project financing and policy dialogue. The Bank also supports and expects borrowers to apply a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. The Bank promotes and supports natural habitat conservation and improved land use by financing projects designed to integrate into national and regional development the conservation of natural habitats and the maintenance of ecological functions. Furthermore, the Bank promotes the rehabilitation of degraded natural habitats. The Bank does not support projects that involve the significant conversion or degradation of critical natural habitats. When the activities under the proposed project could potentially alter the natural habitat, this policy is triggered. Habitat restoration and enhancement measures have been included in the project design to mitigate and/or compensate any adverse impacts on the natural habitat.

OP 4.10 Indigenous People

For purposes of this Policy, the term 'Indigenous Peoples' is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:

- Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- Customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- An indigenous language, often different from the official language of the country or region.

The OP defines the process to be followed if the project affects the indigenous people.

OP 4.12 Involuntary Resettlement

The WB's experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. This policy includes safeguards to address and mitigate this impoverishment risks.

The overall objectives of the Policy are given below:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits.
- Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- Displaced persons should be supported in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

OP 4.03 - Performance Standards for Private Sector Activities

This policy's aim is the facilitation of the Bank financing for private sector led economic development projects through applying environmental and social policy standards that are better suited to the private sector, along with enhancing greater policy coherence and cooperation across the World Bank Group. Under OP 4.03, the eight performance standards of IFC are adopted as World Bank performance standards. These standards have been adopted for application to bank support for projects (or components thereof) that are designed, owned, constructed and/or operated by a private entity in lieu of the World Bank's safeguard policies.

The World Bank Environmental and Social Framework sheds light on the World Bank's commitment towards sustainable development, through a bank policy and a set of

environmental and social standards, for ending extreme poverty and promoting shared prosperity. This framework replaces the following Operational Policy (OP) and Bank Procedures (BP): OP/BP4 .00, Piloting the Use of Borrower Systems to Address Environmental and Social Safeguard Issues in Bank-Supported Projects, OP/BP 4.01, Environmental Assessment, OP/BP 4.04, Natural Habitats, OP 4.09, Pest Management, OP/BP 4.10, Indigenous Peoples, OP/BP 4.11, Physical Cultural Resources, OP/BP 4.12, Involuntary Resettlement, OP/BP 4.36, Forests, and OP/BP4.37, Safety of Dams. This framework does not replace OP/BP 4.03, Performance Standards for Private Sector Activities, OP/BP 7.50, Projects on International Waterways, and OP/BP 7.60, Projects in Disputed Territories. Currently the Bank classifies all projects (including projects involving Financial Intermediaries (FIs)) into one of four classifications which are high risk, substantial risk, moderate risk or low risk. For determining the risk classification, the Bank will take into account several issues, such as,

- the type, location, sensitivity, and scale of the project;
- the nature and magnitude of the potential environmental and social risks and impacts; and
- the capacity and commitment of the Borrower (including any other entity responsible for the implementation of the project) to manage the environmental and social risks and impacts in a manner consistent with the ESSs

Environmental and Social Standards (ESS) of World Bank

ESS 1: Assessment and Management of Environmental and Social Risks and Impacts

This standard deals with the Borrower's responsibilities for assessment, management and monitoring of environmental and social risks and impacts associated with each project stage supported by the Bank through Investment Project Financing. Where applicable, this could include aspects from the early developmental stages through the entire life cycle (design, construction, commissioning, operation, decommissioning, closure or, where applicable, post-closure) of a physical asset. The requirements of this Standard apply to all business activities. Requirements:

- Environmental and Social Assessment and Management System
- Identification of Risks and Impacts
- E&S Management Programs
- Organizational Capacity and Competency
- Emergency Preparedness and Response
- Monitoring and Review
- Stakeholder Engagement

- External Communications and Grievance Mechanisms for Affected Communities
- Ongoing Reporting to Affected Communities

ESS 2: Labor and Working Conditions

Standard 2 acknowledges that the pursuit of economic growth through employment creation and income generation should be accompanied by protection of the fundamental rights of workers. In case of any business, the workforce is a valuable asset, and a sound worker – management relationship is a key ingredient in the sustainability of a company. Failure to establish and foster a sound worker-management relationship can undermine worker commitment and retention, and can jeopardize a project.

The implementation of the actions which are necessary to meet the requirements of this Performance Standard is managed through the client's Environmental and Social Management System (ESMS), the elements of which are outlined in ESS 1. Application scope of this ESS depends on the type of employment relationship between the client and the worker. It is applied to workers directly engaged by the client (direct workers), workers engaged through third parties to perform work related to core business processes of the project for a substantial duration (contracted workers), as well as workers engaged by the client's primary suppliers (supply chain workers).

Requirements:

- Working Conditions and Management of Worker Relationship
- Protecting the Work Force: preventing child labor and forced labor.
- Occupational Health and Safety
- Workers Engaged by Third Parties

ESS 3: Resource Efficiency and Pollution Prevention and Management

ESS 3 recognizes the fact that pollution generated by economic activity and urbanization can be a threat towards people, ecosystem services and the environment at different levels. This ESS puts its focus on the requirements to address resource efficiency and pollution prevention and management throughout a project's life-cycle. The Borrower will implement technically and financially feasible measures for improving efficient consumption of energy, water and raw materials, as well as other resources. Such measures will integrate the principles of cleaner production into product design and production processes to conserve raw materials, energy and water, as well as other resources. In case benchmarking data are available, the Borrower will make a comparison to establish the relative level of efficiency. The objectives of this standard are to promote the sustainable use of resources, including energy, water and raw materials; avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; avoid or minimize

project-related emissions of short and long-lived climate pollutants; avoid or minimize generation of hazardous and non-hazardous waste; and to minimize and manage the risks and impacts associated with pesticide use. The efficient management has to consider efficiency in case of using energy, water and necessary raw materials as well as management of air pollution, hazardous and nonhazardous wastes, chemicals and hazardous materials and pesticides.

ESS 4: Community Health and Safety

The Borrower will evaluate the risks and impacts of the project on the health and safety of the affected communities during the project life cycle, including those who, because of their particular circumstances, may be vulnerable. The Borrower will identify risks and impacts and propose mitigation measures in accordance with the mitigation hierarchy. The objectives of the ESS are to anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances; promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams; avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials; have in place effective measures to address emergency events; and to ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities.

The requirements in case of community health and safety are infrastructure and equipment design and safety, safety of services, traffic and road safety, ecosystem services, community exposure to health issues, management and safety of hazardous materials, emergency preparedness and response etc.

ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term “involuntary resettlement” refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

The objectives of the ESS are to avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives; avoid forced eviction; mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by: (a) providing timely compensation for loss of assets at

replacement cost and (b) assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher. The goal also includes improving living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure and conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant.

Resettlement plan: The scope of requirements and level of detail of the resettlement plan vary with the magnitude and complexity of resettlement. The plan is based on up-to-date and reliable information about (a) the proposed project and its potential impacts on the displaced persons and other adversely affected groups, (b) appropriate and feasible mitigation measures, and (c) the legal and institutional arrangements required for effective implementation of resettlement measures.

ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS 6 acknowledges the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. This ESS also addresses sustainable management of primary production and harvesting of living natural resources along with the need to consider the livelihood of project-affected parties, including affected indigenous peoples. The environmental and social assessment as set out in ESS1 will consider direct, indirect and cumulative project-related impacts on habitats and the biodiversity they support. This assessment will consider threats to biodiversity, for example habitat loss, degradation and fragmentation, invasive alien species, overexploitation, hydrological changes, nutrient loading, pollution and incidental take, as well as projected climate change impacts. It will determine the significance of biodiversity or habitats based on their vulnerability and irreplaceability at a global, regional or national level and will also take into account the differing values attached to biodiversity and habitats by project-affected parties and other interested parties. The Borrower will avoid adverse impacts on biodiversity and habitats. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy.

ESS 7: Indigenous Peoples/ Historically Underserved Traditional Local Communities

This ESS acknowledges that Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities have identities and aspirations that are distinct

from mainstream groups in national societies and often are disadvantaged by traditional models of development. In many instances, they are among the most economically marginalized and vulnerable segments of the population. Their economic, social, and legal status frequently limits their capacity to defend their rights to, and interests in, land, territories and natural and cultural resources, and may restrict their ability to participate in and benefit from development projects. In many cases, they do not receive equitable access to project benefits, or benefits are not devised or delivered in a form that is culturally appropriate, and they may not always be adequately consulted about the design or implementation of projects that would profoundly affect their lives or communities. This ESS recognizes that the roles of men and women in indigenous cultures are often different from those in the mainstream groups, and that women and children have frequently been marginalized both within their own communities and as a result of external developments, and may have specific needs. The objective of this ESS are to ensure that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource based livelihoods of Indigenous peoples; to avoid adverse impacts of projects on Indigenous peoples or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts; to promote sustainable development benefits and opportunities for Indigenous peoples in a manner that is accessible, culturally appropriate and inclusive and to obtain the Free, Prior, and Informed Consent (FPIC) of affected Indigenous peoples.

ESS 8: Cultural Heritage

Through recognizing the importance of cultural heritage in providing continuity in tangible and intangible forms between the past, present and future, ESS 8 sets out measures which are designed to protect cultural heritage throughout a project's life-cycle. The environmental and social assessment, as set out in ESS1, will consider direct, indirect and cumulative project-specific risks and impacts on cultural heritage. Through the environmental and social assessment, the Borrower will determine the potential risks and impacts of the proposed activities of the project on cultural heritage. The Borrower will avoid impacts on cultural heritage. When avoidance of impacts is not possible, the Borrower will identify and implement measures to address impacts on cultural heritage in accordance with the mitigation hierarchy. The objectives of this ESS are to protect cultural heritage from the adverse impacts of project activities and support its preservation; to address cultural heritage as an integral aspect of sustainable development; to promote meaningful consultation with stakeholders regarding cultural heritage; and to promote the equitable sharing of benefits from the use of cultural heritage.

ESS 9: Financial Intermediaries

ESS9 recognizes the importance of strong domestic capital and financial markets and access to finance for economic development, growth and poverty reduction. This ESS focuses on supporting sustainable financial sector development and enhancing the role of domestic capital and financial markets. FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI. The objectives are to set out how the FI will assess and manage environmental and social risks and impacts associated with the subprojects it finances, promote good environmental and social management practices in the subprojects the FI finances and promote good environmental and sound human resources management within the FI.

FIs will put in place and maintain an ESMS to identify, assess, manage, and monitor the environmental and social risks and impacts of FI subprojects on an ongoing basis. The ESMS will be commensurate with the nature and magnitude of environmental and social risks and impacts of FI subprojects, the types of financing, and the overall risk aggregated at the portfolio level. The FI's ESMS will include the following elements: (i) environmental and social policy; (ii) clearly defined procedures for the identification, assessment and management of the environmental and social risks and impacts of subprojects; (iii) organizational capacity and competency; (iv) monitoring and review of environmental and social risks of subprojects and the portfolio; and (v) external communications mechanism. In addition, the FI will apply the relevant requirements of the ESSs to any FI subproject that involves resettlement (unless the risks or impacts of such resettlement are minor), adverse risks or impacts on Indigenous Peoples or significant risks or impacts on the environment, community health and safety, labor and working conditions, biodiversity or cultural heritage .

An FI may be required to adopt and implement additional or alternative environmental and social requirements, depending on the nature of the FI, its activities, the sector or countries of operation, and the environmental and social risks and impacts of the potential FI subprojects The FI will provide a safe and healthy working environment, maintain appropriate labor management procedures, The FI will provide adequate documented evidence of such procedures.

ESS 10: Stakeholder Engagement and Information Disclosure

ESS 10 focuses on the importance of open and transparent engagement between the Borrower and project stakeholders. Effective stakeholder engagement along with improving

the environmental and social sustainability of projects, enhances project acceptance, and makes a significant contribution to successful project design and implementation.

Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project's environmental and social risks. This ESS does not operate without referring other subsequent ESS discussed above. Requirements regarding engagement with workers are found in ESS2. Special provisions on emergency preparedness and response are covered in ESS2 and ESS4. In the case of projects involving involuntary resettlement, Indigenous Peoples or cultural heritage, the Borrower will also apply the special disclosure and consultation requirements set out in ESS5, ESS7 and ESS8.

The objectives are to establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties; assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance; promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them and to ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format.

3.3. International Financial Corporations (IFC) Environmental and Social Policies, Guidelines and Standards[41]

The Environment, Health and Safety Guidelines (EHS Guidelines) are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These GIIP are considered to be achievable in new facilities at reasonable costs by existing technology. For existing facilities, achieving these may involve establishment of site-specific targets with an appropriate timetable to achieve these. The EHS Guidelines consist of guidelines for various industrial sectors as well as General Environmental, Health & Safety Guidelines which cover a wide range of issues and is applicable to all industrial and also the sector-specific guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health and safety issues potentially applicable to all industry sectors. They are designed to be used together with the relevant industry sector guidelines.

[41] **https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards**

a) Environmental (air emissions and ambient air quality, energy conservation, wastewater and ambient water quality, water conservation, hazardous materials management, waste management, noise and contaminated land);
b) Occupational Health and Safety (general facility design & operation, communications & training, physical hazards, chemical hazards, biological hazards, radiological hazards, personal protective equipment, special hazard environments and monitoring);
c) Community Health and Safety (water quality and availability, structural safety of project's infrastructure, life and fire safety, traffic safety, transport of hazardous materials, disease prevention, emergency preparedness & response); and
d) Construction and Decommissioning (environment, occupational health & safety, community health & safety).

Industry Sectors' EHS Guidelines and the General EHS Guideline are intended to identify recognized good practice, particularly in the absence of comparable national or local legislation. Moreover, they are designed to cover a wide range of topics, especially in the case of the General EHS Guideline, some or many of which specific topics may not be relevant or applicable to the project enterprise seeking a loan. The EHS Guidelines will be used by the financial institutions as useful tools in the screening and reviewing process to determine whether environmental and social risks associated with the project enterprise have been appropriately identified and managed.

IFC has eight Performance Standards which helps its clients to manage environmental and social risks and impacts so that development opportunities are enhanced. These are,

Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts

Performance Standard 1 acknowledges the importance of managing environmental and social performance throughout the life of a project. An effective Environmental and Social Management System (ESMS) is a dynamic and continuous process initiated and supported by management, and involves engagement between the client, its workers, local communities directly affected by the project (the Affected Communities) and, where appropriate, other stakeholders.

Performance Standard 2: Labor and Working Conditions

Performance Standard 2 acknowledges that the pursuit of economic growth through employment creation and income generation should be accompanied by protection of the fundamental rights of workers.

Performance Standard 3: Resource Efficiency and Pollution Prevention

Performance Standard 3 acknowledges that increased economic activity and urbanization often generate increased levels of pollution to air, water, and land, and consume finite

resources in a manner that may threaten people and the environment at the local, regional, and global levels.

Performance Standard 4: Community Health, Safety, and Security

Performance Standard 4 acknowledges that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration and/or intensification of impacts due to project activities.

Performance Standard 5: Land Acquisition and Involuntary Resettlement

Performance Standard 5 acknowledges that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land. Involuntary resettlement refers both to physical displacement (relocation or loss of shelter) and to economic displacement (loss of assets or access to assets that leads to loss of income sources or other means of livelihood) as a result of project-related land acquisition and/or restrictions on land use.

Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Performance Standard 6 acknowledges that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development.

Performance Standard 7: Indigenous Peoples

Performance Standard 7 acknowledges that Indigenous Peoples, as social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalized and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their rights to, and interests in, lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development. Indigenous Peoples are particularly vulnerable if their lands and resources are transformed, encroached upon, or significantly degraded.

Performance Standard 8: Cultural Heritage

Performance Standard 8 acknowledges the importance of cultural heritage for current and future generations. Consistent with the Convention Concerning the Protection of the World Cultural and Natural Heritage, this Performance Standard aims to ensure that clients protect cultural heritage in the course of their project activities.

IFC uses environmental and social categorization for reflecting the magnitude of risks and impacts. IFC categorization includes category A, B, C and FI. Category FI is further divided into FI–1, FI–2, and FI–3.

Category A: Business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented.
Category B: Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.
Category C: Business activities with minimal or no adverse environmental or social risks and/or impacts. This category is further divided into:
Category FI: Business activities involving investments in FIs or through delivery mechanisms involving financial intermediation.

- FI–1: when an FI's existing or proposed portfolio includes, or is expected to include, substantial financial exposure to business activities with potential significant adverse environmental or social risks or impacts that are diverse, irreversible, or unprecedented.
- FI–2: when an FI's existing or proposed portfolio is comprised of, or is expected to be comprised of, business activities that have potential limited adverse environmental or social risks or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures; or includes a very limited number of business activities with potential significant adverse environmental or social risks or impacts that are diverse, irreversible, or unprecedented.
- FI–3: when an FI's existing or proposed portfolio includes financial exposure to business activities that predominantly have minimal or no adverse environmental or social impacts.

For Category A and B projects, IFC has requirements related to monitoring reports, status reports on environment and social action plan, site visits etc. IFC doesn't apply any monitoring, reporting and supervision requirements for category C projects.

Requirements of IFC and the scope of their application for FI clients depend on IFC's investment type, the use of proceeds from the IFC investment, and the level of risk associated with the FI's portfolio. In particular:

- FI clients are required to develop and operate an ESMS that is commensurate with the level of environmental and social risks in its portfolio, and prospective business activities. The ESMS should incorporate relevant principles of Performance Standard 1;

- FI clients are required to apply relevant aspects of Performance Standard 2 to their workers;
- FIs will apply the IFC Exclusion List and follow respective national law; and
- FIs with portfolio and/or prospective business activities that present moderate to high environmental or social risks (i.e., Category FI-1 and FI-2) will require higher risk business activities they support to apply relevant requirements of the Performance Standards.

3.4. JICA Guidelines for Environment and Social Considerations[42]

JICA has prepared Guidelines for Environmental and Social Considerations. The objectives of the guidelines are to encourage project proponents to have appropriate consideration for environmental and social impacts, as well as to ensure that JICA's support for and examination of environmental and social considerations are conducted accordingly. The guidelines outline JICA's responsibilities and procedures, along with its requirements for project proponents in order to facilitate the achievement of these objectives. In doing so, JICA endeavors to ensure transparency, predictability, and accountability in its support by considering environmental and social issues.

In its guideline of 2010, JICA recognizes the following principles to be very important.

i. A wide range of impacts must be addressed.
ii. Measures for environmental and social considerations must be implemented from an early stage to a monitoring stage.
iii. JICA is responsible for accountability when implementing cooperation projects.
iv. JICA asks stakeholders for their participation.
v. JICA discloses information.
vi. JICA enhances organizational capacity
vii. JICA makes serious attempts at promptness.

JICA classifies projects into four categories according to the extent of environmental and social impacts. The four categories are as follows:

- **Category A:** Proposed projects are likely to have significant adverse impacts on the environment and society.
- **Category B:** Proposed projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects.

[42] **https://www.jica.go.jp/english/our_work/social_environmental/guideline/index.html**

- **Category C:** Proposed projects are classified as Category C if they are likely to have minimal or little adverse impact on the environment and society.
- **Category FI:** A proposed project is classified as Category FI if it satisfies all of the followings: JICA's funding of the project is provided to a financial intermediary or executing agency; The selection and appraisal of the sub-projects is substantially undertaken by such an institution only after JICA's approval of the funding, so that the sub-projects cannot be specified prior to JICA's approval of funding (or project appraisal) and Those components are expected to have a potential impact on the environment.

For Loan aid, Grant Aid (excluding projects executed through international organizations) and Technical Cooperation Projects, JICA conducts an environmental review in accordance with the project category. Project proponents must submit EIA reports for Category A projects. In case of projects that will result in large-scale involuntary resettlement, a Resettlement Action Plan (RAP) also must be submitted. For projects that will require the measures for indigenous people, an Indigenous People Plan (IPP) must be submitted as well. The scope of environmental reviews for Category B projects may vary from project to project, but it is narrower than that of Category A projects. For Category C projects, environmental review will not proceed after categorization.

JICA does examination of the related financial intermediary or executing agency to see whether appropriate environmental and social considerations as stated in the guidelines are ensured for projects in this category. JICA also does examination of institutional capacity in order to confirm environmental and social considerations of the financial intermediary or executing agency, and, if necessary, requires that adequate measures be taken to strengthen capacity. The financial intermediary or executing agency examines the potential positive and negative environmental impacts of sub-projects and takes the necessary measures to avoid, minimize, mitigate, or compensate for potential negative impacts, as well as measures to promote positive impacts if any such measures are available. JICA conducts environmental reviews and information disclosure for the sub-projects prior to their implementation.

JICA confirms with project proponents etc. the results of monitoring the items that have significant environmental impacts. This is done for obtaining confirmation that project proponents etc. are undertaking environmental and social considerations for projects that fall under Categories A, B, and FI. Project proponents etc. disclose information about the environmental and social considerations of their projects. JICA assists project proponents etc. by implementing cooperation projects as needed. JICA also itself discloses important information about environmental and social considerations at the main stages of cooperation

projects, in a manner in accordance with the guidelines. Project proponents etc. consult with local stakeholders through means that induce broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus.

JICA updated its guideline in 2022 where main changes have been made considering the environmental and social policies of multilateral development agencies such as the World Bank, and it includes the following: efforts to estimate and disclose the amount of total greenhouse gas emissions as a response to climate change; changes to disclosure of environmental assessment reports for the purpose of early dissemination to stakeholders and early achievement of positive development impacts; strengthening of efforts related to local stakeholder consultations. In its guideline of 2022, JICA recognizes the following seven principles to be very important.

i. A wide range of impacts must be addressed.
ii. Environmental and social considerations must be implemented from an early stage until monitoring stage.
iii. JICA reviews the environmental and social considerations in accordance with the mitigation hierarchy
iv. JICA is responsible for accountability when implementing cooperation projects.
v. JICA requests stakeholders for their participation
vi. JICA discloses information
vii. JICA enhances its organizational capacity
viii. JICA considers promptness.

JICA classifies projects into four categories according to the extent of environmental and social impacts. The four categories are as follows:

- **Category A:** Proposed projects are classified as Category A if these are likely to have significant adverse impacts on the environment and society.
- **Category B:** Proposed projects are classified as Category B if the potential adverse impacts on the environment and society are less than those of Category A projects.
- **Category C:** Proposed projects are classified as Category C if these are likely to have minimal or little adverse impacts on the environment and society.
- **Category FI:** Proposed projects are classified as Category FI if these satisfy all of the following conditions: JICA's funding of projects is provided to a financial intermediary or executing agency; the financial intermediary or executing agency substantially undertakes the selection and appraisal of sub-projects under the projects, only after JICA's approval of the funding, so that the sub-projects cannot be

specified prior to JICA's approval for the funding (or prior to JICA's appraisal of the project); and those sub-projects are expected to have potential impacts on the environment and society.

For Loan aid, Grant Aid (excluding projects executed through international organizations) and Technical Cooperation Projects, JICA conducts an environmental review in accordance with the project category. Project proponents must submit environmental assessment reports for Category A projects. For projects that result in large-scale involuntary resettlement, a Resettlement Action Plan (RAP) also must be submitted. For projects that require the measures for indigenous people, an Indigenous Peoples Plan (IPP) must be submitted as well. The scope of environmental reviews for Category B projects may vary from project to project, but it is narrower than that of Category A projects. After project categorization, no environmental review is conducted for Category C projects.
For Category FI Projects, JICA reviews, through the financial intermediary or executing agency, to ensure a project's appropriate environmental and social considerations stated in the JICA Guidelines. JICA reviews institutional capacity of the financial intermediary or executing agency for implementation of environmental and social considerations as well, and if necessary, requires adequate measures to be taken to strengthen the capacity. The financial intermediary or executing agency examines the potential positive and negative environmental impacts of the sub-projects and takes necessary measures to avoid, minimize, reduce, mitigate, or compensate for the potential negative impacts, as well as measures to promote positive impacts if any such measures are available.

JICA checks with project proponents about monitoring results of items, which have significant environmental and social impacts. This is done for confirming that project proponents are undertaking environmental and social considerations for projects that fall under Categories A, B, and FI. Project proponents disclose information about environmental and social considerations of their projects. JICA assists the project proponents through implementing cooperation projects as needed. JICA also discloses important information about environmental and social considerations at the key stages of cooperation projects, in an appropriate manner in accordance with the JICA Guidelines. Project proponents take the initiative to consult with local stakeholders through means that induce broad public participation to a reasonable extent, in accordance with the JICA Guidelines. This is done for realizing the environmental and social considerations that is most suitable to local situations, and for reaching an appropriate consensus.

3.5 KfW Development Bank's Sustainability Guidelines[43]

This Guideline focuses on principles and procedures to assess the environmental, social and climate impacts during the preparation and implementation of measures financed by KfW Development Bank. The objective of KfW Development Bank's promotional activities is to help the Federal Government of Germany and its partner countries achieve their overarching development goals (i.e. to reduce poverty, secure peace, promote democracy, shape globalization in an equitable manner and engage in environmental and climate protection). KfW Development Bank aligns its assessment with environment and social standards of World Bank, IFC, ILO etc.

Objectives of this Guideline:

- To define a common binding framework to incorporate environmental, social and climate standards into the planning, appraisal, implementation and monitoring of measures financed by KfW Development Bank;
- To promote transparency, predictability and accountability in the decision-making processes of environmental and social impact assessments (ESIA) and climate change assessments; and
- To improve the assessment of economic risks associated with projects by taking account of the environmental, climate and social aspects.

ESIAs and climate change assessments are core element of the assessment procedure of KfW Development Bank. The essential steps of an ESIA and climate change assessment include:

- A preliminary appraisal, called screening, to determine the environmental, climate and social relevance of a project;

And, if the project has been found to be environmentally and/or socially relevant:

- The definition of the assessment scope (scoping), in close cooperation with the executing agency, in order to identify and assess the project's environmental, climate and social consequences and risks more accurately; and
- The design and implementation of an environmental and social impact study (ESIS), climate change adaptation assessment and/or climate change mitigation assessment in order to examine all or individual aspects of the project, including participatory approaches to involve affected local groups and keep the public in the partner country informed.

[43] **https://www.kfw.de/About-KfW/Service/Download-Center/Konzernthemen/Nachhaltigkeit/Richtlinien/**

All projects will be classified into one of the following three categories A, B or C, according to the relevance of their potentially negative environmental and social impact. Projects will be classified as category A, if they may have a severe negative impact on the environment and/or the social conditions of those concerned. Projects will be classified as category B if they may have a potentially negative impact on the environment and on the social conditions of those concerned, which, however, is less severe than that of category A projects and can usually be mitigated through state-of-the-art countermeasures or standard solutions. Projects will be classified as category C if they are expected to have no or only minor negative environmental and social consequences and if the implementation and operation of the project does not require any particular protection, compensation or monitoring measures.

In case of category A projects, KfW Development Bank requires the executing agency to operate an appropriate monitoring system. Any such management system must consist of the following elements: adequate organizational capabilities, environmental and social assessment procedures, management programs, specific environmental and social training measures, well-structured relations with the target group, monitoring and reporting procedures. In case of category A projects, it is mandatory to analyze and appraise any negative ecological and social consequences as part of an independent environmental and social impact study (ESIS) and to draw up an environmental and social management plan (ESMP). The ESMP should describe all measures that need to be taken to avert, mitigate, offset and monitor any negative consequences that have been identified by the ESIS; it should also assign responsibilities for implementing such measures and list the costs involved.

In case of category B projects, the need for and the scope, priorities and depth of an ESIS have to be determined on a case-by-case basis. Category C projects usually do not require any additional analysis within the meaning of this Guideline or any further ESIA procedures. But, category C projects should be monitored for any relevant changes over their life cycle.

KfW Development Bank considers public participation as an important part of their ESIA process. When the ESIA scope is determined and the ESIS draft is presented, hearings need to be scheduled to consult with the people concerned and/or their community representatives, cooperatives or NGOs through appropriate medium and in a timely and culturally suitable manner. For providing guarantee of an effective monitoring of any negative environmental, climate and social impacts, the executing agency and/or the recipient of the funds have/has to agree to certain reporting and notification duties and employ appropriate monitoring tools.

Environmental and social impact assessment and climate change assessment of cooperation with financial intermediaries: The objective of ESIAs and climate change

assessments for projects involving financial intermediaries (FI) is to anticipate and prevent any negative environmental, climate and social consequences that may arise from loans extended to clients of FIs refinanced by KfW Development Bank. In case the FIs do not have an appropriate environmental and social management system, they have to agree to introduce a system that complies with the IFC Performance Standards. Funds provided by KfW Development Bank must not be used for projects or measures that are registered in the "IFC Exclusion List". The FI must have, or establish, its own ESIA procedure, or commission external assessments (e.g. from local environmental or regulatory bodies or agencies) and enforce appropriate protection measures whenever projects may have a significant negative environmental, climate and social impact.

The previous information was based on KfW Development Banks' Sustainability Guideline of 2014. KfW Development Bank has updated its guideline in 2016. Recently it published a new sustainability guideline in 2022. In its 2022 guideline, along with other updates, it updated the categorization of FC measure. The objectives of this guideline are:

- to define a common binding framework to incorporate environmental, social and climate standards into the planning, appraisal, implementation, and monitoring of Financial cooperation (FC)-measures; and
- to enhance transparency, predictability and accountability in the decision-making processes of the internal environmental and social due diligence (ESDD) and climate mainstreaming

Environmental and Social Due Diligence (ESDD) is a major element of the appraisal procedure of KfW Development Bank. Steps of ESDD are:

- a preliminary appraisal (screening/categorization) to evaluate the environmental and social risks of a FC-measure to determine if an in-depth ESDD is required;

And, if this is affirmed;

- the definition of the scope (scoping) to identify and assess the FC-measure's environmental and social impacts and risks more accurately in close cooperation with the executing agency; and
- The design and implementation of an ESDD in order to examine all or individual aspects of the FC-measure, including participatory approaches to involve project affected peoples and public disclosure in the partner country.

All FC-measures are classified into one of the following four categories "A" (high risk), "B+" (substantial risk), "B" (moderate risk) or "C" (low risk), based on their relevant potential adverse environmental and social impacts and risk. FC-measures are classified as Category A if they risk having diverse significant adverse impacts and risks on the environment or the social conditions of the affected population. FC-measures are classified as Category B if

they potentially risk having adverse impacts and risks on the environment or the social conditions of those concerned, However, the impacts and risks tend to be less significant than those of Category A FC-measures and can usually be mitigated through standard, best available mitigation approaches. It is classified as B+ category if it is expected that a Category B FC-measure has single significantly adverse environmental and social impacts or risks. FC-measures will be classified as Category C if they are expected to have no or only minor adverse environmental and social impacts or risks, and if the implementation and operation of the FC-measure does not require any particular protection, compensation or monitoring measures.

In case of category A projects, analysis and appraisal of any adverse environmental and social effects as part of an independent Environmental and Social Impact Assessment (ESIA) study including an Environmental and Social Management Plan (ESMP) is mandatory. If the FC-measures are run by private operators, their own Environmental and Social Management System (ESMS) is required which includes, (a) adequate organizational capacity and competency, (b) environmental and social assessment procedures, (c) management programs, (d) specific environmental and social training measures, (e) well-structured relations with the target group, (f) monitoring, and (g) reporting procedures

In case of B+ projects, an ESIA and an ESMP as well as an ESMS adapted to these impacts and risks are required. In case of category B, the need for and the scope, the priorities and depth of an ESIA are determined through a case by case evaluation. For category C, additional analysis within the scope of this Guideline or any further ESDD procedures are not required. But relevant changes should be monitored over their life cycle.

In case of financial intermediaries, the objective of the ESDD (as part of the due diligence) for FC-measures is to anticipate risks and prevent any potential adverse environmental and social impacts and risks that may arise from sub-loans granted by the FI and are refinanced by KfW Development Bank (in accordance with to WB ESS 9). The ESDD includes an appraisal of the FI's environmental and social management system (ESMS) in particular. KfW Development Bank will not carry out an appraisal of the environmental and social impacts and risks of each individual sub-loans, but instead will rely on this on the FI’s ESMS and screening procedures.

An important element of the ESDD planning and decision-making process is involving the affected communities and keep the public in the partner country informed through stakeholder engagement. For maintaining transparency, the executing agency is required to disclose relevant information and a non-technical summary on the environmental and social assessment of the FC-measure via appropriate media channels at an accessible location and in a timely, culturally appropriate manner. The executing agency is required to establish

a grievance process for the FC-measure for receiving and dealing with concerns and complaints of employees and members of the affected public.

Climate mainstreaming of FC measures: All funding activities of KfW Development Bank must be subject to climate mainstreaming. The objective of climate mainstreaming for FC-measures with FIs is assessing climate related potentials, effects and risks and preventing potential negative impacts from risks that may arise from sub-loans granted by the FI and are refinanced by KfW Development Bank. Along with analyzing of climate-related aspects, climate mainstreaming also examines the FI's capacity to deal with the effects of climate change.

For implementing an effective monitoring of any adverse environmental, social and climate impacts and risks, the executing agency and/or the recipient of the funds have/has to agree to certain reporting and notification requirements and implement appropriate monitoring tools.

3.6 GCF Sustainability Policies[44]

GCF has established an overarching Environmental and Social Policy. In carrying out its mandate of promoting a paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development, GCF will effectively and equitably manage environmental and social risks and impacts and improve outcomes of all GCF-financed activities. The policy will apply to all GCF-financed activities and both public and private sector entities. Through this policy of March 2018, GCF will require that all GCF-supported activities will commit to:

- Avoid, and where avoidance is not possible, mitigate adverse impacts to people and the environment;
- Enhance equitable access to development benefits; and
- Give due consideration to vulnerable and marginalized populations, groups, and individuals, local communities, indigenous peoples, and other marginalized groups of people and individuals that are affected or potentially affected by GCF-financed activities.

There are different guiding principles of GCF for implementing environmental and social management system and achieving the objectives of this policy and general requirements for environmental and social risk management under GCF. The guiding principles are Integration of environmental and social sustainability; Transboundary risk and impact approach; Scaled risk-based approach; Fit-for-purpose approach; Equality and non-discrimination; Mitigation hierarchy; Coherence and links with relevant policies and practices

[44] **https://www.greenclimate.fund/about/policies/sustainability**

of GCF; Continuous improvement and best practices; Stakeholder engagement and disclosure; Gender-sensitive approach; Knowledge-sharing; Harmonized application of environmental and social requirements; Compliance with applicable laws; Consistency with the United Nations Framework Convention on Climate Change UNFCCC) REDD-plus safeguards; Labour and working conditions; Indigenous peoples; Human rights; Biodiversity. General requirements for environmental and social risk management include Accreditation, Environmental and social management system, Screening and risk categories, Environmental and social due diligence, Environmental and social assessment, Environmental and social management plan, Operational changes, and Monitoring and reporting. There are also sections on Information disclosure, stakeholder engagement, and grievance redress, Effective date and review etc.

GCF requirements may subject to change as per their board decisions. GCF revised its Environmental and Social Policy in September, 2021. GCF revised the environmental and social policy for reaffirming the Fund's commitment to addressing Sexual Exploitation, Sexual Abuse, and Sexual Harassment along with environmental and social considerations in its funded activities. This policy presents the commitments of GCF and articulates the principles and standards to which GCF will hold itself accountable. Through this policy, GCF will require that all GCF-supported activities will commit to:

- Avoid, and where avoidance is impossible, mitigate adverse impacts to people and the environment;
- Avoid, and where avoidance is impossible, mitigate the risks of SEAH to people impacted by GCF-financed activities;
- Enhance equitable access to development benefits; and
- Give due consideration to persons in vulnerable positions and situations and marginalized populations, groups, and individuals, including women and girls, local communities, indigenous peoples, and other marginalized groups of people and individuals that are affected or potentially affected by GCF-financed activities and are especially vulnerable to exploitation or other potentially harmful unintended project impacts.

The principles which will guide GCF in implementing the ESMS and achieve the objectives of this policy are:

- Integration of environmental and social sustainability
- Trans boundary risk and impact approach
- Scaled risk-based approach.
- Fit-for-purpose approach

- Equality and non-discrimination.
- Mitigation hierarchy
- Coherence and links with relevant policies and practices of GCF
- Continuous improvement and best practices
- Stakeholder engagement and disclosure
- Gender-sensitive approach
- Zero-tolerance of SEAH
- Knowledge-sharing
- Harmonized application of environmental and social requirement
- Compliance with applicable laws
- Consistency with the United Nations Framework Convention on Climate Change UNFCCC REDD-plus safeguards
- Labor and working conditions
- Indigenous people
- Human rights
- Biodiversity

General requirements as per GCF Environmental and Social Safeguard Policies

General requirements for environmental and social risk management under GCF are, accreditation, environmental and social management system, screening and risk categories, environmental and social due diligence, environmental and social assessment, environmental and social management plan, operational changes and monitoring and reporting.

***Accreditation*:** GCF operates through accredited entities such as financial intermediaries (FI) and GCF requires the FIs will have in place environmental and social management systems (ESMS) that specify their capacities, standards, and processes for screening, identifying, assessing, managing, and monitoring the potential environmental and social risks and impacts pursuant to the ESS standards of GCF. The accreditation of the entities will validate adequacy of the applicant's ESMS, track record of implementing such system and institutional capacity to undertake environmental and social risks and impacts assessment and management.

***Environmental and Social Management System (ESMS)*:** The ESMS will be sufficient with detail and inclusive measures along with institutional arrangement which will be adequate to manage the expected level of risks and impacts of the activities to be financed. The accredited entities will maintain and continuously improve the ESMS on which their accreditation was approved. The personnel of the accredited entities designated to

implement the ESMS, including the external consultants, must have the necessary expertise in all areas covered by the ESS standards of GCF to carry out their responsibilities.

***Screening and risk categories*:** The environmental and social risk categories of activities supported by GCF are category A, B and C.

- Category A. Activities with potential significant adverse environmental and/or social risks and impacts that, individually or cumulatively, are diverse, irreversible, or unprecedented;
- Category B. Activities with potential limited adverse environmental and/or social risks and impacts that individually or cumulatively, are few, generally site-specific, largely reversible, and readily addressed through mitigation measures; and
- Category C. Activities with minimal or no adverse environmental and/or social risks and/or impacts.

Categorization is also applied to the investments through financial intermediation. These are:

(a) High level of intermediation, I1- When an intermediary's existing or proposed portfolio includes, or is expected to include, financial exposure to activities with potential significant adverse environmental and social risks and impacts that, individually or cumulatively, are diverse, irreversible, or unprecedented;

(b) Medium level of intermediation, I2- When an intermediary's existing or proposed portfolio includes, or is expected to include, substantial financial exposure to activities with potential limited adverse environmental or social risks and impacts that are few, generally site-specific, largely reversible, and readily addressed through mitigation measures; and includes no activities with potential significant adverse environmental and social risks and impacts that, individually or cumulatively, are diverse, irreversible, or unprecedented; and

(c) Low level of intermediation, I3- When an intermediary's existing or proposed portfolio includes financial exposure to activities that predominantly have minimal or negligible adverse environmental and social impacts

Environmental and social due diligence: The objective of GCF due diligence is understanding and evaluating how the environmental and social, including transboundary and SEAH risks and impacts are screened, assessed and planned to be mitigated and managed by the accredited entities.

***Environmental and Social Assessment*:** The environmental and social assessment will follow international industry practices; identifies alternatives; allows for an integrated and balanced view of the environmental and social risks and impacts applicable to GCF standards and requirements of the accredited entities.

For Category A activities that are anticipated to have significant environmental and social, including transboundary and SEAH risks and impacts, a full and comprehensive ESIA and ESMP will be required. For Category B activities with limited impacts, an ESIA and ESMP with a limited focus on the potential impacts and appropriate mitigation, monitoring, and reporting measures will be required. For Category C activities should have no expected significant environmental and social impacts and, therefore may not require any assessments, although a pre-assessment or screening should be conducted to support the claim of the activities being Category C.

***Environmental and Social Management Plan (ESMP)*:** GCF will require and ensure that the accredited entities develop ESMPs that contain the measures to manage and mitigate the identified risks and impacts. The ESMP will be designed with the appropriate measures to address adverse environmental and social risks and impacts including health and safety, SEAH; stakeholder agreement in case of trans boundary risks and impacts; environment and social audit including remediation, recompense, or management of any residual issues in case of existing activities.

Operational changes: GCF will require the accredited entities to notify GCF about major changes in the activity design and execution, policy, and regulatory setting, receiving environment and community, unanticipated environmental risks and impacts, or other circumstances that raise or potentially raise the environmental and social risk category of GCF-financed activities, requirement of changes to the ESMP or other management plans, changes in their environmental and social management systems that may adversely affect the planning, design, implementation, and monitoring of GCF-financed activities etc.

***Monitoring and Reporting*:** GCF will carry out monitoring and reporting functions related to the environmental and social performance of the accredited entities as required in the GCF monitoring and accountability framework. The extent of monitoring will be based on the type and level of risks identified, including environmental and social risks. GCF will also monitor the compliance of accredited entities. On an annual basis, the accredited entities will provide GCF with a self-assessment of their compliance with the applicable environmental and social safeguards pursuant to the ESS standards of GCF.

Information Disclosure, Stakeholder Engagement, and Grievance Redress

The GCF Information Disclosure Policy has made a commitment to ensure transparency, public access to information, and stakeholder participation in all its activities. The information

will be made available to the stakeholder to be reviewed by them, seek further information, and provide inputs on a proposed activity, including ways to improve the design and implementation of its environmental and social safeguards. The accredited entities will also disclose a summary of the activities, along with the environmental/social information, including the purpose, nature, and scale of the activities, and the intended beneficiaries; summary of stakeholder consultations and the planned stakeholder engagement process; and availability of grievance mechanism.

GCF will require accredited entities to ensure the effective engagement of communities and individuals, including trans boundary, vulnerable, and marginalized groups and individuals that affected or potentially affected by the activities proposed for GCF financing. The stakeholder engagement plan will describe the disclosure of information, meaningful consultation and informed participation, as well as free, prior informed consent, as required pursuant to the ESS standards of GCF. The ESS standards of GCF establish the requirements for setting up of a grievance redress mechanism at the activity level to receive and facilitate the resolution of concerns and grievances about the environmental and social performance of GCF-financed activities.

Review and Incorporation of Amendments

GCF will review and evaluate the overall environmental and social performance based on the objectives of this policy and the ESS standards. Appropriate amendments will be considered to this policy and GCF will provide guidance to accredited entities on the implications of such amendments on the ESMS of accredited entities and their application to ongoing GCF-financed activities. A review of the policy will be undertaken five years after the effective date in order to assess the effectiveness of GCF in achieving the objectives of the policy.

GCF's interim Environmental and Social Safeguards are the IFC's Environmental and Social Performance Standards. Apart from this, GCF also has its indigenous peoples policy and gender policy. The overall objective of indigenous peoples policy is provision of a structure for ensuring that GCF activities are developed and implemented in such a way that fosters full respect, promotion, and safeguarding of indigenous peoples so that they (a) benefit from GCF activities and projects in a culturally appropriate manner; and (b) do not suffer harm or adverse effects from the design and implementation of GCF-financed activities. Through gender policy GCF commits to,

- Enhance gender equality within its governing structure and day-to-day operations; and

- Promote the goals of gender equality and women's empowerment through its decisions on the allocation of funds, operations and overall impact as outlined in the Gender Action Plan

3.7. AIIB Environmental and Social Framework[45]

AIIB's Environmental and Social Framework along with other elements comprises of Environmental and Social Policy (ESP). The ESP comprises mandatory environmental and social requirements for each Project and is accompanied by:

(a) Three associated mandatory Environmental and Social Standards (ESSs) setting out requirements applicable to Bank Clients on, respectively, Environmental and Social Assessment and Management; Land Acquisition and Involuntary Resettlement; and Indigenous Peoples; and

(b) An Environmental and Social Exclusion List

The objectives of Environmental and Social Framework are to:

- Reflect institutional aims to address environmental and social risks and impacts in Projects.
- Provide a robust structure for managing operational and reputational risks of the Bank and its shareholders in relation to Projects' environmental and social risks and impacts.
- Support the environmental and social soundness and sustainability of Projects.
- Facilitate the integration of environmental and social aspects of Projects into the decision-making process by all parties.
- Provide a mechanism for addressing environmental and social risks and impacts in Project identification, preparation and implementation.
- Enable Clients (defined below in Section II, Definitions, of the ESP) to identify and manage environmental and social risks and impacts of Projects, including those of climate change.
- Provide a framework for public consultation and disclosure of environmental and social information in relation to Projects.
- Provide a grievance redress mechanism designed to enable Project-affected people to voice their concerns and grievances in connection with the environmental and social aspects of Projects.

[45] **https://www.aiib.org/en/policies-strategies/framework-agreements/environmental-social-framework.html**

- Improve development effectiveness and impact to increase results on the ground, in both the short and long term.
- Support Clients, through Bank financing of Projects, to strengthen their environmental and social management systems.
- Support Clients, through Bank financing of Projects, to implement their obligations under national environmental and social legislation (including under international agreements adopted by the Member) governing these Projects, including commitments relating to climate change.
- Support Clients, where feasible and appropriate, to mobilize resources for technical assistance for the preparation of environmental and social documents and capacity enhancement.
- Facilitate cooperation on environmental and social matters with development partners

Each proposed project is classified into one of the four categories (A, B, C and FI) for determining the type of assessment and instrument required.

Category A- A Project is categorized A if it is likely to have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works and may be temporary or permanent in nature. The Bank requires the Client to conduct an environmental and social impact assessment (ESIA) or equivalent environmental and social assessment, for each Category A Project, and to prepare an environmental and social management plan (ESMP) or environmental and social management planning framework (ESMPF) (or other similar Bank-approved documentation), which is included in the ESIA report for the Project.

Category B- A Project is categorized B if: (i) it has a limited number of potentially adverse environmental and social impacts; (ii) the impacts are not unprecedented; (iii) few if any of them are irreversible or cumulative; (iv) they are limited to the Project area; and (v) they can be successfully managed using good practice in an operational setting. The Bank requires the Client to conduct an initial review of the environmental and social risks and impacts of the Project. On the basis of this review, the Bank, in consultation with the Client, determines the appropriate instrument for the Client to assess the Project's environmental and social risks and impacts, on a case-by-case basis. The Bank may determine that an ESIA or another similar instrument is appropriate for the Project. Commonly used instruments for Category B include an ESMP or an ESMPF.

Category C: A Project is categorized C if it is likely to have minimal or no adverse environmental and social impacts. The Bank does not require an environmental and social

assessment but does require the Client to prepare an analysis of the environmental and social aspects of the Project.

Category FI: A Project is categorized FI if the financing structure involves the provision of funds to or through a financial intermediary (FI) for the Project, whereby the Bank delegates to the FI the decision-making on the use of the Bank funds, including the selection, assessment, approval and monitoring of Bank-supported activities, based on a sound environmental and social management system (ESMS) adopted by the FI.

Apart from these, the framework also has detailed guidelines on environmental and social due diligence including due diligence for financial intermediary projects, environmental and social assessment, disclosure, consultation, grievances and project-affected people's mechanism, project implementation, monitoring and reporting etc.

The Bank conducts environmental and social due diligence, as an integral element of the preparation of its financing and assessment of the Project, in a manner that is: (a) appropriate to the nature and scale of the Project; and (b) proportional to the level of the Project's potential environmental and social risks and impacts. The Bank conducts due diligence on the FI and its portfolio relevant to the Project to assess whether the FI is in a position to apply its existing or proposed ESMS and related environmental and social requirements with respect to the Bank-supported activities. It is required by the Bank for the Client to undertake an environmental and social assessment that consists of the following elements in varying degrees, depending on the categorization, and reflecting the nature, scale and potential risks and impacts of the Project. Elements of environmental and social assessment include a) description of the Project, including, as applicable, a map of the Project area; (b) policy, legal and administrative framework, including the international and national legal framework applicable to the Project; (c) scoping, including stakeholder identification and consultation plan; (d) analysis of alternatives, including the "without Project" alternative; (e) baseline environmental and social data; (f) evaluation of environmental and social risks and impacts; (g) analysis of risks and impacts related to climate change; (h) public consultation and information disclosure; and (i) development of mitigation, monitoring and management measures and actions in the form of an ESMP or ESMPF or other Bank-approved document.

The Bank along with itself also requires the client to disclose environmental and social information as necessary. The Bank also requires the Client to engage in meaningful consultation with stakeholders during the Project's preparation and implementation, in a manner commensurate with the risks to and impacts on those affected by the Project. The Bank and the Client have complementary but distinct Project monitoring responsibilities. The extent of monitoring activities, including their scope and periodicity, is proportional to the

Project's risks and impacts. It is required by the Bank for the Client to establish, in accordance with the ESP and applicable ESSs, a suitable Project-level GRM to receive and facilitate resolution of the concerns and complaints of people who believe they have been adversely affected by the Project's environmental or social impacts, and to inform Project affected people of its availability.

3.8. AFD's Environmental and Social Risk Management Policy [46]

In order to maintain corporate social responsibility, AFD manages environmental and social risks for all AFD funded projects. AFD has developed procedures to identify, prevent and mitigate E&S risks and associated human rights violation activities. It also has the motive to improve the legislative and regulatory frameworks of its clients by strengthening sustainable development policies and standards, governance, human and technical capacity building, while improving economic, social and environmental performance. AFD has aligned its policy with the E&S standards of World Bank for projects with high or substantial environmental and social impacts with a goal to harmonize and coordinate AFDs environmental and social risk management policy with other multilateral donor agencies.

E&S Principles:

The principles designed under this policy is applicable for the appraisal and implementation of all the AFD funded operations environmental and social risk management including avoidance, reduction or alternatives evaluation to avoid negative impacts.

Financial intermediation

For projects with financial intermediaries, AFD ensures that the funded institution implements an Environmental and Social Management System that complies with the principles set out in the present policy. AFD has to take measures to improve the Environmental and Social Management System, when the financial intermediary does not comply with the requirements of AFD. The measures are set out in an Environmental and Social Action Plan that will enable the financial institution to comply with the required standards and procedures. Technical assistance resources may be mobilized to assist the financial institution in complying with AFD requirements.

Due Diligence:

Due diligence procedure is defined as analysis of environmental and social risks and impacts during the preliminary assessment of the operation depending on the nature and scale of the operation and induced risks and impacts. The due diligence assess the compliance agreement of the clients' environment and social risk management to the AFD

[46] **https://www.afd.fr/en/ressources/environmental-and-social-risk-management-policy-afd-funded-operations**

requirements and helps decision making process for the approval of financing of the operation.

Responsibility of the client

The client is responsible to conduct necessary E&S impact assessment of its project. The client monitors and documents the application of the environmental and social management measures during the implementation of the project activities. It also implements the preventive actions required to remove the potential causes of a failure and the remedial actions required when a failure is identified. It regularly informs AFD about this through periodic progress reports.

Categorization of the environmental and social risk

AFD analyzes and classifies all potential projects into High – Substantial – Moderate – Low environmental and social risks, depending on the extent of the potential risks borne by the operation. The classification takes into account the nature and scale of the operation, the location and sensitivity of the affected area, the severity of the potential environmental and social risks and impacts, as well as the client's capacity to manage them. This classification aims to determine the nature and depth of the environmental and social assessment required and the level of environmental and social standards the project will be required to comply with, as well as the needs to engage stakeholders and the level of information required.

Required documentation

It involves a detailed Environmental and Social Assessment (ESA) for projects in both the High and Substantial Risks category. It may be in a simplified form only (specific chapters of the feasibility study) in case of the Moderate Risks category. No environmental and social assessment is required for projects in the Low Risks category. The detailed ESA is conducted at the same time as the feasibility study. It is submitted to the consultation of the persons and groups potentially affected and aims to allow the preparation of an Environmental and Social Management Plan (ESMP). In the event of an involuntary physical and/or economic displacement, the ESMP is complemented with a Resettlement Plan (RP).

Environmental and Social Commitment Plan (ESCP)

For projects classified as having High, Substantial or Moderate risks, the client has to design the project's environmental and social commitments in a document called the Environmental & Social Commitment Plan. The ESCP is developed to set out briefly the measures and actions required for the project to comply with the environmental and social performance targets, according to a specific timetable and deemed satisfactory to AFD. The ESCP may

be in a single document laid out in table format along with the details about the sources of financing for the implementation of the measures defined.

Stakeholder participation-consultation

In case of High and Substantial risk projects, the analyses in ESA, ESMP and RP must be subject to a free, prior and informed consultation of the people potentially affected by the project, the central and local administrations impacted and civil society representatives involved in environmental and social issues. This consultation process is organized and financed by the client and may be conducted at various stages of the assessment process, in line with national regulations. Conclusions must be used in the final drafting of the assessment reports submitted for AFD's approval.

Disclosure of information

Once the environmental and social documents have been approved by AFD, especially the ESA, ESMP and/or RP, the client has to make these documents available to the public, in accessible areas in the country and on Internet for transparency and accountability towards the main stakeholders and AFD will provide support if required for disclosing such information.

Monitoring and implementation support

AFD expects its clients to implement the environmental and social measures set out in the various plans (ESCP, ESMP, RP, etc.), which are referred to in the financing agreements, in compliance with the required deadlines. Throughout project implementation, the client reports to AFD on the implementation of the planned environmental and social measures, in accordance with the project documents, the progress in implementing mitigation measures and results achieved.

Handling of environmental and social complaints

For projects classified as High and Substantial risks, the client will need to set up and fund a grievance redress mechanism while providing it with adequate resources. This system will be widely advertised, in appropriate languages and forms, and be easily accessible to potentially affected people. AFD will systematically and in real time be kept informed of the functioning of the mechanism and, for each complaint, be updated on the status of the resolutions. Periodic reports are expected to mention the activity results of the client's grievance redress mechanism.

Annex 2: Initial Environmental and Social Checklist

1. Does the project have any pending compliance such as Location and Environmental Clearance based on its category from the DOE/ pending necessary operating licenses and permits on EHS?

☐ Yes ☐ No ☐ Not Known

2. Does the project construction and/or operation lead to environmental impacts that are diverse, irreversible and / or unprecedented in nature?

☐ Yes ☐ No ☐ Not Known

3. Does the project require involuntary resettlement that results in loss of land or livelihoods or physically displaces more than 200 persons?

☐ Yes ☐ No ☐ Not Known

4. Is the project vulnerable to climate change related impacts?

☐ Yes ☐ No ☐ Not Known

5. Does the Borrower have a documented Policy on E&S Performance?

☐ Yes ☐ No ☐ Not Known

6. Does the project have established and implemented environmental and social management systems and required human resources in this regard?

☐ Yes ☐ No ☐ Not Known

**This is an indicative checklist which may vary based on project requirements*

Annex 3: Sample Format for E&S Compliance Report

Sample Format for E&S Compliance Report for infrastructure, energy efficiency and PPP Projects

Environmental & Social Review

Site Overview

Location details and with Google Map	
GPS Coordinates	
Site Surrounding Features	
Accessibility to the Site	
Previous usage of the Project Site	
Locality around the Project site	
Project Site Categorization	
Recent Picture of the Project Site	

Baseline Conditions

Air Emission Data	
Noise Data	
Surface and Ground Water Data	
Bio-diversity Data	
Involuntary Resettlement	
Indigenous People	
Earthquake Zone	

DOE Certification

Site Clearance Certificate	Status	
	Validity Date	
	Key Conditions	
EIA Approval	Status	
	Validity Date	
	Key Conditions	
Environmental Clearance Certificate Approval	Status	
	Validity Date	
	Key Conditions	

Compliance Requirement from Bangladesh Bank

Potential Impacts

Environmental Impacts	Construction Phase	
	Operation Phase	
Social Impacts	Construction Phase	
	Operation Phase	
Occupational Health & Safety	Construction Phase	
	Operation Phase	
Gender	Construction Phase	
	Operation Phase	

Company Policy

Minimum Wage	
Child Labor	
Environmental & Social Management Plan	
Grievance Management	

Observations from the E&S

Site Visit Date	
Key Site Visit Observations	
Monitoring Requirement proposed	
ESSF Compliance	

Sample Format for E&S Compliance Report for Renewable Energy Projects

ENVIRONMENTAL AND SOCIAL IMPACTS

Part A

1. Name of the Sponsors :

2. Location :

3. GPS Coordinates :

4. Accessibility to the project site :

5. Locality around the project Site **:**

East Side	
West Side	
North Side	
South Side	

6. Type of the industry:

7. DOE category based on ECR 1997: ECC of the borrower (Please select the applicable one)*
   - **See the attached ECC.**

   ☐ If the solar project is up to 1 MW, it is categorized as green project and it does not require an ECC/ site clearance certificate.

   ☐ The solar project is greater than 1 MW, it falls into Orange B category and requires ECC/site clearance certificate.

   ☐ Others. (If the cumulative project size is more than 1 Mw, but individually is less than 1 MW).

Cumulative: Multiple project site in on approval

Project Site	Capacity	Location	Category

[Note: i) As per the gazette of DOE, if factory is only involved in cutting, knitting and sewing, Environmental Clearance Certificate (ECC) is not required.
ii) ECC for rooftop solar project maybe incorporated in the existing ECC of the borrower]

8. Previous usage of land:

9. Environment Baseline Condition:

Particulars	**Applicability**	**Remarks**
Air Emission Data		
Noise Data		
Surface and Ground Water Data		
Bio-diversity Data		
Involuntary Resettlement		
Ingenious People		

10. Screening transactions: as attached

11. BB ESDD Risk Assessment Tool: as attached

12. Categorizing transactions based on their environmental and social risk:

BB ESRM under ESDD Risk Assessment Tool	☐ **Low** ☐**Medium** ☐**High** ☐**Not Applicable**
Environmental Risk Rating as per the ECR-97*	☐**Green** ☐**Orange A** ☐ **Orange B** ☐**Red** ☐ **Not Applicable**
Environmental Risk Rating as per ESMS	☐**Green** ☐**Orange** ☐**Red** ☐**Not Applicable**

13. Conducting environmental and social due diligence:
14. Mitigation Measures:

* According to DOE gazette published on 24th December 2017

Part B

Condition Precedent to Disbursement (for any terms of reference applicable for the project regardless the capacity of the project)

CP to 1st disbursement:

1. TOR preparation (If more than 1 MW, appointment of consultant for ESA/ESIA report preparation)
2. Submission of existing ECC by the project borrower (for CAPEX)/Off-taker (for OPEX).

CP to final disbursement:

For any project:

- ESA/ESIA report (Up to 1Mw, Provide in-house ESA report)

For the project more than 1 MW

- Proof of the incorporation of the rooftop solar project within in the existing ECC or
- Proof of application for NOC from DOE for ECC; for the project[47] which does not require ECC as falls under green category but capacity is more than 1 Mw.
- If the project is in OPEX modality and more than 1 MW, the borrower needs to apply for ECC for the project and provide evidence of the application

[47] **As per the gazette of DOE, if factory is only involved in cutting, knitting and sewing, Environmental Clearance Certificate (ECC) is not required.**

Annexure

A. Project Location

Sl. No.	Name	Address	GPS Coordinates
1			

B. Project Satellite View on Google Maps

C. Picture of Project

Annex 4: E&S Risk Rating Criteria

	E&S Risk Rating Criteria	Yes	No
1	Does the project have any pending compliance such as Site Clearance and/or Environmental Clearance based on its category (Red, Orange-A, Orange-B and Green), from the DOE?		
2	Is the project located in the immediate vicinity or within 5 Km radius (likely to cause adverse impact) of environmentally critical/sensitive areas (national parks, wetlands, wildlife habitats, important bird areas, and protected areas)? *Ref: Environmentally Critical Areas Rules, 2010*		
3	Does the project construction and/or operation lead to environmental impacts that are diverse, irreversible and / or unprecedented* in nature? *Refer to IEE/EIA reports if available or Environmental Due Diligence (EDD) during site visit, to answer this question*		
4	Does the project require involuntary resettlement that results in loss of land or livelihoods or physically displaces more than 200 persons?		
5	Does the project require involuntary resettlement that results in loss of land or livelihoods or physically displaces up to 200 persons?		
6	Is the project site on or in immediate vicinity of socially vulnerable or Ethnic Minority/Indigenous People owned or occupied land and has the potential to cause an adverse impact on their culture and identity?		
7	Is the project vulnerable to climate change related impacts?		
E&S Capacity of the Borrower			
8	Does the Borrower have a documented Policy on E&S Performance?		
9	Does the Borrower have dedicated human resources to address E&S performance?		
10	Has the Borrower established and implemented Environmental, Health & Safety Management Systems and Social Accountability Systems for the Project or in the parent company?		

***Diverse, Irreversible and Unprecedented Environmental Impacts**

Diverse Impacts – impacts resulting on multiple E&S components or receptors over a varying time and spatial scale (e.g. activities that can cause large scale adverse impacts on local air quality, noise levels, generation of hazardous wastes as well as nuisance to community)

Irreversible Impacts – impacts on E&S components that, in all practical terms are permanent in nature

and cannot be reversed in spite of the removal of the causal stress factor (e.g. construction or change in land use that permanently alters the natural drainage or destroys habitats used by migratory birds)

Unprecedented Impacts – are impacts that are first of its kind in terms of available knowledge of their potential to cause harm to the E&S components and their effective mitigation (e.g. impact of noise pollution on an endangered faunal species in a geographical region where no prior studies are available on impact tolerance and response of the species)

Rules for determination of Risk Rating:

a) Based on the Table 2 above, if any question numbered 1 to 7(except question numbered 5) is answered as Yes, then the Project E&S Risk is rated "High".
b) If all the questions numbered 1,2,3,4,6 and 7 are a No and question numbered 5 is a Yes, then Project E&S Risk is rated "Medium"
c) If all the questions numbered 1 to 7 are a No and at least one of the questions numbered 8 to 10 is a No, then the Project E&S Risk is rated as "Medium".
d) if all the questions numbered 1 to 7 are a No and any two of the questions numbered 8 to 10 is a No, then the Project E&S Risk is rated as "High".
e) If all questions numbered 1 to 7 are a No and all questions rated 8 to 10 are a Yes then the Project E&S Risk is rated as "Low".
f) If all questions numbered 1, 2, 3, 4, 6, 7 is a No, question numbered 5 is a Yes and all questions rated 8 to 10 are a Yes then the Project E&S Risk is rated as "Medium".

E&S Risk Category (According to IDCOL ESSF):

☐ High ☐ Medium ☐ Low

Annex 5: E&S Risk Assessment Tool of Bangladesh Bank

Please note that, excel based ESDD risk assessment tool is generally used to determine the risk rating according to Bangladesh Bank.

Basic Information	
Bank/FI Name	ABC
Branch Name	Motijheel
Date	Sunday, June 26, 2022
Name of Client/Account	ABC TRADERS
Transaction ID	123456
Location	
Division	DHAKA
District	DHAKA
Upazilla/Thana	DHAMRAI
Sector	Textile and Apparel
CIB Sector code	
Product Manufactured/Traded	
Core Market	INTERNATIONAL
Name of Relationship Official	
DOE Categorisation	
Transaction Type as Table 1 of Guidelines	Transaction Type-11 of ESRM Guideline

Risk Rating of the Project	Medium Risk
General Risks	73
nvironmental health and safety risks	54
Social risks	8
Final Score	**45**

Summary of the Rating

Environmental and Social Due Diligence (ESDD) Risk Assessment

Project: ABC TRADERS **Transaction ID: 123456**

Date: 26-06-2022 **Risk rating of the project: Medium Risk**

Please ensure that there is a record of relevant documents and references in order to support all responses. In the absence of documentary evidence, the RM needs to obtain verbal confirmation from the customer and insert information to the best of his knowledge.

	Questions	Answer	Comments	Guidance Notes
1.0	**General Risks**			
1.01	Land clearance permit	◉ Valid ○ Applied ○ Not Taken ○ Not Applicable		In case of the answer is "Applied", the RM must confirm the receipt of the certificate within three months.
1.02	Water discharge permit	○ Valid ○ Applied ○ Not Taken ◉ Not Applicable		
1.03	Clearance from DOE	○ Valid ○ Applied ○ Not Taken ◉ Not Applicable		
1.04	Fire license	◉ Valid ○ Applied ○ Not Taken ○ Not Applicable		
1.05	Boiler license	○ Valid ◉ Applied ○ Not Taken ○ Not Applicable		
1.06	Factory inspection certificate	○ Valid ◉ Applied ○ Not Taken ○ Not Applicable		
1.07	Permission from Department of Explosives	◉ Valid ○ Applied ○ Not Taken ○ Not Applicable		
1.08	Notices were received or fines/penalties were charged for exceeding the limits of air, water, noise and waste levels in past three years.	◉ Yes ○ No/not applicable		
1.09	The local community is adversely affected by pollution or there was loss of livelihood because of the project.	◉ Yes ○ No/not applicable		
1.10	Worker unrest in the project caused riots/road blocks within the last three years.	○ Yes ◉ No/not applicable		

1.11	The project involves activities like converting rice fields into industrial land, filling out water bodies (river, ponds) for business purpose.	○ Yes	◉ No/not applicable		encroaching into forest lands, use of old buildings or buildings without permit for industrial activities etc
1.12	The client has taken adequate measures to mitigate the impact of the operation on the eco-sensitive areas as	◉ Yes/not applicable	○ No		Mention the measures taken by the client
1.13	The client has a defined policy on environmental health and safety.	◉ Yes/not applicable	○ No		definition
1.14	The client has a defined policy on social issues management.	◉ Yes/not applicable	○ No		definition
1.15	The client has a defined policy on grievance mechanism.	○ Yes/not applicable	◉ No		
2.0 Environmental risks					
2.01	There are mchanisms to control volatile organic compounds.	◉ Yes/not applicable	○ No		
2.02	There is sufficient ventilation i.e. provisions for cross ventilation (e.g., windows at regular intervals, exhaust fans, dust controller etc.)	◉ Yes/not applicable	○ No		
2.03	There are proper measures to manage heavy metal and liquid wastage.	○ Yes/not applicable	◉ No		
2.04	There are mitigating measures to control radiation.	○ Yes/not applicable	◉ No		
2.05	There are mitigation measures to minimize high noise level.	○ Yes/not applicable	◉ No		Following Schedule-4 of the Environment Conservation Rules, 1997.
2.06	There are proper measures to control emission of CO_2, SO_2, NOX.	◉ Yes/not applicable	○ No		
2.07	Wastewater/effluent is discharged to a location which is not according to the license and permits.	◉ Yes	○ No/not applicable		Location such as an agricultural field, a residential area, an enclosed water body which is a source of drinking water or used for domestic purpose etc.

2.08	There is an installed Effluent Treatment Plant (ETP) or Sewage Treatment Plant (STP).	◉ Yes/not applicable	◯ No		
2.09	There are monitoring records of treatment of water (such as quantity of water treated, quality of wastewater before and after treatment, running hours of ETP etc.)	◉ Yes/not applicable	◯ No		
2.10	There is a strong odor of chemicals, dumped waste, blocked sewerage etc. caused by untreated effluent.	◉ Yes	◯ No/not applicable		
2.11	The project keeps wastewater discharge (quality and quantity) within the prescribed limit.	◉ Yes/not applicable	◯ No		
2.12	There is evidence of land contamination because of activities such as leakages, spills, improper storage of waste, toxic effluent discharge.	◉ Yes	◯ No/not applicable		
2.13	There are well maintained records on quantity and quality of solid waste generated (including when it was generated) and how it is being treated.	◉ Yes/not applicable	◯ No		
2.14	There are boxes, cartons, plastic packets, rags, unused or left over raw materials dumped indiscriminately.	◉ Yes	◯ No/not applicable		
2.15	Renewable energy is used.	◉ Yes/not applicable	◯ No		
3.0 Social risks					
3.01	There are sufficient notice boards in domestic language with information on Personal Protective Equipment (PPE)s, workplace safety, occupational hazards.	◯ Yes/not applicable	◉ No		

3.02	There are regular trainings of employees on occupational health and safety.	○ Yes/not applicable	◉ No		
3.03	There is an onsite occupational health and safety treatment center.	○ Yes/not applicable	◉ No		
3.04	Sufficient firefighting equipments are available, accessible, and identifiable from a distance.	○ Yes/not applicable	◉ No		
3.05	Firefighting equipments are properly maintained and kept unlocked, and have valid license.	○ Yes/not applicable	◉ No		
3.06	Appropriate numbers of independent emergency exits are available per working area.	○ Yes/not applicable	◉ No		
3.07	All emergency exits and access routes are free from obstruction.	○ Yes/not applicable	◉ No		
3.08	There are regular health & safety audits. [Check if there are audits carried out by Accord, Alliance, buyers (for RMG sector only) any other third party]	◉ Yes/not applicable	○ No		
3.09	Non-compliances identified in the audit reports are addressed.	○ Yes/not applicable	○ No		
3.10	There is an independent and functioning evacuation alarm present with continuous sound to notify all workers about an emergency situation and to ensure a fast and safe evacuation.	○ Yes/not applicable	◉ No		
3.11	A fire safety plan or onsite emergency plan or disaster management plan is in place.	○ Yes/not applicable	◉ No		
3.12	There is a daycare center for the children of the employees.	○ Yes/not applicable	◉ No		
3.13	Facilities such as washroom and drinking water are sufficient for the employees.	○ Yes/not applicable	◉ No		

3.14	Employees have a separate place for eating.	○ Yes/not applicable	◉ No		
3.15	The project ensures payment of minimum wage.	○ Yes/not applicable	◉ No		
3.16	There is evidence of employees working more than 60 hours in a week.	◉ Yes	○ No/not applicable		
3.17	Verbal, physical abuse or fines are used as disciplinary actions.	◉ Yes	○ No/not applicable		
3.18	There is evidence of discrimination based on gender or religion.	◉ Yes	○ No/not applicable		
3.19	There are adequate safeguards in place to avoid child labour and forced labour.	○ Yes/not applicable	◉ No		
3.20	The project maintains records for age of workforce, wages, payment and attendance.	○ Yes/not applicable	◉ No		
3.21	There are provision for labor unions, representation, collective bargaining and grievance mechanism.	○ Yes/not applicable	◉ No		
3.22	There is presence of a plan for community health and safety.	○ Yes/not applicable	◉ No		Definition of plan
3.23	There is evidence of issues that may create nuisance/accidents/injuries to local community in future.	◉ Yes	○ No/not applicable		
3.24	There is physical evidence of foul smell, noise, air pollution etc. due to project operations that may impact the local community.	◉ Yes	○ No/not applicable		
3.25	There are measures to mitigate adverse impacts of the hazardous waste on the local community.	○ Yes/not applicable	◉ No		

3.26	There are safeguards in place to minimize or avoid community exposure to potential harmful impacts from hazardous material.	◉ Yes/not applicable	○ No		
3.27	The client has taken mitigation measures to stop spreading waterborne diseases or improper disposal of solid waste on land.	◉ Yes/not applicable	○ No		
3.28	The project caused displacement of local community.	◉ Yes	○ No/not applicable		
3.29	The displaced community were resettled and properly compensated.	○ Yes/not applicable	◉ No		
3.30	The project has a grievance redressal system (such as regular meeting) which gives the affected community and other stakeholders a platform to express their concerns.	○ Yes/not applicable	◉ No		

Annex 6: Project E&S Risk Categorization of IDCOL, Different National Regulators and Development Partners

The following tables show risk categorization of IDCOL, national regulators and different development partners. It should be noted that, this does not represent any mapping of risk category across different organizations.

IDCOL	**Project E&S Risk Categories**		
IDCOL ESSF	High	Medium	Low
IDCOL ESMF/ESMS	Category A	Category B	Category C

National Regulators	**Project E&S Risk Categories**			
Bangladesh Bank (BB)	High	Medium	Low	-
Department of Environment (DOE)	Red	Orange B	Orange A	Green

Development Partners	**Project E&S Risk Categories**			
World Bank (WB)[48]	High	Substantial	Moderate	Low
Asian Development Bank (ADB)	Category A	Category B	Category C	Category FI
International Finance Corporation (IFC)	Category A	Category B	Category C	Category FI
Japan International Cooperation Authority (JICA)	Category A	Category B	Category C	Category FI
Agence Française de Développement (AFD)	High	Substantial	Moderate	Low
Green Climate Fund (GCF)[49]	Category A	Category B	Category C	-
KfW Development Bank[50]	Category A	Category B+	Category B	Category C
Asian Infrastructure Investment Bank (AIIB)	Category A	Category B	Category C	Category FI

[48] **Categories are A, B, C and FI as per OP 4.01**
[49] **Categorization for financial intermediation is I1, I2, I3**
[50] **All projects will be classified into one of the following three categories A, B or C as per their guideline of 2014**

Annex 7: Site Visit Checklist/ Environmental and Social Screening Checklist

Name and Address:			
GPS Coordinates:			
Description of the project:			
Compliance of Necessary Documentations, Certificates and Permits (Mention if there is any fine/penalties related to environment and social issues):			
Environment, Health and Safety and Social Related Policies:			
Environmental and Social Features	**Status/Availability**	**Significance on open issues**	**Remarks**
Type of Land (Purchased/leased land, low/level from road, requirements of landfill)			
Air and Noise Pollution and Necessary Measures			
Soil and Water Contamination and Necessary Measures			
Wastewater/Effluent Quality, Discharge and Treatment			
Other Issues Related to Volatile Organic Compound, Ventilation, Odor, Radiation			
River Dredging			
Ecologically Sensitive Areas			
Impacts of Climate Change on The Project			
Settlements / Built-up Environment			
Presence of Indigenous People/ Ethnic Minorities/ Vulnerable Communities			
Any Local Conflicts of Interest in The Project Site/ Any Worker Unrest			
Land acquisition/ Involuntary resettlement/ Land Use Conversion			

and Related Compensations			
Any Specific Gender Issues			
Stakeholder Consultation			
Grievance Redress Mechanism and Related Policies			
Traffic Condition			
Availability of OHS Materials and Measures			
Fire Safety			
Trainings			
Accidents and Incidents			
Waste Management Procedures and Records			
Oil Spillage and Hazardous Material Management and Procedures for Managing Heavy Metals and Liquids			
Labor and Working Conditions			
Disease Prevention			
Emergency Response or Disaster Management Plan			
Impact on Community Health and Safety and Relevant Plan			
Usage of Renewable Energy or Other Environment Friendly Initiatives			
Health and Safety Audits and Non-compliances			
Major Observations and Findings			

Annex 8: Involuntary Resettlement Screening

This screening criteria can be used to identify impacts on affected persons.

A. ILLUSTRATIVE RESETTLEMENT SCREENING CHECKLIST

Impact	**Not Known**	**Yes**	**No**	**Indication of scope** (No. of affected people, land area, land use, structures, etc.)
Is the prospective subproject company (SPC) undertaking or likely to undertake any land acquisition?				
Is the SPC acquiring land through willing buyer to willing seller transactions?				
Does the SPC have any agreements or is it likely to enter into agreements with the government for provision of sites or land or rights to land?				
Is any of the land used by the SPC (or likely to be used by the SPC) compulsorily acquired?				
Will any SPC activities involve restrictions of use on adjoining land?				
Are the sites for land acquisition known?				
What is the ownership status of the land?				
Are non-titled persons present?				
Will tenants, lessees, share farmers, or other third party users be affected?				
Will there be loss of housing?				
Will there be loss of crops, trees, and other fixed assets?				
Will there be loss of incomes and livelihoods?				

Will access to facilities, services, or resources be lost?				
Will there be loss of businesses or enterprises?				
Will any social or economic activities be affected by land use related changes?				
If involuntary resettlement impacts are expected:				
Are local laws and regulations compatible with development partners' involuntary resettlement policy?				
Will land be acquired through the government or by the SPC?				
Do SPC agreements with the government (if any) specify involuntary resettlement will be conducted in accordance with international standards?				
Does the government executing agency/SPC have sufficient skilled resources for resettlement planning and implementation?				
Are training and capacity-building required prior to resettlement planning and implementation?				
Will there be loss of incomes and livelihoods?				
Will access to facilities, services, or resources be lost?				
Will there be loss of businesses or enterprises?				
Will any social or economic activities be affected by land use related changes?				
Any estimate of the likely number of those affected by the project? No ( ) Yes ( )				
If yes, approximately how many?				
Any estimate of the severity of impact at the household level?				

If yes, what?
Any of these people poor, ethnic minority/indigenous, or vulnerable to poverty risks? No ( ) Yes ( )
If yes, how?
Gender Impact Checks:
What is the sector, sub-sector and country specific gender risks and issues relevant to the proposed project?
Is the involvement of women in the sector and sub-sector of the project substantial? And/or are women direct primary beneficiaries of the project or does the proposed project have to potential to promote gender equality by improving outcomes for women and reducing gender disparities? No ( ) Yes ( ) Briefly explain why or why not.
Does the proposed project have the potential to adversely affect women? No ( ) Yes ( ) If no, justify why there are no adverse impacts. If yes, briefly outline impacts.
Does the project involve the resettlement of women? This includes women who are titled and non-titled and includes physical and/or economic displacement due to project activities.

DECISION ON CATEGORIZATION

☐	200 or more people will be severely affected (displaced from housing or losing 10% or more of their productive/income-generating assets. Should be categorized as an A project/subproject. A resettlement plan is required.
☐	Less than 200 people will be affected. Should be categorized as a B project/subproject. A resettlement plan is required.
☐	No person is affected. Should be categorized as a C project/subproject.

DECISION ON GENDER CATEGORIZATION

☐	When the proposed project has the potential to promote gender equality and improve outcomes for women by reducing gender disparities OR women are primary beneficiaries of the gender categorization of project is gender category I. project requires separate a gender action plan.
☐	When the proposed project has significant potential to adversely affect women, involves involuntary resettlement and/or involves Ethnic Minority/Indigenous

	People the gender categorization of project is gender category II. Project does not require GAP but should include gender components as specified in chapter 6 section and as exemplified by the gender action framework.
☐	When the project has no differential gender impacts or no gender elements the gender categorization of project is gender category III. No gender specific categories required.

Signature:

Screening Checklist Prepared By: _____

Position:

Name and Signature _____

Date Prepared: _____

B. INVOLUNTARY RESETTLEMENT CATEGORIZATION GUIDELINES

Subprojects are assigned an involuntary resettlement category depending on the significance of the probable involuntary resettlement impacts.

a. Involuntary Resettlement Category A: Significant

"Significant" means 200 or more people will experience major impacts, which are defined as

i. being physically displaced from housing, or

ii. Losing 10% or more of their productive assets (income generating).

Category A subprojects require a Resettlement Plan including assessment of social impacts. Some of these subprojects may require a resettlement framework prior to the Resettlement Plan.

b. Involuntary Resettlement Category B: Not Significant

Category B subprojects include involuntary resettlement impacts that are not deemed significant and require a Resettlement Plan including assessment of social impacts. Some of these subprojects may require a resettlement framework prior to the Resettlement Plan.

c. Involuntary Resettlement Category C

No involuntary resettlement effects are foreseen in category C subprojects. They do not require a resettlement plan.

A subproject's involuntary resettlement category is determined by the category of its most resettlement-sensitive component.

d. Involuntary Resettlement Category FI

- Category FI includes projects or subproject involves the investment of development partners' funds to, or through, a financial intermediary. In the case of financial intermediaries, the term 'project' is used to mean development partners' transactions with the financial intermediary, whereas 'subproject' means business activities financed by the financial intermediary.
- If required, based on the environment and social risk categorization of the subprojects financed by the financial intermediary using development partners' funds, through either credit-line, other loans, equity, guarantee, or other financing instrument, the ESSF incorporates relevant provisions that such subprojects meet development partners' safeguard requirements in addition to national laws and standards.
- If a financial intermediary is likely to generate environmental and social impacts, the project team undertakes an in-depth assessment of its current ESSF, and identifies areas where improvements are needed.

Annex 9: Screening of Subproject Effects on Ethnic Minority/Indigenous People

This screening criteria can be used to identify impacts on Ethnic Minorities/Indigenous Peoples.

A. Effects on Ethnic Minorities/Indigenous Peoples Screening Checklist

Impact on Ethnic Minorities/Indigenous Peoples	**Not Known**	**Yes**	**No**	**Remarks or identified problems, if any**
Are there tribal groups/ Ethnic Minorities/Indigenous Peoples present in project locations?				
Do they maintain distinctive customs or economic activities that may make them vulnerable to hardship?				
Will the subproject restrict their economic and social activity and make them particularly vulnerable in the context of project?				
Will the subproject change their socioeconomic and cultural integrity?[51]				
Will the subproject disrupt their community life?				
Will the subproject positively affect their health, education, livelihood, or social security status?				
Will the subproject negatively affect their health, education, livelihood, or social security status?				
Will the subproject alter or undermine the recognition of their knowledge, preclude customary behaviors, or undermine customary institutions?				
Gender Impact Checks:				
What is the sector, sub-sector and country specific gender risks and issues relevant to the proposed project?				

[51] That is, undermine their production systems and the maintenance and transmission of their cultural patterns.

Is the involvement of women in the sector and sub-sector of the project substantial? And/or are women direct primary beneficiaries of the project or does the proposed project have to potential to promote gender equality by improving outcomes for women and reducing gender disparities? No ( ) Yes ( ) Briefly explain why or why not.
Does the proposed project have the potential to adversely affect women? No ( ) Yes ( ) If no, justify why there are no adverse impacts. If yes, briefly outline impacts.
Do they [the Ethnic Minority/Indigenous People] maintain distinctive customs or economic activities or social activities with respect to gender? And/or does the project alter or undermine customary behaviors, customary institutions or the recognition of indigenous knowledge to the detriment of women such that it would make them particularly vulnerable in the context of project?

Decision on Categorization

Based on the information above, it is recommended that:

☐	Should be categorized as an A project, an Ethnic Minority Development Plan (EMDP) or an Indigenous Peoples Plan (IPP) is required
☐	Should be categorized as a B project, a specific action favorable to Ethnic Minority/Indigenous People is required and addressed through a Resettlement Plan, a Gender Action Plan or a general Community Participatory Plan
☐	Should be categorized as a C project, no EMDP/IPP or specific action required

Decision on Gender Categorization

☐	When the proposed project has the potential to promote gender equality and improve outcomes for women by reducing gender disparities OR women are primary beneficiaries of the gender categorization of project is gender category I. project requires separate a gender action plan.
☐	When the proposed project has significant potential to adversely affect women, involves involuntary resettlement and/or involves Ethnic Minority/Indigenous People the gender categorization of project is gender category II. Project does not require GAP but should include gender components as specified in chapter 6 and as exemplified by the gender action framework.

☐	When the project has no differential gender impacts or no gender elements the gender categorization of project is gender category III. No gender specific categories required.

Signature:

Screening Checklist Prepared By:

_____

Name and Signature

Position: _____

Date Prepared: _____

B. CATEGORIZATION OF SUBPROJECT EFFECTS ON ETHNIC MINORITY/INDIGENOUS PEOPLES

a) Summary of Categorization

Categorization of subproject effects on Ethnic Minority/Indigenous People depends on the nature and magnitude of the subproject's potential positive and negative impacts on such peoples, which may result from its location, the type and scale of the project, and sensitivity of Ethnic Minority/Indigenous People issues.

- Category A - Ethnic Minority Development Plan/Indigenous Peoples Plan required
- Category B - Ethnic Minority Development Plan/Indigenous Peoples Plan required
- Category C - No impact

b) Definition of Categories

Category A

A proposed subproject is classified as Category A if it is likely to have significant positive or negative impacts on Ethnic Minority/Indigenous People. A Full Ethnic Minority Development Plan/Indigenous Peoples Plan is required for Category A subprojects to avoid negative effects and ensure appropriate benefits. The circumstances where an intervention is considered having a significant impact on Ethnic Minority/Indigenous People include:

i. positive or negative effects on their customary rights of use and access to land and natural resources;

ii. positive or negative effects on their socioeconomic and cultural integrity;

iii. positive or negative effect on their health, education, livelihood, and social security status;

iv. impacts that may alter or undermine indigenous knowledge, preclude customary behaviors or undermine customary institutions;

v. subproject will be located in, or pass through, areas of significant Ethnic Minority/Indigenous People settlement and/or use; and

vi. Subproject proposes to specifically target Ethnic Minority/Indigenous People in one or more of its main activities; or is anticipated to have significant negative effects on Ethnic Minorities/Indigenous Peoples.

vii. In terms of community impacts, the impact area may be considerably broader than the immediate area physically affected by a subproject. Category A applies to the subproject and its impact area where Ethnic Minority/Indigenous People maintain distinctive customs or economic activities that may make them particularly vulnerable to hardship. It also applies to subprojects that are likely to adversely

affect or disrupt community life. A Full Ethnic Minority Development Plan/Indigenous Peoples Plan should include specific deliverables, budget and schedules.

Category B

A proposed subproject is classified as Category B if it will have limited impacts on Ethnic Minorities/Indigenous Peoples or when there is a risk that the subproject may not bring the intended benefits to the affected Ethnic Minority/Indigenous People within a specific plan. Specific action in favor of Ethnic Minorities/Indigenous Peoples as spelled out in a Short Ethnic Minority Development Plan/Indigenous Peoples Plan is required in order to ensure appropriate benefits and mitigate adverse impact, which action is not necessarily within the framework of a Full Ethnic Minority Development Plan/Indigenous Peoples Plan. The Short Ethnic Minority Development Plan/Indigenous Peoples Plan also requires specific deliverables, budget and schedules; it can, however, be embedded in a Resettlement Plan.

Category C

A subproject is classified as Category C if it is likely to have very minimal or no adverse or significant impact on Ethnic Minorities/Indigenous Peoples. For this category of subproject, no Ethnic Minority Development Plan/Indigenous Peoples Plan is required although subproject effects on Ethnic Minorities/Indigenous Peoples still need to be properly reviewed.

Category FI

- Category FI includes projects or subproject involves the investment of development partners' funds to, or through, a financial intermediary. In the case of financial intermediaries, the term "project" is used to mean development partners' transactions with the financial intermediary, whereas "subproject" means business activities financed by the financial intermediary.
- If required, based on the environment and social risk categorization of the subprojects financed by the financial intermediary using development partners' funds, through either credit-line, other loans, equity, guarantee, or other financing instrument, the ESSF incorporates relevant provisions that such subprojects meet development partners' safeguard requirements in addition to national laws and standards.
- If a financial intermediary is likely to generate environmental and social impacts, the project team undertakes an in-depth assessment of its current ESSF, and identifies areas where improvements are needed.

Annex 10: Sector Specific Checklists for Detailed Environmental and Social Review

This Review may be used for the following purposes:

- Assigning of the environmental and social category for the project
- Finalizing Terms of Reference for Environmental Due Diligence (ESDD), Initial Environmental Examination (IEE), Environmental and Social Impact Assessment (ESIA), Corrective Action Plan (CAP)
- Reviewing reports of Environmental Due Diligence (ESDD), Initial Environmental Examination (IEE), Environmental and Social Impact Assessment (ESIA), Corrective Action Plan (CAP)

1. Thermal Power Plant					
	Date:	**Project Id and Title**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Air Quality	Is the plant planned and designed to control emissions of sulfur dioxide (SO2), nitrogen oxides (NOX), particulate matter (PM), carbon monoxide (CO), and greenhouse gases, such as carbon dioxide (CO2), heavy metals, halide compounds, unburned hydrocarbons and other volatile organic compounds?			
		Does the ambient air quality near the facility meet national and sponsors standards?			
		Are adequate measures taken to avoid, minimize, and offset emissions of carbon dioxide?			

2.	Water resource	Are adequate measures taken to conservatively use water for the facility?			
		Is wastewater recycling practiced reducing the consumption of water?			
3.	Biodiversity	Does the facility intake water from critical aquatic habitats like spawning areas of aquatic species?			
		Is the plant located in proximity to a Protected Area?			
4.	Water quality	Does the thermal discharge meet national and sponsors standards for disposal?			
		Is the wastewater from various streams treated before discharge into surface water bodies?			
		Does the discharged wastewater meet national and sponsors standards for disposal?			
5.	Solid waste	Are adequate measures taken to prevent, minimize, and control the volume of solid wastes from thermal power plants?			
		Are the coal combustion wastes like fly ash, bottom ash, and boiler slag recycled in uses such as cement and other concrete products, construction fills etc.?			
6.	Hazardous materials	Are adequate measures taken to prevent accidental release and minimize leaks during storage and handling of fuels and chemicals?			

7.	Noise	Is a considerable distanced maintained between the location of the plant and receptors such as residential areas?			
		Have noise control measures been employed for machines and structures?			
		Do the ambient noise levels meet national and sponsors standards?			
8.	Climate change issues	Is there any impact on climate?			
9.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority/indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labour influx issues?			
10.	Occupational health and safety	Are adequate measures taken to prevention and control measures to workers address heat exposure at thermal power plants?			
		Have adequate measures been taken to prevent and minimize electromagnetic field exposure to workers?			
		Are preventive and control measures adopted for ensuring electrical safety to workers?			
		Have measures been incorporated to prevent, minimize, and control occupational noise exposures?			

		Have confined space entry procedures been adopted for coal ash containers, turbines, condensers, and cooling water towers?			
		Have adequate measures been taken to prevent, minimize and control fire and explosion hazards?			
		Are adequate measures taken to prevent, minimize and control chemicals hazards?			
11.	Community health and safety	Have adequate measures been taken to ensure that the project does not compromise the availability of water for personal hygiene, agriculture, recreation, and other community needs?			
		Are practices adopted to prevent and control of increased traffic-related injuries to the public?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

2. Gas based Power plants					
	Date:	**Project Id and Title**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1	Air Quality	Is the plant planned and designed to control emissions of sulfur dioxide (SO2), nitrogen oxides (NOX), particulate matter (PM), carbon monoxide (CO), and greenhouse gases, such as carbon dioxide (CO2), heavy metals, halide compounds, unburned hydrocarbons and other volatile organic compounds?			

		Does the ambient air quality near the facility meet national and sponsors standards?			
		Are adequate measures taken to avoid, minimize, and offset emissions of carbon dioxide?			
2	Water resource	Are adequate measures taken to conservatively use water for the facility?			
		Is wastewater recycling practiced reducing the consumption of water?			
		Does the discharged wastewater meet national and sponsors standards for disposal?			
3	Biodiversity	Does the facility intake water from critical aquatic habitats like spawning areas of aquatic species?			
		Is the plant located in proximity to a Protected Area?			
4	Noise	Is a considerable distanced maintained between the location of the plant and receptors such as residential areas?			
		Have noise control measures been employed for machines and structures?			
		Do the ambient noise levels meet national and sponsors standards?			
5	Solid waste	Are adequate measures taken to prevent, minimize, and control the volume of solid wastes?			

6	Hazardous Waste	Are adequate measures taken to prevent accidental release and minimize leaks during storage and handling of fuels and chemicals?			
7	Occupational health and safety	Are adequate Prevention and control measures adopted associated with live power lines?			
		Have adequate measures been adopted to prevent and control occupational exposures to chemicals such as PCB in transformers and pesticides?			
		Have adequate measures been taken to prevent and minimize electromagnetic field exposure to workers?			
		Have adequate safety measures been incorporated for workers while working at elevated heights and for overhead work?			
		Does the plant have adequate measures and SOPs in place to prevent, and response plan related to fire and explosion risks?			
8	Community health and safety	Have adequate measures been taken to ensure that the project does not compromise the availability of water for personal hygiene, agriculture, recreation, and other community needs?			
		Are practices adopted to prevent and control of increased traffic-related injuries to the public?			
		Have adequate signs and barriers been used to prevent public contact with potentially dangerous equipment?			
9.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			

		Are there any issues related to ethnic minority /indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			
10.	Climate change issues	Is there any impact on climate?			
(Signature of Investment Officer, IDCOL) *Name*			*Signature of E&S Specialists, IDCOL)* Name:		

3. Electric Power Transmission and Distribution					
	Date:	**Project Id and Title**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Biodiversity	Are the towers located along important bird migratory paths?			
		Are thetowers and transmission lines in proximity to critical terrestrial and aquatic habitats?			
		Have existing transport and utility corridors been used to prevent and minimize vegetation clearing?			
		Is the right-of way vegetation regularly monitored for fire risk?			
2.	Air quality	Do the emissions from operation of vehicle fleets, use of backup power generators and use of cooling and fire suppression systems meet country and sponsors standards?			

		Does the ambient air quality near the facility meet national and sponsors standards?			
3.	Noise	Have noise control measures been employed for machines and structures?			
		Do the ambient noise levels meet national and sponsors standards?			
4.	Hazardous materials	Are adequate measures adopted for storage and handling of oils / gases (e.g. Polychlorinated Biphenyls [PCB] and sulfur hexafluoride [SF6], pesticides and other chemicals?			
5.	Wastes	Are adequate measures taken to prevent, minimize, and control the volume of wastes?			
6.	Occupational health and safety	Are adequate Prevention and control measures adopted associated with live power lines?			
		Have adequate measures been adopted to prevent and control occupational exposures to chemicals such as PCB in transformers and pesticides?			
		Have adequate measures been taken to prevent and minimize electromagnetic field exposure to workers?			
		Have adequate safety measures been incorporated for workers while working at elevated heights and for overhead work?			

5.	Community and public health	Have adequate signs and barriers been used to prevent public contact with potentially dangerous equipment?			
		Have adequate measures been adopted be minimize electromagnetic interference to neighboring residential areas?			
		Are practices adopted to prevent and control of increased traffic-related injuries to the public?			
		Are the towers located in proximity to airports?			
		Have the number of towers been optimized so as to minimize visual impacts?			
		Are the towers located against landscape views, environmental and community features? Have measures been taken to disguise the towers?			
		Is the right-of-way located away from human receptors to avoid noise from transformers and emission of ozone?			
6.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority /indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			

		Are there any labor influx issues?			
7.	Climate change issues	Is there any impact on climate?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

4. Telecommunications					
	Date:	**Project Id and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Biodiversity	Are the towers located along important bird migratory paths?			
		Are thetowers and transmission lines in proximity to critical terrestrial and aquatic habitats?			
2.	Aesthetics	Have the number of towers been optimized so as to minimize visual impacts?			
		Are the towers located against landscape views, environmental and community features? Have measures been taken to disguise the towers?			

3.	Air quality	Do the emissions from operation of vehicle fleets, use of backup power generators and use of cooling and fire suppression systems meet country and sponsors standards?			
4.	Noise	Do the ambient noise levels meet national and sponsors standards?			
5.	Waste	Are adequate measures taken to prevent, minimize, and control the volume of wastes?			
6.	Occupational health and safety	Are preventive and control measures adopted for ensuring electrical safety and optical fiber safety?			
		Have adequate measures been taken to prevent and minimize electromagnetic field exposure to workers?			
		Have adequate safety measures been incorporated for workers while working at elevated heights and for overhead work?			
		Have confined space entry procedures been adopted for underground work?			
7.	Community and public health	Are measures taken to restrict public access to antennae towers?			
		Are the towers located away from public access areas?			
		Are the towers located in proximity to airports?			
8.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority /indigenous/disadvantaged people?			
		Are there any gender issues?			

		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			
9.	Climate change	Is there any impact on climate?			
	Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

5. Ports and Harbors					
	Date:	**Project Id and Title**			
	Component	**Checklist**	**Yes**	**No**	**Additional information/comments**
1.	Biodiversity	Would the construction and maintenance dredging activity, disposal of dredge spoil, construction of piers, wharves, breakwaters along with water-side structures, and erosion disturb important aquatic habitats such as feeding, breeding, calving, and spawning areas?			
		Is the project site located in proximity to designated protected areas? Will the project or its activities affect the protected areas?			
2.	Hazardous Waste	Is the dredged material contaminated by historical deposition and accumulation of hazardous materials, whether due to on-site or off-site activities?			
		Are measures taken to prevent discharge or dumping of hazardous waste to surrounding water areas?			

3.	Wastes	Are wastes from ships and ancillary facilities treated and disposed as per national and sponsors standards?			
		Does the offshore dumping of dredged materials meet national and sponsors specifications?			
4.	Water Quality	Are measures taken to prevent spills and discharge of oils and hazardous materials to surrounding water areas?			
		Do effluents from ships and ancillary facilities comply with national and sponsors standards for ambient water quality and effluent discharge?			
		Do general effluents from port facilities meet national and sponsors discharge standards?			
		Will any of the project components or activities cause oceanographic changes reducing sea water exchange rates?			
		For projects involving reclamation of land, are measures taken to prevent contamination of surface water, sea water and ground water by leachate from reclamation areas?			
5.	Air Quality	Do air pollutants like Sulfur dioxide, nitrogen oxides, soot dust, VOC‘s emitted from ships, vehicles and ancillary facilities meet country and sponsors emission and ambient air quality standards?			
		Are there any odor causing sources? Are adequate measures taken to prevent odors?			

6.	Noise	Do the noise levels caused due to cargo handling, vehicular traffic, loading / unloading containers and ships meet country and sponsors standards?			
		Do the ambient noise levels meet national and sponsors standards?			
7.	Topography and Geology	Will the installation of port and harbor facilities cause large scale alteration of topographic and geological features in surrounding areas or elimination of natural beaches?			
8.	Occupational Health and Safety	Are adequate measures taken to prevent physical hazards during cargo handling and use of associated machinery and vehicles?			
		Are adequate measures taken to prevent chemical hazards in cases when the workers are in contact with fuels and chemicals?			
		Are confined space entry procedures applied for workers working in cargo handling, ship cargo holds, silos, sewage tanks and water tanks?			
9.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority /indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			

10.	Climate change	Is there any impact on climate?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

6. Health Care Facilities					
	Date:	**Project Id and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Waste Management	Is a health care waste management system (HWMS) established, operated and maintained?			
		Are practices and procedures adopted to minimize waste generation through avoiding products containing hazardous materials?			
		Is waste identified and segregated at the point of generation?			
		Are the waste bags identified and labeled appropriately before removal?			
		Does the waste handling, collection, transport, storage, treatment and disposal meet national and sponsors standards?			

		Are appropriate waste disposals strategies employed for different streams of waste such as infectious waste, sharps, pharmaceutical waste, chemical waste, radioactive waste etc.?			
2.	Air quality	Are adequate measures taken at treatment and disposal facilities to maintain ambient air quality within standards prescribed by national regulatory authority or sponsors?			
3.	Noise	Do the ambient noise levels meet national and sponsors standards?			
4.	Wastewater	Is the contaminated wastewater from medical wards and operating theaters adequately treated before discharge?			
5.	Occupational Health and safety	Are adequate safety measures adopted to prevent and control exposure to infections and diseases?			
		Are adequate measures taken to prevent, minimize and control fire hazards during storage, handling, and presence of chemicals, pressurized, gases, boards, plastics, and other flammable substrates?			
		Are adequate measures taken to prevent, minimize and control occupational radiation exposure from equipment emitting X-rays and gamma rays (e.g. CT scanners), radiotherapy machines, and equipment for nuclear medicine activities?			
6.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority /indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			

		Are there any labor influx issues?			
7.	Climate change issues	Is there any impact on climate?			
Signature of Investment Officer, IDCOL) Name:			*Signature of E&S Specialists, IDCOL)* Name:		

7. Municipal Solid Waste					
	Date:	**Project Id and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Collection and Transport	Are adequate Litter bins and refuse collection services available to prevent littering and clandestine dumping?			
		Are adequate measures taken to mitigate air emissions like dust, bio-aerosols, odors, and vehicle emissions?			
2.	Waste Receipt, Unloading, Processing, and Storage	Are adequate measures taken to prevent migration of leachate into soil, surface water and groundwater?			
		Are adequate measures taken to prevent, minimize, and control litter?			
		Are adequate measures taken to mitigate noise and vibration from truck traffic, loading equipment (e.g., cranes, wheeled loaders), stationary compactors, balers, grinders, and other treatment and conveyance systems?			

3.	Biological treatment	Are adequate measures taken to control leachate and runoff from waste storage and processing areas?			
		Will the ambient air quality be adversely affected by direct stack emissions, fugitive emissions and emissions from burning of biogas? Do these emissions meet country and sponsors standards for ambient air emissions?			
		Are adequate measures taken to prevent combustion of waste during aerobic degradation or anaerobic digestion?			
4.	MSW Incineration Facilities	Do emissions from incinerators meet country and sponsor's standards?			
		Is the ambient air quality adversely affected by emissions from incinerators? What are the measures taken to mitigate these?			
		Are adequate measures taken to prevent, minimize, and control solid waste from incineration?			
		Are ash and other residuals disposed in accordance to country and sponsors specifications?			
		Is the flue gas from incineration treated and disposed in accordance to country and sponsors specifications?			
		Is the ambient noise levels adversely affected by exhaust fans, cooling system and turbine generators? Are measures taken to mitigate these?			
5.	Land filling	Is the landfill site located in accordance to country and sponsors specifications?			

		Are adequate measures taken for collection, treatment and disposal of leachate from landfill?			
		Is the quantity of leachate generated regularly monitored?			
		Is a landfill gas collection system designed and operated in accordance with applicable national requirements and sponsors standards?			
		Are adequate measures taken to prevent, minimize, and control dispersal of litter?			
		Is adequate buffer zone maintained around the landfill to alleviate nuisances?			
6.	Health and Safety	Are adequate measures taken to minimize and mitigate health and safety hazards to workers from toxic gases and hazardous materials on site?			
		Are adequate measures taken to protect the public and neighborhood from odor, smoke from fire, diseases transmitted by flies, rodents, insects and birds etc.?			
7.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority/indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			

8.	Climate change issues	Is there any impact on climate?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

8. Water Supply					
	Date:	**Project Id and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Inform**
1.	Water Withdrawal	Have the potential adverse effects of withdrawal of surface water on downstream ecosystems been evaluated?			
		Has appropriate environmental flow assessment been conducted to determine acceptable withdrawal rates?			
		Does the raw water supply have a source of pollution at the upstream like industries, agriculture, and sewage and soil erosion? Are adequate measures taken to treat these?			
		Does the project pose a hazard of land subsidence due to excessive ground water pumping?			
2.	Water Treatment	Does the treated water meet national and sponsors standards?			
		Have adequate measures been taken to reduce the solid waste residual generated through the treatment process?			

		Does the effluent from the treatment process like filter backwash, reject streams from membrane filtration processes, and brine streams from ion exchange or demineralization processes meet country and sponsors standards?			
		Are adequate measures taken to prevent and control hazards during storage and use of hazardous chemicals like chlorine gas?			
		Will the emissions from the treatment process adversely affect the ambient air quality? Have measures been taken to mitigate these impacts?			
		Is the water treatment facility located in designated protected areas? Will the project activities cause any damage to these?			
		Is the water treatment facility located in a densely populated area or an area with heavy developmental activities?			
		Is sufficient buffer maintained around the pumping and treatment plants to alleviate noise and other possible nuisances and project facilities?			
3.	Water Distribution	Does the design of the distribution system include checks and measures to minimize leaks and loss of pressure?			
		Is the water used for flushing the water pipes disposed in accordance to country and sponsors requirements?			
4.	Supporting facilities	Is the increase in water supply supported by adequate sewerage network and sewage treatment facility?			

		Are the impairments associated with transmission lines and access roads adequately addressed?			
5.	Health and safety	Are adequate measures taken to prevent, minimize and mitigate health and safety hazards to workers from management of chlorine used for disinfection and other contaminants?			
6.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority/indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			
7.	Climate change issues	Is there any impact on climate?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

9. Sewerage and Sanitation					
Date:		**Project ID and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	On-site systems	Are suitable facilities for storage, handling and treatment of fecal sludge from septic systems provided?			
2.	Sewerage system	Does the design of the sewerage system meet country and sponsors standards?			
		Are adequate measures taken to prevent and minimize leaks from the sewerage system into the ground?			
3.	Sewage Treatment	Is the sewage adequately treated before release into aquatic systems? Do they meet country and sponsors standards?			
		Is the sludge generated from the treatment plant disposed as per country and sponsors specifications?			
		Are adequate measures taken to minimize odor from the treatment facility?			
		Does the effluent from the treatment facility meet country and sponsors standards for disposal into aquatic systems?			
		Are adequate measures taken to prevent and control hazards during storage and use of hazardous chemicals?			
		Are adequate measures taken to prevent overflows and flooding of neighboring properties with raw sewage?			

		Is the water treatment facility located in designated protected areas? Will the project activities cause any damage to these?			
		Is the water treatment facility located in a densely populated area or an area with heavy developmental activities?			
		Is sufficient buffer maintained around the pumping and treatment plants to alleviate noise and other possible nuisances and project facilities?			
4.	Industrial wastewater	Is the wastewater adequately treated before release into sewerage system or aquatic systems? Do the effluents meet country and sponsors standards?			
5.	Occupational Health and Safety	Are adequate measures taken to prevent accidents and injuries to workers while working in open water, trenches, slippery walkways, working at heights, energized circuits, and heavy equipment?			
		Are adequate measures taken to prevent chemical hazards during handling and storage of hazardous chemicals?			
		Are protective equipment and training provided to workers against exposure to bio aerosols, endotoxins?			
6.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority/indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			

7.	Climate change issues	Is there any impact on climate?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

10. Roads					
	Date:	**Project Id and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Ecology	Does the project lie in proximity to or cut across any designated Protected Area?			
		Does the project or its activities cause disruption of terrestrial and aquatic habitats? If yes which of the following impacts, does it cause • fragmentation of forested habitat; • loss of nesting sites of listed rare, threatened, or endangered species and / or high biodiversity / sensitive habitat; disruption of watercourses; • creation of barriers to wildlife movement; • visual and auditory disturbance due to the presence of machinery, construction workers, and associated equipment			
		Does the project involve regular maintenance of vegetation within road right-of-way causing likelihood of the establishment of invasive species?			

2.	Hydrology	Would the alteration of topography and installation of project components like tunnels adversely affect surface and ground water flows?			
3.	Topography and Geology	Does the project involve activities that have a likelihood of causing slope failures and landslides?			
4.	Storm water	Does the project or its activities cause increase in rate of surface water runoff?			
5.	Waste	Does the project or its activities lead to generation of the following types of waste: • solid waste may be generated during construction and maintenance • animal carcasses • vegetation waste from right-of-way maintenance • sediment and sludge from storm water drainage system • paint waste generated from road and bridge maintenance			
6.	Noise and Vibration	Do the ambient noise levels generate due to vehicle movement meet host country standards?			
		Will the noise and vibration due to blasting and other civil works affect the neighborhood areas?			
7.	Air Quality	Is the ambient air quality within the host country‘s standards for most of the times?			
		Are air polluting industries located in the vicinity of the project area? Will the project add to the air pollution load in the area?			

		Will the project cause increased local air pollution due to rock crushing, cutting and filling works and chemicals from asphalt processing?			
8.	Water Quality	Would the surface runoff from cut and fill areas cause degradation of water quality in the downstream water bodies?			
		Would the surface runoff from roads contaminate surrounding water sources and / or ground water?			
9.	Public Health	Will the project lead to creation of temporary breeding habitats for mosquito vectors of disease?			
		Are there accident risks associated with increased vehicular traffic leading to loss of life?			
10.	Occupational Health and Safety	Are adequate measures taken to prevent physical hazards while operating machinery, from moving vehicles and working at elevation on bridges and overpasses?			
		Are adequate measures taken to prevent chemical hazards from construction and paving activities, exhaust emissions from heavy equipment and motor vehicles during all construction and maintenance activities?			
		Are adequate measures taken to prevent exposure to extremely high levels of noise from heavy equipment operation and from working in proximity to vehicular traffic?			
11.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority/indigenous/disadvantaged people?			

		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			
12.	Climate change issues	Is there any impact on climate?			
	(Signature of Investment Officer, IDCOL) Name:		*(Signature of E&S Specialists, IDCOL)* Name:		

11. Housing					
	Date:	**Project Id and Title:**			
	Component	**Checklist**	**Yes**	**No**	**Comments/Information**
1.	Ecology	Will the project alter the micro-climate of the area due to building design?			
		Does the project require large scale felling of trees? Have measures been planned to transplant these trees?			
2.	Energy	Are passive solar architecture features being used in the building to optimize energy consumption?			
3.	Land	Have adequate measures been planned to prevent land degradation due to dumping of construction waste and excavation soil? Have designated locations been identified by the local body for dumping of such waste?			

		Is material for construction like sand and aggregate sourced from authorized quarries?			
		Does the project require conversion of land use from industrial to residential? Has the soil been tested for contamination before commencement of excavation?			
		Will the housing facility impact the existing facilities adjacent to the site? (Such as open spaces, community facilities, details of the existing land use, disturbance to the local ecology).			
		Have measures been planned for solid waste management from the housing facility after occupation?			
		Have adequate parking spaces been provided also considering the rise in social status?			
4.	Noise	Do the ambient noise levels meet national and sponsors standards?			
5.	Natural drainage	Has the main natural drainage of the site been retained and incorporated in the master planning to prevent future flooding?			
		Have adequate measures been planned to prevent obstruction to natural drainage due to dumping of construction waste and excavation soil?			
6.	Air Quality	Is the ambient air quality within the host country‘s standards for most of the times?			
		Are air polluting industries located in the vicinity of the project area? Will the project add to the air pollution load in the area?			

		Will the project cause increased local air pollution especially SPM and RSPM levels due to rock crushing, cutting and filling works and fugitive dust emissions form stockpile, construction camps, haul roads?			
		Is the exhaust from equipment's used during construction like diesel generator sets, crushers etc. within limits prescribed by State Pollution Control Boards?			
7.	Water Quality	Would the surface runoff from cut and fill areas cause degradation of water quality in the downstream water bodies and ground water?			
		Does the project or its activities cause increase in rate of surface water runoff?			
		Does the project or its activities cause increase in rate of surface water runoff?			
		Will the runoff from construction activities, stockpile areas for debris and excavation spoil affect water quality of surrounding water bodies?			
7.	Water Demand	How is the water demand been met for construction? Will the withdrawal of ground water for construction affect the water availability to existing habitations?			
		Have adequate provisions been made for water supply to the housing facility after occupancy?			
		Is ground water development of the area in critical zone?			
8.	Public Health	Will the project lead to creation of temporary breeding habitats for mosquito vectors of disease?			

		Has the housing facility and amenities provided been planned in accordance to fire hazard regulations? Has a firefighting system been installed?			
9.	Occupational Health and Safety	Are adequate measures taken to prevent physical hazards while operating machinery, from working at elevation on scaffolding, from collapse of slabs and such structural members?			
		Are the labor provided clean water for consumption and cooking?			
		Have adequate sanitation facilities been provided at labor camps?			
10.	Social Aspects	Are there any land or asset related or loss of livelihood or access related issues?			
		Are there any issues related to ethnic minority/indigenous/disadvantaged people?			
		Are there any gender issues?			
		Are there any impacts on traffic condition?			
		Are there any labor influx issues?			
	Signature of Investment Officer, IDCOL) Name:		*Signature of E&S Specialists, IDCOL)* Name:		

Annex 11: Terms of Reference (TOR) of ESIA

1. BACKGROUND

This section will provide some background information about the project.

2. LEGISLATIVE REQUIREMENTS

This section will provide legislative requirements which need to be followed by the project.

3. PROJECT DESCRIPTION

This section will provide some brief information about the project.

4. OBJECTIVES OF THE ESIA

The objectives of the ESIA are to:

- Assess the existing environmental and social conditions in the project area, including the identification of environmentally sensitive issues.
- Assess the proposed activities to identify their potential impacts, evaluate the impacts, and determine their significance.
- Propose appropriate mitigation and monitoring measures that can be incorporated into the design of the proposed activities to minimize any damaging effects or any lasting negative consequences identified by the assessment pursuant to the most stringent requirements under different national guidelines and guidelines of development partners.
- Prepare an ESIA report that conforms to the national requirements and requirements of different development partners

5. SCOPE OF THE ESIA

The ESIA covers assessment of all sorts of physical, biological, and socioeconomic impacts in different stages of the project

6. REFERENCE GUIDELINES AND DOCUMENTS

While conducting the ESIA the consultant has to make sure the compliance of following guidelines and standards:

- All applicable guidelines and standards as are practiced by Department of Environment (DOE)
- Different relevant environment and social guideline of the country and other development partners

7. COMPLETION OF WORKS

The report may be required to be presented in front of all stakeholders and be presented in teleconference to update the progress of the works to all stakeholders on regular basis. Necessary revisions, augmentation, deletions, additions need to be done in order to conform

the final report as per requirements of the Bangladesh DOE and other development partners. The report will have to be presented to DOE and other development partners for the finalization and approval.

8. STRUCTURE OF ESIA

A typical ESIA report contains the following major elements. The substantive aspects of this outline will guide the preparation of environmental and social impact assessment reports, although not necessarily in the order shown depending on the TOR provided by the Client or financial institutions.

A. Executive Summary

This section will describe the project activities, critical environmental and social issues, significant findings, and recommended actions.

B. Introduction

This section will cover the following aspects:

- Background of the Project;
- Extend of the ESIA study;
- Scope of the ESIA study;
- ESIA methodology in detail;
- Limitation of the study;
- The ESIA Team Composition-basic qualification and competence of Team members in brief with respective contribution in the ESIA;
- Acknowledgement

C. Policy, Legal, and Administrative Framework

This section will cover the following aspects:

- A comprehensive review of the legal and institutional frameworks within which the environmental and social assessment is to be carried out;
- Project relevant international environmental agreements to which the country is a party;
- Project related environmental, occupational and social guidelines, policies, rules and laws as are practiced by Environmental Conservation Act 1995 and Environmental Conservation Rules 1997 of the DOE and IFC.
- Compliance with requirement of development partners

D. Description of Project

This section will cover the following aspects:

Background and Rationale of the Project

- Rationale for the proposed project;
- Outline of Project objectives.

Project Description

- Description of site location and area with reflection on proximity to nearby communities, designated environmentally sensitive areas and heritage sites;
- Technical Description of the project;
- Please describe the accessibility to site in detail with approximate length and width of different types of roads and waterways
- Details of proposed layout plan of the project by clearly demarcating various facilities of the project with required area
- Complete process flow diagram and description of all activities related to project
- Detail activity schedule with mentioning tentative time-period to accomplish each major task
- Approximate work-force/personnel required during construction and operation phases
- Approximate amount water and energy and other raw materials to be used during construction and operation phases and their potential source.

E. Baseline Environmental Condition

This section will cover the following aspects of the project area:

Topography, Geology and Soils

- Brief description of ambient topography, geology and soil;
- Technical information is expected in supporting soil stability and suitability for construction of project facilities.
- Please briefly describe contour and drainage pattern of the project area

Land Use

- The initial land use of the project site
- Description of land use in the project area adjacent to the project area

Terrestrial Flora and Fauna

- List of available tress, herbs, shrubs and animals at project area;
- List of endangered species.
- Use of the area by migratory fauna (if applicable);
- List of avian species including birds and so on.

Aquatic Ecology

- Fish species, mammals, reptiles, amphibians, crustaceans and aquatic invertebrates occurring in the waterways within the project area and any associated wetlands;
- Any rare, threatened or endangered aquatic species;

Bio-diversity

- Please briefly describe the ecosystem in the project area
- Please describe the major ecosystem-service in the project area

Meteorological Condition

- Rainfall data of the project area and analysis of trend and its implication to the project;
- Temperature data of the project area and analysis of trend and its implication to the project;
- Humidity data of the project area and analysis of trend and its implication to the project;
- Data of wind speed and direction and analysis of trend and its implication to the project.

Air Quality

- The presence of relevant parameters at ambient air and its implication to the project;
- While measuring air quality, DOE approved/widely practiced technology is to be followed;

Noise Quality

- While measuring noise quality, DOE approved technology/widely accepted technology is to be followed.

Surface and Ground Water quality

- The analysis of surface and ground water quality in terms of the presence of relevant chemical parameters according to the ECR, 1997;
- The availability of surface water including major source in the project area.
- Implication of availability and quality of surface and ground water to the project area.

Hazards

- A description of the vulnerability pf the project area to different natural hazards.

Climate Change Impact

- Please describe the potential vulnerability of the project site to climate change in light of various adverse impacts of climate change as are relevant for Bangladesh and regionally important in consideration of the location of project site.

F. Baseline Socio-economic and Cultural Condition

The section on socio-economic and cultural environment will provide a detailed description of:

- Population Demographics: population size, age distribution, gender composition
- Community structure: community groups, community programs and projects
- Social infrastructure and facilities: education, health and welfare facilities and infrastructure
- Infrastructure: water, electricity, telecommunications
- Economic structure: Employment and income, economic opportunities, program and projects
- Cultural traditions/customs
- All existing resource users (including traditional users) ranging from subsistence utilization of the natural resources to commercial activities
- Archaeological features: The historical importance (heritage, archaeological sites and feature) and other material assets of the area will be examined if applicable.
- Transportation and traffic considerations: transportation of heavy equipment, road construction and modification and associated traffic considerations (particularly in the construction phase), planned development activities; issues relating to squatting and relocation and public health and safety will be covered;
- Public Perception: An assessment of public perception of the proposed development will be conducted using appropriate methods and tools such as public meetings and/or questionnaires/surveys.

G. Impact Assessment and Mitigation Measures

The approach to the assessment of environmental and social impacts will be based upon the changes in the receiving environment caused by the Project, followed by an assessment of the overall significance of these changes, compared with the baseline condition. This section will predict and assess the project's likely positive and negative direct and indirect impacts on physical, biological, socioeconomic environment in the project's area of influence, in quantitative terms as far as possible; identify mitigation measures and any residual negative impacts that cannot be mitigated; explore opportunities for enhancement; identify and estimate the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics; and examine trans boundary, and cumulative impacts as appropriate. Impact assessment and mitigation measures will include environmental aspects like air quality, water quality, noise quality, soil quality, waste generation and management, hazardous materials and oil management, drainage patter, dredging, biodiversity, disaster risks, climate change vulnerability, and social aspects like

gender issues, involuntary resettlement, Ethnic Minority/Indigenous People, traffic safety, community health and safety, community development and labor issues etc. It should also include occupational health and safety issues. Wherever possible, impacts will be quantified and/or represented via GIS mapping. Where such assessment is not possible or practicable, impact assessment will be based on expert professional judgment and informed by the results of consultation. The environmental significance will be judged in relation to applicable national/international environmental standards. The impact assessment exercise will cover all related project activities and the full project lifecycle (i.e. construction, operations, etc.). Mitigation measures will be coordinated with the Project Engineer to identify the embedded mitigations and determine the need for any additional mitigation measures.

H. Analysis of Alternatives

This section will offer a clear justification about the selected site, technology and facility by comparing preferably two other alternative options. This section will also include about 'No Project Alternative'. So, there will be following sub-sections:

- No Project alternative
- Alternative sites
- Alternative design and Technology

I. Environmental and Social Management Plan

This section will deal with the set of mitigation and management measures to be taken to avoid, reduce, mitigate, or compensate for adverse environmental, occupational and social impacts with institutional arrangement, monitoring schedule, and parameters to be monitored and so on including tentative monitoring budget. But the sponsor has to make sure the availability of detail EHS manual/guidelines for the workers and other relevant stakeholders as separate document. This section is also expected to describe in detail about proposed institutional arrangement with specific responsibility at different tier of staff and workers, which is required to ensure proper environmental, occupational and social safeguards. In addition, this section will also include an annual indicative budget to ensure satisfactory safeguards during operation phase.

J. Disaster Management and Emergency Response Plan

The Project Engineer will consider a hazard risk mitigation plan (such as cyclones, tornadoes, droughts, floods, earthquakes, road accidents, fire hazards etc.) during the initial planning and design stage. Depending on the timing, the results of this will be summarized in the ESIA and used to inform the Emergency Response Plan which will be coordinated with the surrounding community and resources.

K. Resettlement Plan, Ethnic Minority Development Plan/Indigenous Peoples Plan and Gender Action Plan

This section will include detailed Resettlement Plan, Ethnic Minority Development Plan/Indigenous Peoples Plan and Gender Action Plan if required by the project.

L. Information Disclosure, Consultation, and Participation

This section will:

- Describe the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- summarize 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 Ethnic Minority/Indigenous People; and
- Describe 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.

M. Grievance Redress Mechanism

This section will describe the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental, social and occupational performance. In addition, there will be a well-structured Grievance Redress Plan in comprising approach to deal with the grievances raised by internal and external stakeholders. In addition, this section will also describe the disclosure of relevant information, monitoring report to relevant stakeholders and adjacent community.

N. Environment and Social Benefits

This section will provide a brief description of the environmental and social benefits of the project.

O. Conclusion and Recommendation

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

P. Bibliography/Reference

*******This is a sample ToR which will vary from project to project*

Annex 12: Generic Outline for Environmental and Social Management Plan

The Environmental and Social Management Plan (ESMP) outlines the specific programs proposed by the Project Sponsor that will avoid, mitigate or compensate for anticipated environmental and social effects of the proposed project. The ESMP is designed to provide a complete description of the various measures proposed by the Sponsor to avoid significant effects to the environment and society and provide the framework for monitoring and managing the effectiveness of the various mitigation and compensation measures. ESMP includes information about monitoring of different environmental parameters such as air, water, noise quality etc. and other social and occupational health and safety issues etc. The ESMP also provides a summary of the anticipated costs for implementing the measures and monitoring the effectiveness of those measures. The ESMP provides an assessment of the potential risks that the mitigation measures are not effective and the responsibilities for remedying the adverse effects. Also, the ESMP provides a framework for mitigating un-anticipated environmental effects or unexpected effects of environmental catastrophes, statutory changes, etc. A suggested outline for the ESMP follows.

Suggested Outline for Environmental and Social Mitigation and Management Plan:

1. Summary of Impacts

This section should summarize the predicted adverse environmental and social impacts that must be mitigated.

2. Description of Proposed Mitigation Measures

This section should set out clear and achievable targets, and quantitative indicators of the level of mitigation required. Each measure should be briefly described in relation to the impact and conditions under which it is required. These should be referred to designs, development activities, equipment descriptions, and operating procedures and implementation responsibilities.

3. Description of Monitoring Programs and Parameters

This section should outline the specific monitoring protocols, parameters, and expected frequencies. It should identify objectives and specify the type of monitoring required; it also describes environmental performance indicators which provide linkages between impacts and mitigation measures identified in the environment and social assessment report – parameters to be measured, methods to be used, sampling location and frequency of measurements detection limits and definition of thresholds to signal the need for corrective actions.

4. Description of the Responsibilities for Mitigation and Monitoring Requirements

This section should specify the institutional arrangements for implementation – taking account of the local conditions. Responsibilities for mitigation and monitoring shall be defined along with arrangements for information flow, and for coordination between agencies responsible for mitigation. ESMP specifies the organizations and individuals that will be responsible for undertaking the mitigating and monitoring measures, e.g., for enforcement of remedial actions, monitoring, training, and financing. The ESMP may propose institutional strengthening activities including establishment of appropriate organization arrangements, and appointment of key staff and consultants.

5. Preliminary Cost Estimates

To ensure that mitigation measures and monitoring are adequately funded, the ESMP should contain preliminary cost estimates. This section should also specify that the implementing agency needs to prepare detailed costs of implementation which shall include initial and recurring expenses for implementing all measures defined in the ESMP integrated into the total project costs. All costs including administrative design and consultancy, and operational and maintenance costs resulting from meeting required standards or modifying project design should be captured. A budgeting plan should be attached to resolve the issues of how those costs are to be met.

6. Project Feedback and Adjustment

The section should outline the procedures and mechanisms that will be used to modify and reshape the project in the light of monitoring results. A feedback mechanism, with proposed timing and procedures, should be included in the ESMP to provide for modifications to the Project, and the executing agencies.

Annex 13: Gender Action Framework of IDCOL and Illustrative TOC for Gender Action Plan

It will vary from project to project based on the need and requirement of the development partners.

Table: Gender Action Framework[52]

Task	Indicators	Responsibilities
Planning and/or Design Phase		
Carry out a gender analysis as part of the IPSA/SIA or otherwise to inform the finalization of the DPRs/RPs/IPs for the project/subprojects. The gender analysis should include the screening checklist for the IPSA and the social screening checklists for IR and IP and consider the involvement of women and gender impacts through all stages of the project life cycle. All data collected should be sex disaggregated. Include a dedicated social development expert with some gender-related expertise, local knowledge, and experience (3-6 person months based on the complexity of the project/ subproject).	Consultations with women and women groups (percentage targeted and carried out) and consultations held at a time and place safely and easily accessible to the women, preferably in community spaces; Percentage of women surveyors and facilitators during consultation and data collection (same-gender collection of data); Employment of a social development expert with some gender-related experience; Workshops/trainings on gender-sensitivity, SEA, GBV, HIV, AIDs, etc. held during the planning stage to equip personal. Sex-disaggregated baseline data collection; Designing of a gender sensitive GRM; Gender-related targets defined for easy monitoring and evaluation.	IDCOL

[52] *This gender action framework (AF) aims at promoting the incorporation of social and/or gender-related approaches and considerations in the design of projects/projects. It can also guide the preparation of project-specific gender action plans—as needed—should their need arise during the preparation of the detailed project report. The framework builds on the Government's broader commitment to gender, including in the infrastructure and energy sector and promising practices. The gender framework is not a substitute for any other safeguards, frameworks (i.e. resettlement, environment, and/or indigenous people's frameworks) which—by their nature—aim at specifically targeting affected people within the project area. And, the indicators given in the framework are not exhaustive.*

Construction Phase		
Identify gender-responsive risk mitigation measures including addressing health and social impacts associated with large-scale infrastructure development (including sexually transmitted infections, human trafficking). If adequate mitigation initiatives (supported by the Government, NGOs, and/or CBOs) are not in place, identify and budget mitigation initiatives accordingly. Include women in all awareness, training, and capacity development activities.	Presence of separate facilities for woman such as separate toilets and presence of childcare facilities for mothers of children under five years of age on/near site; Equal wage rates for work of equal value for women and men laborers; Number and percentage of women employed in skilled labor and number and percentage of women employed in unskilled labor; Number of women that have participated in capacity development, awareness and training activities; Activities for PAFs such as health clinics, etc. and/or activities with workers such as gender-sensitivity training sessions undertaken; Mitigation measures against risks associated with labor influx (e.g. separate area/enclosures, adequate lightening especially along routes to and from washrooms etc.); Percentage of grievance's logged by women and addressed and involvement of women in the GRM (e.g. women on GRM committee). Budgeted and actual gender-related expenditure.	IDCOL
Operations Phase		
Establish specific targets for women's employment during operation of infrastructure—based on the	**In addition to relevant indicators in the construction phase**: Gender-related targets included for project operations (such as up	IDCOL

gender and social analyses conducted, baseline data collected, and in line with the Governments legislation and regulations, promising practices and—if feasible—adoption of gender elements. Implement gender-responsive monitoring and evaluation system whereby: (i) data are disaggregated by sex; (ii) indicators are established at the onset of implementation, monitored against baseline conditions and reported on a regular basis, focusing on improvements to quality of life parameters.	skilling and on the job training, women in management, etc. working hours, gender friendly internal policies, etc.); Monitoring of and progress reports with gender disaggregated data on the achievement of gender targets/ inclusion of gender indicators; Inclusion of gender targets and indicators on end line evaluation of project impacts and an assessment of any other project impacts both adverse and positive.	
Capacity Development Phase		
Contribute to establish long-term capacity to monitor the social and gender-related elements of subprojects, in line with internationally established good practices. Develop a training module and gender sensitization training targeting the specific needs and constraints faced by the executing and/or implementing agencies, project monitoring units and/or project implementation units, corporation, and other relevant agencies on gender- related policies, strategies and practices.	Relevant indicators from earlier phases and any new targets and indicators defined.	IDCOL

CBO = community-based organization, DPR = detailed project report, IDCOL= Infrastructure Development Company Limited, NGO = non-governmental organization.

Source: Ministry of Finance-Finance Division.

Figure: Generic TOC for gender Action Plan

Generic TOC for Gender Action Plan

1. Introduction
    a. About the project (1-3 paragraphs)
    b. Objective of the Gender Action Plan (1-3 paragraphs)
2. Socio-Economic Profile of Women in the Region
3. Potential Gender Issues (1-3 Paragraph)
4. Proposed Gender Action Plan (in the below format)

Activity/Project Output	Targets/Indicators	Responsibility	Timeframe
Project Output 1 E.g. Building Factories	Target/Indicator 1 Target/Indicator 2 Target/Indicator 3 E.g. Building separate toilets for men and women; equal wage rates for equal work,	Organization/Personal Responsible E.g. IDCOL, Project Coordinator, etc.	Timeframe in months or years E.g. 3 months – 1 year

Annex 14: Guidance for Incorporating ESMP into Contract Documents

Environmental requirements in the pre-bid document

The project implementing agency, or any other Requiring Agency issue the pre-bid documents to shortlist a few (usually six) contractors, based on their expression of interest and capability. Details on environmental requirements are not required at the pre-bid stage. The qualification criteria should include only contractor's with ISO 140001 and OHSAH 18001 certification.

Incorporating ESMP in the bid document

The project implementing agency issues the bid document to the pre-qualified contractors. The bid documents contain separate volumes for (i) general conditions of contract (ii) technical specifications (iii) bill of Quantities (iv) drawings. The parts of the ESMP must be included in the relevant locations of the bid documents in the following manner:

- *Mitigation/enhancement measures and monitoring requirements tables*:

The cross-reference to these tables should be included in the "Conditions of particular application" or COPA, which is part of the General Conditions of Contract. As a standard practice, there is overall reference to laws that have to be followed in this section / item. The relevant laws need to be mentioned here. In addition, the adherence to the mitigation / enhancement measures and monitoring requirement tables should be included. The two tables will have to be added as annexes or the ESMP (without cost) as a whole must be attached. Either the annexes or the appropriate section in the ESMP should be cross-referenced in the description of this item.

- *Modifications/additions to the technical specifications*:

Due to the mitigation / enhancement measures included in the ESMP, there may be (i) additions / alterations required to the specifications and (ii) some new specifications. These are to be referred to in the section "Supplementary Specifications" in the Technical Specifications Volume of the bid documents. If MoRTH specifications are being followed for BRTS and such other projects, generally, the MoRTH specifications are taken as followed and are not repeated in the bid documents. The section on "Supplementary Specifications" should also include additional technical specifications related to the ESMP or should provide a cross-reference to the specific section of the ESMP.

- *Cost table*:

All the items in the ESMP cost table relevant to the contractor have to be referred to in the Bill of Quantities table, which is a separate volume of the bid documents. It is to be noted that this table includes various tasks to be done by the contractor under different categories.

Against each task the contractor will have to indicate a unit rate while completing the bid documents.

- *Drawings*:

Due to the mitigation / enhancement measures included in the ESMP, (a) there may be changes required to the drawings (b) new drawings. All of these are to be reflected in the bid documents under a separate Drawings Volume. If the drawings are included in the ESMP, then a cross-reference should be provided in the Drawings Volume

<u>Developing the ESMP to suit the bid /contract documents</u>

- As one of the intentions is to integrate the ESMP requirements into the bid document / contract agreement, the ESMP should be developed keeping the following in mind:

- *Mitigation/enhancement measures table - description*:

In this table, the text describing each measure should not include / repeat what is already covered under the technical specification which is being cross-referenced. The text should be short and clear. The description must focus on the "what" and "where" of the mitigation/enhancement measures, as the "how" has already been covered under the specification.

- *Monitoring requirements table*:

There are certain monitoring requirements for the contractor. While developing this table, those that apply to the contractor must be clearly separated

- *Technical specifications*:

Additional specifications for implementation of mitigation measures must be separately listed. These should be included as Annexes in the ESMP. They should be adequately detailed to avoid problems (including those of interpretation) at the site

- *Drawings:*

The modifications to the drawings as well as additional drawings must be included as annexes in the ESMP. It is important to note that all such drawings should be "execution drawings" detailed as per the requirement of the particular item so as to execute at the site with adequate quality control and workmanship. (Also, it is important to note that the quality of the Bill of Quantities or cost estimate and technical specifications part of the contract document depends on the degree of detailing in the drawings

- *Cost table:*

The items pertaining to the contractor should be clearly separated from those that are to be implemented by the project implementing agency, supervision consultant or any other

agency. The contractors ‘cost table should also not be attached to the bid / contract documents

- *Timing for finalizing the ESMP:*

It is best to finalize the ESMP before finalizing the bid documents. This is required to fully reflect the sections of the ESMP relevant to the contractor in the bid documents and to ensure full integration

Other notes

Variation orders:

Once the completed bids have been received from prospective contractors, the project implementing agency takes a decision based on the costs and technical merit of the bids. Following the decision, the project implementing agency and the contractor sign the completed bid documents. It becomes the contract agreement thereafter. If issues have been missed in the bid documents it cannot be amended at the time of signing the contract agreement, unless there is a really strong justification for the same. If there is an ESMP cost item that is not reflected in the Bill of Quantities of the signed contract agreement, the supervision consultant may issue a variation order. The contractor will quote a rate and the task gets done. The issue of variation orders is a standard practice and is generally used. However, the intent of good contracting practices is to minimize variation orders.

Annex 15: Generic Outline of Monitoring Report

Name and Address:				
Project Location and Accessibility:				
GPS Coordinates:				
Project Brief Description:				
Project Status:				
Compliance of Necessary Documentations, Certificates and Permits:				
Environment, Health and Safety and Social Policies:				
Any Fine or Penalties/ Media/NGO Coverage Related to Environmental and Social Aspects:				
Project Risk Category:				
	Features	**Status**	**Significance on open issues**	**Remarks**
Physical Environment	Type of Land (Purchased/leased land, low/level from road, requirements of landfill)			
	Soil Erosion			

	Air Quality and Necessary Mitigation Measures			
	Noise Quality and Necessary Mitigation Measures			
	Surface/Ground Water Quality and Necessary Mitigation Measures			
	Soil Contamination and Necessary Mitigation Measures			
	Wastewater/Effluent Quality, Discharge and Treatment			
	Issues Related to Volatile Organic Compound, Ventilation, Odor, Radiation			
	Usage of Renewable Energy or Other Environment Friendly Initiatives			
	River Dredging			
	Impacts of Climate Change			
Biological Environment	Ecologically Sensitive Areas			
	Birds Migratory Routes/ Important Bird Areas/Wildlife Habitat			
	Reserved / Protected Forests/ Deforested Land/ Large Trees / Woodland/ National Park			
	Presence of Endangered Species/Habitat Areas			

	Wetland			
Human Environment	Prone to Flooding or Not			
	Hot Spot/Sensitive Zones			
	Physical Cultural Resources			
	Settlements / Built-up Environment			
Social Environment	Presence of Indigenous People/ Ethnic Minority/ Vulnerable Communities and Their Owned and Occupied Land			
	Any Local Conflicts of Interest in The Project Site/ Any Worker Unrest			
	Impact on Local Community Health and Safety and Their Livelihood and Related Measures			
	Land Acquisition/Involuntary Resettlement/Land Use Conversion and Necessary Compensation			
	Any Specific Gender Issues			
	Stakeholder Consultation			
	Grievance Redress			

	Mechanism and Related Policies			
	Traffic Condition			
Occupational Health and Safety	Availability of OHS Materials and Measures			
	Fire Safety			
	Emergency Plan or Disaster Management Plan			
	Trainings			
	Accidents and Incidents			
	Waste Management Procedures and Records			
	Oil Spillage and Hazardous Material Management and Procedures for Managing Heavy Metals and Liquids			
	Labor and Working Condition			
	Disease Prevention			
	Health and Safety Audits and Non-compliances			
Implementation of CAP/ Covenants: **Major Findings and Recommendations:**				

Annex 16: Monitoring and Reporting Schedule of IDCOL

Monitoring and Reporting Schedule of IDCOL under infrastructure, energy efficiency and PPP Projects

Project Category	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
High Risk Projects	Environmental, social and health safety assessment in compliance with the approved ESMP of all high-risk projects under construction/operation.	**Quarterly**	**Quarterly** (based on the observation of monitoring)	IDCOL website (if required)
	Assessment of suitability of project and eligibility for financing in respect of basic environmental and social aspects for each project as is to be financed.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
Medium Risk Projects	Environmental, social and health safety assessment in compliance with the approved ESMP of all medium risk projects under construction/operation.	**Quarterly/Half-yearly** (based on the impact assessment findings)	**Quarterly/Half-yearly** (based on the observation of monitoring)	IDCOL website (if required)
	Assessment of suitability of project and eligibility for financing in respect of basic environmental and social aspects for each project as is to be financed.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
Low Risk Projects	Environmental, social and health safety compliance assessment of all low-risk projects under construction/operation.	**Half-yearly/annually** (based on the findings of initial environmental assessment)	**Half-yearly/annually**	IDCOL website (if required)
	Assessment of suitability of project and eligibility for financing in respect of basic environmental and social aspects for each project as is to be financed.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders

Monitoring and Reporting Schedule of IDCOL under Renewable Energy Projects

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
01	**Solar irrigation**	Basic environmental, social and health safety compliance assessment of solar irrigation project under construction/operation.	**Quarterly** (at least three operational projects)	**Quarterly** (based on the observation of monitoring)	IDCOL website
		Assessment of suitability of project site in respect of basic environmental and social aspects for each new solar irrigation project as is to be installed.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
02	**Mini-Grid**	Basic environmental, social and health safety compliance assessment including implementation of ESMP of solar mini- grid project under construction/operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly** (based on the observation of monitoring)	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new mini-grid project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
03	**ICS**	Environmental and health compliance of manufacturing, operation and maintenance of ICS.	**Quarterly** (at the least three ICS manufacturing plant of three POs)	**Quarterly**	IDCOL website
04	**Biogas project**	Basic environmental, social and health safety compliance assessment including implementation of ESMP of commercial bio gas based project under construction/operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial biogas project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective
05	**Biogas and biomass based power project**	Basic environmental, social and health safety compliance assessment including implementation of ESMP of commercial bio gas/biomass based project under operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial biogas project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
06	**Solar Roof-Top**	Assessment of the suitability of project site in respect of basic environmental and social aspects for each new rooftop project.	**Once** for each project during appraisal process	**Once** during appraisal process	Email to respective stakeholders or during contract signing.
		Basic environmental, social and health safety compliance assessment including implementation of ESMP of solar rooftop project under construction/operation	**Half-yearly** (At least two operational projects in each six months)	**Half-yearly** (based on the observation of monitoring)	IDCOL website
07	**Solar Grid Tied Power**	Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial grid tied project.	**Once** for each project during appraisal process	**Once** during appraisal process	Email to respective stakeholders or during contract signing.
		Basic environmental, social and health safety compliance assessment including implementation of ESMP of commercial solar grid tied power project under operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website

*Monitoring frequency may vary due to pandemic/emergency situation

Annex 17: Outline of Environmental and Social Due Diligence Report

A. Introduction

1. Subproject description: title, type of subproject, location and setting, amount, size (production capacity, number of staff, etc.).
2. Environmental and social categorization and rationale.
3. Applicable Environmental and Social Requirements.

B. Scope of Review and Methodology

1. Documents reviewed (e.g., environmental assessment reports, involuntary resettlement plan, Ethnic Minority Development Plan/Indigenous Peoples Plan, or environmental and social compliance audit reports, copies of permits/licenses, etc.).
2. Methodology adopted

C. Compliance and Liability (by relevant safeguard requirements applicable for the specific subproject, examine environmental and social issues and compliance)

1. Examine issues in terms of environmental and social impacts, mitigation measures to address these issues (or corrective action plan for existing facilities) and compliance status with applicable development partner's environmental and social safeguard requirements and national laws, regulations, and standards which will include but not limited to:

(i) Safeguards related to Environmental Issues

a. appropriate identification of major anticipated environmental impacts and risks;
b. adequacy of environmental assessment (if required including the adequacy of alternative analysis);
c. compliance status with applicable requirements on (i) information disclosure, (ii) consultation with affected people and other stakeholders, (iii) occupational and community health and safety, biodiversity conservation and sustainable natural resource management, and physical cultural resources; and
d. adequacy of mitigation measures and ESMP (mitigation measures, monitoring and reporting, institutional arrangement, budget), or corrective action plan for existing facilities, if any.

(ii) Safeguards related to Involuntary Resettlement Issues

a. appropriate identification of major anticipated involuntary resettlement impacts and risks (including both physical displacement and economic displacement);
b. adequacy of assessment of social impacts, information disclosure and consultation with affected people and other stakeholders;

c. adequacy of compensation and benefits for displaced persons

d. adequacy of resettlement plan (measures to enhance or restore the livelihoods of displaced persons, monitoring and reporting, institutional arrangement, budget), or corrective action plan for existing facilities, if any; and

e. Private sector responsibilities under government-manages resettlement.

(iii) Safeguards related to Ethnic Minority/Indigenous People issues

(a) appropriate identification of major anticipated impacts on Ethnic Minority/Indigenous People (including potential impacts on traditional or customary lands under use; relocation of Ethnic Minority/Indigenous People from traditional and customary lands, and impacts on cultural resources);

(b) adequacy of information disclosure and meaningful consultation;

(c) broad community support, where applicable;

(d) adequacy of measures to avoid adverse impacts; and

(e) Adequacy of Ethnic Minority Development Plan/Indigenous Peoples Plan (benefit sharing, measures to mitigate and minimize adverse impacts, monitoring and reporting, institutional arrangement, budget), or corrective action plan for existing facilities, if any.

(iv) Adequacy of grievance redress mechanism arrangements

1. Recommend mitigation measures, or corrective action plans, if gaps are identified
2. For existing facilities including subprojects under construction, examine whether the subproject company paid pollution charges or fines/penalties for non-compliance in the last two years in accordance with national laws, whether the subproject company is exposed to potentially significant liabilities, such as those arising from known or suspected land/groundwater contamination, major accidents and incidents related to the company‘s past or ongoing operations, and state further actions required/planned by the subproject, in particular actions to address any non-compliance problems and liabilities. Also examine whether there are complaints from the public or local communities regarding the subproject company‘s environmental and social performance.
3. State any risk control or mitigation measures to be taken by the subproject, such as conditions, loan covenants or monitoring and reporting requirements

D. Other Project Specific Issues, if any

E. Conclusion and Recommendations

F. FORMAT FOR CORRECTIVE ACTION PLAN

Name of Project:					Date:		
Documents reviewed:							
Sl. No.	Identified Non-Compliances	Recommended Corrective Actions	Timeframe	Action completion indicator	Means of Evaluation	Name of Responsible person	Remarks
Signature and Name:							

*This is an indicative format which may change based on project and development partners requirements.

Annex 18: Environmental and Social Checklist for Solar Rooftop

Name of the Sponsors:

Proposed Capacity:

Date:

		Yes	No
1. Type of the Industry: **2. DOE category; based on ECR 1997:**			
A: Type of Project-			
1	Buildings type?		
2	Be located in or near an area where there is an important historical, archaeological or cultural heritage site?		
3	Be located within or adjacent to any areas that are or may be protected by government (e.g. protected tree, heritage site, protected area)?		
4	Be located on a water harvesting roof?		
5	Be located in an area where plans for future roof uses may affect the project?		
6	Produce solid wastes during construction, operation or decommissioning?		
If the answer to any of questions 1-6 is ``yes", the process required for IEE must be followed.			
B: Environment-			
7	Risk causing contamination of drinking water?		
8	Need to cut down any trees?		
9	Be located within or adjacent to environmentally sensitive areas (e.g. mangroves, wetlands), threatened species or protected tree?		
10	Require freshwater during operations?		
11	Release any pollutants or any hazardous, toxic or noxious substances to the air during construction or operation?		
12	Will there be any liquid discharge to ground water aquifer or the lagoon during construction or operations?		

13	Involve use, storage, transport, handling or production of substances or material that can be harmful health or raise concerns about the actual or perceived risks to human health?		
If the answer to any of questions is ``yes'', the process required for IEE must be followed.			
C: Social-			
14	Will the proposed roof require additional improvement works before installation of solar panels?		
15	Would this project create new and additional jobs?		
16	Are there health impacts during implementation stage?		
17	Will this project affect livelihood adversely? (If answer is yes and livelihoods will be affected adversely please attach details of how itwill be impacted and type, magnitude and severity of impact)		
18	If livelihood will be impacted, are there adequate alternatives or compensations considered? (If yes, please provide details)		
19	Are there any disputes/complaints from the neighboring properties?		
If the answer to any of questions is ``yes'', the process required for IEE must be followed.			

(Signature of Investment Officer, IDCOL)

Name

Signature of E&S Specialists, IDCOL)

Name:

Annex 19: ESIA Screening of Solar Irrigation Pump and General Standard for Irrigation Water (Varies With Crop Types)

A. ESIA SCREENING OF SOLAR IRRIGATION PUMP

[General Instruction: This screening report will be prepared by the proponent (sponsor) and will be reviewed by IDCOL along with field verification. Softcopy should be available to proponent for required space to describe different sections.]

a) **Subproject Title/Location:**

b) **Proponent(s):**

c) **Project Description**

*(*General Note: The solar irrigation pump will be usually installed at that site where the existing irrigation facilities are being operated by the diesel engine. The solar energy with PV systems has a smaller environmental footprint compared to conventional power systems. However, the irrigation and drainage activities may result some negative environmental impacts. This impact may extend both upstream and downstream of the irrigated area. It is necessary to determine the impacts and take measures to mitigate/compensate the impacts.*)*

Brief description of the followings:

- *Project's main objective*
- *Source of water- ground or surface*
- *Components of the project (Please attach physical layout in Annex)*
- *Areas (ha) to be covered under irrigation*
- *Size (sq. m) of the control buildings*
- *Capacity of solar system (watt)*
- *Maximum yield of pump (cu. m/s)*
- *Size storage reservoir (Length, breath and height in m)*
- *Maximum volume of water (cu.m per day) required in a given period of time in dry season.*

d) **Existing Environment**

Description of the environmental components as indicative below on and surrounding the project site:

- *Lowest ground water table in the locality during dry period (Information from DPHE/ LGED. This information is required only if ground water will be used for irrigation.)*
- *Rate of ground water lowering (If available from DPHE/ LGED/other source. This information is required only if ground water will be used for irrigation.)*

- *Availability (Flow in cu.m/s and/or water depth) of water of the selected surface water source during dry season (This information is required only if surface water will be used for irrigation.)*
- *The quality (mainly arsenic) of available water sources (Test report of nearest tube-wells. This information is required only if ground water will be used for irrigation.)*

Project Location	No. of tube-well within 200m radius/nearby village	Tubewell tested to measure arsenic level		Marking (Green/Red)	Arsenic level in red marked tubewells
		Yes	No		(mg/L)

- *Surrounding environment: Indicate presence of forest, wetlands, creeks, streams, undeveloped areas, residential areas, industrial areas, environmentally sensitive areas, recognized or protected area etc. within 200m periphery of the project command area.*
- *Existing crop cultivation practice in the project area*
- *The gradient of the project area*
- *Existing drainage facilities*

e) Environmental Screening Questionnaire

(General Note: The environmental Screening will be done to identify and examine the environmental effects of the proposed project determine the likely significance of the environmental effects as well as identify appropriate mitigation measures to reduce, eliminate, compensate for, or control these effects.)

Does the project effect	***Yes/No***	***If yes, how***
Will the proposed project support the cultivation of existing crop fields?		
Will the proposed project required land-filling for construction of control structure, storage reservoir and setting-up the solar panel?		
Will the project use the existing irrigation channels?		
If the answer of the above question is no, whether new channels (irrespective of financing) will be constructed?		
Will the drainage channel cross any road?		

Will the irrigation lead to water logging in adjacent land?		
Will the proposed activities impact on natural habitat and environmentally sensitive areas?		
Will the proposed construction, installation, operation, modification, replacement of water pipe, stream line be located alongside or underneath any physical cultural sites?		
Is there any future possibility to use the irrigation water for drinking purposes of the local community?		
If yes, will the water quality of the source meet the national drinking water quality?		
Will the project cause physical changes in the locality such as topography, land use, water bodies, and physical cultural resources?		
Will the proposed project put any significant negative effects on surrounding water, air or noise quality?		
Will the communities require awareness or training program on proper use and maintenance of solar energy plants		

f) Screening Decision

(General Note: Please review the environmental screening and summarize the environmental impacts. Suggest the next step including the Environmental Management Plan)

g) Environmental Management Plan

(General Note: Environmental Management Plan has two parts: Environmental Mitigation Plan and Environmental Monitoring Plan)

1) Environmental Mitigation Plan

Project Activity	Potential Environmental Impact(s)	Mitigation Measures	Location	Estimated Mitigation Cost	Responsibility	
					Implementation	Supervision
Pre-construction Phase						
Construction Phase						
Operation Phase						

2) *Environmental Monitoring Plan (Mitigation Monitoring):*

A) MITIGATION MONITORING							
Environ-mental Indicator	Parameters/ Units	Location	Means of Monitoring	Frequency/ Duration Standards	Responsibilities		Estimated Cost
					Implementation	Supervision	

h) Environmental Monitoring Plan

Monitoring will be conducted for the following aspects as per the table below:

Monitoring Issue	Frequency	Monitored by	Supervised by
Whether the water is being used for drinking purposes			
Whether any water logging has occurred due to improper maintenance of the system			

i) Public Consultation

(Instruction: Please attach the notes of the consultation held earlier with the farmers regarding the solar irrigation system and their willingness to adopt the technology and cost involvement as an Annex to the screening report. The consultation notes must be supported by signature/thumb print of the participants. Photographs of such meeting will be encouraged)

j) Social Screening Questionnaire

Does the project effect	***Yes/No***
Involuntary Resettlement Aspect	
Is any land acquisition required for the project?	
Type of land (public, private or lease)	
Is there any settlement present in the site?	
Is there any recorded litigation issue associate with the site?	
Is there any close relationship between the general livelihood pattern and the site in the project area?	

Does the project require physical or economic displacement of any person/household/community?	
Tribal People Aspect	
Is the project site located in tribal people prone area?	
Is there any impact of the project on religious and cultural practice and belief of tribal people?	
Is there any impact of the project on livelihood pattern of tribal people?	
Is there any settlement recorded (present and near past) in the site?	
Is there necessity of displacing (physically or economically) any person/household/community?	
What local language(s) is (are) used by the IP population?	

(Appropriate mitigation plan will be developed based on the results of the Social Screening.)

Screening Report Prepared by (Name of the proponent official/consultant): ……

Designation:

……

Date: ……

Screening Report Reviewed & Cleared by (Name of the IDCOL official/consultant): ……

Designation:

…….

Date: ……

B. GENERAL STANDARD FOR IRRIGATION WATER (WB) (VARIES WITH CROP TYPES)

1. Salinity (Salt Content)

Specific conductivity: should be less than 3 mmhos/cm

Total Dissolved Solids: should be less than 2000 mg/l

2. Salinity (Cations and Anions)

Sodium: should be less than 40 me/l

Bicarbonate: should be less than 10 me/l

Chloride: should be less than 30 me/l

Sulphate: should be less than 20 me/l

3. Nutrients

No_3-N: should be less than 10 mg/l

Ammonium-Nitrogen: should be less than 5 mg/l

Phosphate-Phosphorous: should be less than 2 mg/l

4. Miscellaneous

Boron: should be less than 0.2 mg/l

pH: should in the range of 6.5 to 8.4

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mg/l = milligram per liter = parts per million (ppm)

me/l = milli-equivalent per liter (mg/l ÷ equivalent weight = me/l)

Annex 20: Preliminary Environmental and Social Safeguard Screening Format for Grid Tied Solar Park

S. No.	Environmental & Social Features	Status / Availability in & around site (2-kms)	Significance (based on likely impact)	Remarks / Description
Name and Address:				
GPS Coordination:				
Description of project site:				
Official due diligence required :				
Physical Environment				
	Type of Land (Purchased/leased land, low/level from road, requirements of landfill)			
	Soil Erosion Prone stretches			
	Topography			
	Air & Noise Quality			

	Surface Water Resources			
	Drinking Water sources			
Biological Environment				
	National Park / Wildlife Sanctuary			
	Ecologically sensitive areas			
	Birds Migratory routes			
	Reserved / Protected Forests			
	Large Trees / Woodland			
	Presence of endangered species/habitat areas			
	Name of the Flora			
	Name of the Fauna			
Human Environment				
	Presence of Indigenous or vulnerable communities			
	Prone to flooding or not			
	Hot Spot/Sensitive Zones			
	Physical Cultural Resources – Religious			
	Settlements / Built-up Environment			
	Underground utility lines like electricity lines, pipelines for			

	gas, etc			
	Agricultural land fertility levels			
	Damage to existing infrastructure, public utilities, amenities etc.			
Social Environment				
	Any local conflicts of interest in the project site			
	Land acquisition of private land leading to loss of shelter and livelihood (Plant and Transmission Tower implementation)			
	Any loss/reduction of access to traditional dependent communities (to areas where they earn for their primary or substantial livelihood). [Plant and Transmission Tower implementation]			
	Involuntary land taking resulting in loss of income; livelihood; sources of livelihood; loss of access to common property resources and/or private residential and/or property resources. [Plant and Transmission Tower implementation]			

	Any specific gender issues			
	Possible conflicts with and/or disruption to local community			
	Significant issues raised by the stakeholders during consultation			

Annex 21: Guidelines for Selecting New Battery Supplier[53]

A. Local Battery Supplier

The battery supplier, who will supply battery made in Bangladesh, has to comply the following requirements, to supply battery in IDCOL's SHS program:

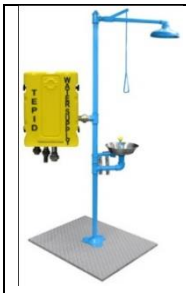
1. Compliance with Department of Environment: The respective battery supplier has to submit the Environmental Clearance Certificate as is issued by the Department of Environment. And they have to submit sufficient evidence that the requirements/terms and conditions of the DOE are sufficiently implemented.

2. ISO 14001:2004 and OHSAS 18001:2007 compliances: The battery supplier has to be ISO 14001:2004/2005 and OHSAS 18001:2007 certified from a certification body as is approved by International Accreditation Forum (IAF) or American International Accreditation Organization (AIAO).

3. Practicing Experience: During IDCOL EHS audit, if it is found that the supplier has failed to install properly design ETP, ATP, and above all to meet the major clauses of the aforesaid two standards, it has to alleviate all limitations as well as to show the record of practicing the aforesaid two compliances at least six months individually. Thereafter, its enlistment may be considered

4. Basic Infrastructure: All basic infrastructures including effluent treatment plant an air treatment plant (ATP) have to be fully operational. During application in IDCOL, the design detail of ETP and ATP are to be submitted. No exhaust fan will be considered as an alternative of ATP. In addition, the formation will be completely closed. No fume will be allowed to move freely in the unit. They must be properly neutralized.

5. Safety shower and emergency eye-wash equipment: The supplier has to ensure installation of adequate number of safety shower and emergency eye wash equipment at suitable places in the battery manufacturing plant, especially in acid intensive areas.



[53] This guideline is already in practice in IDCOL REREDP to ensure better EHS management in battery manufacturing plant.

Photographs: A typical emergency shower and safety eye wash equipment

6. Technical Standard: The battery has to meet the compliances and standards required by Technical Standard Committee of IDCOL.

7. Recycling arrangement: The respective battery supplier has to submit a legally approved contractual arrangement with IDCOL en-listed expired battery recycler.

8. Baseline EHS Assessment Report: The battery supplier has to submit an EHS compliance Report by mentioning how he is complying with the environmental and occupational health safety aspects.

9. **Disclosure of EHS Assessment Report**: The EHS assessment Report, irrespective of being prepared by an independent third party or IDCOL representative is to be duly disclosed to all relevant development partners.

B. Imported Battery Supplier

If a battery supplier approaches to supply imported battery in IDCOL SHS program, he has to comply with the following requirements in addition of the technical requirement of IDCOL:

1. Statutory requirement: The respective battery supplier has to submit Environmental Clearance Certificate as is issued by the respective entity of the respective country;

2. ISO 14001 and OHSAS requirement: The respective battery supplier has to submit ISO 14001 and OHSAS 18001 compliance certificates of the respective battery manufacturing plant.

3. Baseline EHS Assessment Report: The battery supplier has to submit an EHS Assessment Report by mentioning how he is complying with the environmental and occupational health safety aspects.

4. Disclosure of EHS Assessment Report: The EHS assessment Report, irrespective of being prepared by an independent third party or IDCOL representative is to be duly disclosed to **all relevant** development partners.

5. Recycling arrangement: The respective battery supplier has to submit a legally approved contractual arrangement with IDCOL en-listed expired battery recycler. From 1 January 2015 IDCOL will not en-list any battery suppliers having no independent battery recycling plant.

Annex 22: Guidelines for Selecting New PV Panel Supplier[54]

A. Local PV Panel Supplier

The supplier, who will apply to supply PV panel made in Bangladesh, has to comply with the following procedure to be enlisted in IDCOL's SHS program:

1. Compliance with Department of Environment: The respective PV Panel supplier has to submit the Environmental Clearance Certificate as is issued by the Department of Environment. And they have to submit sufficient evidence that the requirements/terms and conditions of the DOE are sufficiently implemented.

2. ISO 14001:2004 and OHSAS 18001:2007 compliances: The PV panel supplier has to be ISO 14001:2004 and OHSAS 18001:2007 certified from a certification body as is approved by International Accreditation Forum (IAF) or American International Accreditation Organization (AIAO).

3. Practicing Experience: The supplier has to prove the record of practicing the aforesaid two compliances at least six months individually. In this case of the two compliance certificates, six (6) months will be counted from the date of issuing of latter one.

4. Technical Standard: The PV panel has to meet the compliances and standards required by Technical Standard Committee of IDCOL.

5. Baseline EHS Assessment Report: The PV panel supplier has to submit an EHS Assessment Report by mentioning how he is complying with the environmental and occupational health safety aspects.

6. Disclosure of EHS Assessment Report: The EHS Assessment Report, irrespective of being prepared by an independent third party or IDCOL representative, is to be duly disclosed to all relevant development partners.

B. Imported PV Panel Supplier

If a PV panel supplier approaches to supply imported PV Panel in IDCOL SHS program, he has to comply the following requirements in addition of the technical requirement of IDCOL:

1. **Statutory requirement:** The respective panel supplier has to submit Environmental Clearance Certificate as is issued by the respective entity of the respective country;

[54] This guidelines is introduced in this ESMF for ensuring better EHS management

2. **ISO 14001 and OHSAS requirement:** The respective PV panel supplier has to submit ISO 14001 and OHSAS 18001 compliance certificate of the respective PV panel manufacturing plant.

3. **Baseline EHS Assessment Report:** The PV panel supplier has to submit an EHS Assessment Report by mentioning how he is complying with the environmental and occupational health safety aspects.

4. **Disclosure of EHS Assessment Report:** The EHS Assessment Report, irrespective of being prepared by an independent third party or IDCOL representative**,** is to be duly disclosed to all relevant development partners.

Annex 23: Agreement for Buying Back Expired Batteries[55]

Agreement for Buying Back of Warranty Expired Batteries

This Agreement (the "Agreement") for Buying back of warranty expired/non-functional (not eligible for replacement under warranty policy) solar battery for safe disposal is executed on…[Date]…among…[Name of a Battery manufacturer]…having its registered office at …[Office Address]…and Participating Organizations of Infrastructure Development Company Limited (IDCOL), as listed below (hereafter **"POs")**:

…[Name of the PO, Office Address]…

Whereas:

1. IDCOL requires the POs to make necessary contractual arrangements with battery manufacturers for environment friendly recycling of all batteries used under IDCOL Solar Energy Program under Section 9.14 of the Participation Agreements between IDCOL and POs;
2. The Government of Bangladesh has issued SRO No. 175-Act/2006 dated 29 August 2006 on collection and recycling of used/non-functional batteries for conservation of environment, improving environmental standard and control and prevention of environmental pollution;
3. The Government of Bangladesh has issued SRO No. 29-Act/2008 dated 11 February 2008 that allows payment of consideration during the return of used/non-functional batteries; and
4. All parties realize the need for safe and environment friendly recycling/disposal of warranty expired/non-functional (not eligible for replacement under warranty policy) batteries under IDCOL Solar Energy Program as per provisions in this agreement.

Now therefore,…[Name of a Battery manufacturer]…& POs do hereby agree as follows:

1. Customer Notification:

PO shall notify the customers before 3 months of the warranty expiration date and advise him/her to replace the battery. The customer is free to continue using the existing battery after warranty period if s/he wants to do so. However, the customer will be required to inform the PO's representative when s/he would stop using the battery after the expiration of warranty period. The PO will incorporate relevant provisions in the SHS sell/lease agreement requiring the customer (a) to furnish the warranty-expired or non-functional (not eligible for

[55] **This agreement is signed between IDCOL and PO, which ensures that the respective PO will purchase the expired battery from users.**

replacement under warranty policy) battery to the PO (b) not to keep it with them; and (c) not to sell it to any second party.

2. Collection of Batteries by PO:

PO representatives will collect the batteries from the customers and store it in the local offices. PO will take necessary measures to ensure safe storage of the batteries. The batteries must be collected within 30 days after the customer stops using it. The PO representative will ensure that no component/part of the battery is left behind and the acid does not spill out of the battery during transportation. POs will not sell any battery to the customers of IDCOL Solar Energy Program without provisions for buying back of the warranty expired/non-functional (not eligible for replacement under warranty policy) battery.

PO will send the warranty expired batteries within 30 days to any of the ten regional locations, designated by Battery Manufacturer, at Dhaka, Chittagong, Khulna, Faridpur, Bogura, Sylhet, Barishal, Borguna, Rangpur, Brahmanbaria.

3. Collection of Batteries by …[Name of a Battery manufacturer]…:

…[Name of a Battery manufacturer]…will collect the batteries from the regional locations and ensure safe transportation of the batteries to the site where the batteries will be recycled/disposed of in an environment-friendly manner.

4. Price & payment:

4.1. The battery manufacturers will pay 24% of the current market price (including VAT) of new batteries to the POs for exchange of warranty expired batteries of similar size at their regional collection points. The salvage value is subject to review for every six months. Salvage value would be retained by the POs as down-payment and remaining price of new battery would be loan from POs to customers. IDCOL will refinance this loan amount which shall not exceed USD 100 equivalent BDT for each battery.

4.2. IDCOL will provide USD 5 equivalent BDT as grant to the PO for collection of each warranty expired from the household subject to the availability of fund.

4.3. The customer's portion of buying back price shall be given during the collection time.

4.4. …[Name of a Battery manufacturer]… will make full payment for bought back batteries through A/C payee cheque in favor of the POs within 45 days of receipt of the batteries in the regional locations.

4.5. Subject to the availability of Fund, IDCOL will provided USD 5 equivalent BDT to the battery recyclers for proper recycling of each battery.

5. Review of price

Both the parties will sit in every six months to review the buy-back price.

This Agreement is signed, sealed and delivered by authorized representatives of …[Name of a Battery manufacturer]… and POs on the date first mentioned above

(b) BATTERY RECYCLING AGREEMENT For (…… kWp Solar Mini Grid Project at ……..District)

THIS AGREEMENT is made on the _____day of _____, 201, (the Agreement) between **……..,** having its registered Head Office at ……., represented by its Executive Director,……(the Buyer) and **……..** BATTERY COMPANY LTD. having its registered Corporate Office at ……, represented by its Managing Director ……. (The Supplier).

A. The Buyer is going to set up a …. kWp Solar Mini Grid Project (the Project) at …… District (the Project Site) for which it requires …. nos. of 1540 Ah, 2V Battery (the Batteries) and the Supplier has been selected for supplying the Batteries through a competitive process.
B. With a view to recycling the Batteries, the Buyer and the Supplier have decided to enter into an agreement to determine the terms and condition of collection and recycling of the Batteries.

NOW THE PARTIES HEREBY AGREE THAT

Section 1. Warranty Service of the Supplier

The Supplier shall provide warranty services of 7 (seven) years to the Buyer for the Batteries subject to the terms and conditions mentioned in the quotation submitted by the Supplier at the time selection.

Section 2: Collection of Batteries

The Supplier shall collect the Batteries from the Project Site at its own cost and arrangement within ……. number of days from the date of being informed of damage of Battery/expiry of Warranty Period:

a. If the Batteries are damaged during the Warranty Period; or
b. Upon expiry of the Warranty Period.

Section 3: Recycling of the Batteries

After collection from the Project Site, the Supplier shall recycle every damaged or warranty expired Batteries in environment friendly way.

Section 4: Compliance with Environmental Social Safeguard Framework (ESSF)

During the collection and the recycling of damaged or warranty expired Batteries, the Supplier shall follow the environmental, health and social compliances, under the Environmental Social Management Framework (ESMF) of IDCOL.

Section 5: Price of warranty expired Batteries

The Supplier shall pay the Buyer for the warranty expired Batteries and the Supplier shall pay the price on or before the collection of warranty expired Batteries on the basis of 30% of LME (London Metal Exchange for Lead) price for dry weight which shall be followed on average of the week.

Section 6: Liquidated damages for delay in collection of damaged/warranty expired Batteries

The Supplier shall be liable to pay liquidated damages at the rate of 14 (fourteen) days of delay in collection of Batteries as mentioned in section 2.

Section 7: Sale of the damaged/warranty expired Batteries to any third party

If the Buyer sells the damaged/warranty expired Batteries to any third party, the Supplier shall be discharged from its liabilities for collection and recycling of damaged/warranty expired Batteries under this Agreement and the Buyer shall be responsible to enter into necessary arrangements for collection and recycling of the damaged/warranty expired Batteries with that third party.

Section 8: Dispute Resolution

8.1. *Negotiation*. Any dispute that may arise between the Buyer and the Supplier in connection with or under this Agreement shall be tried to be amicably resolved through mutual negotiation of both parties.

8.2. *Mediation*. If any dispute referred to in paragraph (8.1) above arises and cannot be resolved through negotiation, it will be referred to a third party mediator selected by both parties for a mediated resolution; and the cost of such mediation will be shared jointly by both parties.

8.3. *Arbitration*. In case a dispute is not resolved through methods as per paragraphs (8.1) and (8.2) above, it shall be referred to arbitration under the Arbitration Act 2001 (the **"Act"**) of Bangladesh as the last resort; the arbitral award thereon shall be final and binding; and the cost of such arbitration shall be shared jointly by the parties or as may otherwise be determined under the Act.

IN WITNESS WHERE OF, the parties have caused this Agreement to be signed in their respective names on the date first above written.

FOR ……..

1. Witness BY.....

FOR …….BATTERY COMPANY LTD.

2. Witness BY…….....

Annex 24: Environmental & Social Field Observation Report for Improve Cook Stoves (ICS)

Component: Improve Cook Stoves (ICS)

P.O's Name & Address:

Date of visit:

Purpose of visit: Over all EHS compliance inspection at the ICS-production center and households

Issues Observed:

At production Center:

Practices of EHS compliance are ……

Environment of production area:

Insertion of Rockwool process:

Storage scenario

The ratio of cement: sand: chips

Pictures as an evidence:

At House Hold Level:

Does the customers need training to use the new version stove …

Annex 25: Monitoring/Observation Report for Environmental, Social and Health Safety Compliance of Solar Irrigation Project (Operational)

Background:

Technical Description:

Solar PV technology: Solar PV modules are used for producing electricity from sunlight

Pumping Technology: Electricity from solar module is used for the operation of the pump. By using pump water is being stored in a heading tank for a time being afterwards water supplied to the adjacent land for agricultural purpose.

Steps Involved:

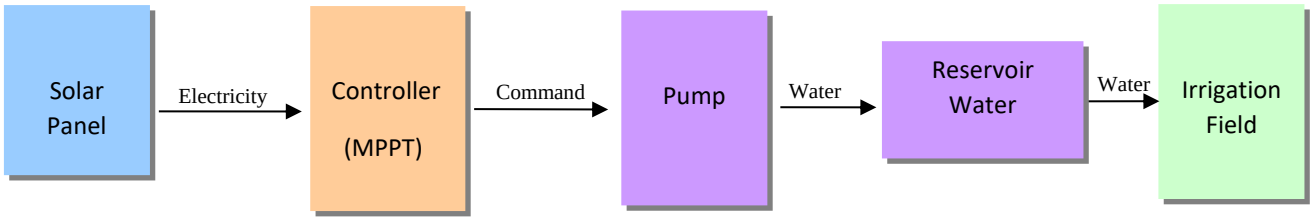


Figure: Solar Irrigation Process

Alternate Usage:

The pump controllers will have a provision for alternate usage, mainly rice husking at all the sites. This will allow the sponsor to utilize the idle electricity of the system to be used at loads similar to that of the pumping motor. The husking machines will be operated only during idle hours of the pumps and hence, there is no competing use of pumps and the husking machine.

Monitoring Methodology:

[The observation report been followed the field primary data, visual scenario (environmental, health and social issues), water testing and group discussions with the farmers in the project areas.]

Observation:

[Environmental Issues need to be observed in the surrounding (forests, wetlands, creeks, streams, undeveloped areas, residential areas, industrial areas, environmentally sensitive areas) environments of the three project areas. Farmers of the project areas are using water for irrigation purpose in their conventional manner to cultivate crops.

Arsenic, pH level and Total dissolve solid (TDS) need to be tested in the project area and health and safety concern need to be verified during the field visit. Resettlement and tribal people's need to be observed during the field visit.]

Overview of the Project area:

Queries Of the Projects	**Remarks**		
Project area:	**1**	**2**	**3**
Source of water-	Ground water	Ground water	Ground water
Areas (decimal) to be covered under irrigation			
Capacity of PV panel (Wp)			
Maximum yield of pump (L/day)			
Size storage of head tanker (Length, breath and height in m) Height:			
Maximum volume of water (L/day) required in a given period of time in dry season.			

Environmental Compliances:

Project area:	1			2			3		
1	2			3			4		
Queries of the Projects	YES √	NO ×	Remarks	YES √	NO ×	Remarks	YES √	NO ×	Remarks
What is the depth of the pipe used for the extraction water?									
Availability (Flow in L/day or water depth) of ground water source during dry season									
Surrounding environment: Indication of presence of forest, wetlands, creeks, streams, undeveloped areas, residential areas, industrial areas, environmentally									

sensitive areas, recognized or protected area etc. within 200m periphery of the project command area:									
Is there any future possibility to use the irrigation water for drinking purposes of the local community?									
Crop cultivation practice in the project area:									
Does the project fulfill water requirement for the cultivated fields? [If "No" explain]									

Environmental Health and Safety Issues:

Project area:	1			2			3				
1	2			3			4			Mitigation Measures	Follow up actions
Queries Of the Projects	YES √	NO ×	Remarks	YES √	NO ×	Remarks	YES √	NO ×	Remarks		
Does the project create any health & safety issues for the villagers?											
Does the water quality of the source meet the national standard?											

Does the project create any significant negative effects on surrounding water, air or noise quality?											

Social Compliances:

Project area:	**1**			**2**			**3**				
1	**2**			**3**			**4**			**Mitigation measure**	**Follow up action**
Queries Of the Projects	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**		
Does the project, comply with the proposed water											

supply within the irrigation fields?											
Does the project, comply with the committed charge											
Any existence of hidden charges [If yes explain]											
Is there any documented process of collecting charges?											
Does the fees collection process is acceptable or not? [If not please explain]											

Will the communities require awareness or training program on proper use and maintenance of water management? [If “Yes” – please explain]			.								
Does the operator require awareness or training program on proper use and maintenance of water management? [If “Yes” – please											

explain]											

Gender Compliances:

Project area:	**1**			**1**			**1**		
1	**2**			**3**			**4**		
	YES √	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**
Does the project create improved quality of livelihood for the respective families?									
Whether the project is useful to solve the uncertainty of water during the irrigation time?									

Any valuable comments to improve the project? [While monitoring the project, personnel of IDCOL are consulted with a numbers of stakeholders. Some of their suggestions/comments seem to be noteworthy]									

Annex 26: ESF/Safeguards Interim Note: Covid-19 Considerations in Construction/Civil Works Projects[56]

This note was issued on April 7, 2020 and includes links to the latest guidance as of this date (e.g. from WHO). Given the COVID-19 situation is rapidly evolving, when using this note it is important to check whether any updates to these external resources have been issued.

1. INTRODUCTION

The COVID-19 pandemic presents Governments with unprecedented challenges. Addressing COVID-19 related issues in both existing and new operations starts with recognizing that this is not business as usual and that circumstances require a highly adaptive responsive management design to avoid, minimize and manage what may be a rapidly evolving situation. In many cases, we will ask Borrowers to use reasonable efforts in the circumstances, recognizing that what may be possible today may be different next week (both positively, because more supplies and guidance may be available, and negatively, because the spread of the virus may have accelerated).

This interim note is intended to provide guidance to teams on how to support Borrowers in addressing key issues associated with COVID-19, and consolidates the advice that has already been provided over the past month. As such, it should be used in place of other guidance that has been provided to date. This note will be developed as the global situation and the Bank's learning (and that of others) develops. This is not a time when 'one size fits all'. More than ever, teams will need to work with Borrowers and projects to understand the activities being carried out and the risks that these activities may entail. Support will be needed in designing mitigation measures that are implementable in the context of the project. These measures will need to take into account capacity of the Government agencies, availability of supplies and the practical challenges of operations on-the-ground, including stakeholder engagement, supervision and monitoring. In many circumstances, communication itself may be challenging, where face-to-face meetings are restricted or prohibited, and where IT solutions are limited or unreliable.

This note emphasizes the importance of careful scenario planning, clear procedures and protocols, management systems, effective communication and coordination, and the need for high levels of responsiveness in a changing environment. It recommends assessing the current situation of the project, putting in place mitigation measures to avoid or minimize the chance of infection, and planning what to do if either project workers become infected or the

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56 **https://biwta.portal.gov.bd/sites/default/files/files/biwta.portal.gov.bd/page/f3ca1ff6_95b0_4606_849f_2c0844e455bc/2020-10-01-11-04-ad9ef55c947057f54b4f4f76f5be54ff.pdf**

work force includes workers from proximate communities affected by COVID-19. In many projects, measures to avoid or minimize will need to be implemented at the same time as dealing with sick workers and relations with the community, some of whom may also be ill or concerned about infection. Borrowers should understand the obligations that contractors have under their existing contracts (see Section 3), require contractors to put in place appropriate organizational structures (see Section 4) and develop procedures to address different aspects of COVID-19 (see Section 5).

2. CHALLENGES WITH CONSTRUCTION/CIVIL WORKS

Projects involving construction/civil works frequently involve a large work force, together with suppliers and supporting functions and services. The work force may comprise workers from international, national, regional, and local labor markets. They may need to live in on-site accommodation, lodge within communities close to work sites or return to their homes after work. There may be different contractors permanently present on site, carrying out different activities, each with their own dedicated workers. Supply chains may involve international, regional and national suppliers facilitating the regular flow of goods and services to the project (including supplies essential to the project such as fuel, food, and water). As such there will also be regular flow of parties entering and exiting the site; support services, such as catering, cleaning services, equipment, material and supply deliveries, and specialist sub-contractors, brought in to deliver specific elements of the works.

Given the complexity and the concentrated number of workers, the potential for the spread of infectious disease in projects involving construction is extremely serious, as are the implications of such a spread. Projects may experience large numbers of the work force becoming ill, which will strain the project's health facilities, have implications for local emergency and health services and may jeopardize the progress of the construction work and the schedule of the project. Such impacts will be exacerbated where a work force is large and/or the project is in remote or under-serviced areas. In such circumstances, relationships with the community can be strained or difficult and conflict can arise, particularly if people feel they are being exposed to disease by the project or are having to compete for scarce resources. The project must also exercise appropriate precautions against introducing the infection to local communities.

3. DOES THE CONSTRUCTION CONTRACT COVER THIS SITUATION?

Given the unprecedented nature of the COVID-19 pandemic, it is unlikely that the existing construction/civil works contracts will cover all the things that a prudent contractor will need to do. Nevertheless, the first place for a Borrower to start is with the contract, determining what a contractor's existing obligations are, and how these relate to the current situation.

The obligations on health and safety will depend on what kind of contract exists (between the Borrower and the main contractor; between the main contractors and the sub-contractors). It will differ if the Borrower used the World Bank's standard procurement documents (SPDs) or used national bidding documents. If a FIDIC document has been used, there will be general provisions relating to health and safety. For example, the standard FIDIC, Conditions of Contract for Construction (Second Edition 2017), which contains no 'ESF enhancements', states (in the General Conditions, clause 6.7) that the Contractor will be required:

- to take all necessary precautions to maintain the health and safety of the Contractor's Personnel
- to appoint a health and safety officer at site, who will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site and to take protective measures to prevent accidents
- to ensure, in collaboration with local health authorities, that medical staff, first aid facilities, sick bay, ambulance services and any other medical services specified are available at all times at the site and at any accommodation
- to ensure suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics

These requirements have been enhanced through the introduction of the ESF into the SPDs (edition dated July 2019). The general FIDIC clause referred to above has been strengthened to reflect the requirements of the ESF. Beyond FIDIC's general requirements discussed above, the Bank's Particular Conditions include a number of relevant requirements on the Contractor, including:

- to provide health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities)
- to put in place workplace processes for Contractor's Personnel to report work situations that are not safe or healthy
- gives Contractor's Personnel the right to report work situations which they believe are not safe or healthy, and to remove themselves from a work situation which they have a reasonable justification to believe presents an imminent and serious danger to their life or health (with no reprisal for reporting or removing themselves)
- requires measures to be in place to avoid or minimize the spread of diseases including measures to avoid or minimize the transmission of communicable diseases

that may be associated with the influx of temporary or permanent contract-related labor

- to provide an easily accessible grievance mechanism to raise workplace concerns

Where the contract form used is FIDIC, the Borrower (as the Employer) will be represented by the Engineer (also referred to in this note as the Supervising Engineer). The Engineer will be authorized to exercise authority specified in or necessarily implied from the construction contract. In such cases, the Engineer (through its staff on site) will be the interface between the PIU and the Contractor. It is important therefore to understand the scope of the Engineer's responsibilities. It is also important to recognize that in the case of infectious diseases such as COVID-19, project management – through the Contractor/subcontractor hierarchy – is only as effective as the weakest link. A thorough review of management procedures/plans as they will be implemented through the entire contractor hierarchy is important. Existing contracts provide the outline of this structure; they form the basis for the Borrower to understand how proposed mitigation measures will be designed and how adaptive management will be implemented, and to start a conversation with the Contractor on measures to address COVID-19 in the project.

4. WHAT PLANNING SHOULD THE BORROWER BE DOING?

Task teams should work with Borrowers (PIUs) to confirm that projects (i) are taking adequate precautions to prevent or minimize an outbreak of COVID-19, and (ii) have identified what to do in the event of an outbreak. Suggestions on how to do this are set out below:

- The PIU, either directly or through the Supervising Engineer, should request details in writing from the main Contractor of the measures being taken to address the risks. As stated in Section 3, the construction contract should include health and safety requirements, and these can be used as the basis for identification of, and requirements to implement, COVID-19 specific measures. The measures may be presented as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures. The measures may be reflected in revisions to the project's health and safety manual. This request should be made in writing (following any relevant procedure set out in the contract between the Borrower and the contractor).
- In making the request, it may be helpful for the PIU to specify the areas that should be covered. This should include the items set out in Section 5 below and take into account current and relevant guidance provided by national authorities, WHO and other organizations.

- The PIU should require the Contractor to convene regular meetings with the project health and safety specialists and medical staff (and where appropriate the local health authorities), and to take their advice in designing and implementing the agreed measures.
- Where possible, a senior person should be identified as a focal point to deal with COVID-19 issues. This can be a work supervisor or a health and safety specialist. This person can be responsible for coordinating preparation of the site and making sure that the measures taken are communicated to the workers, those entering the site and the local community. It is also advisable to designate at least one back-up person, in case the focal point becomes ill; that person should be aware of the arrangements that are in place.
- On sites where there are a number of contractors and therefore (in effect) different work forces, the request should emphasize the importance of coordination and communication between the different parties. Where necessary, the PIU should request the main contractor to put in place a protocol for regular meetings of the different contractors, requiring each to appoint a designated staff member (with back up) to attend such meetings. If meetings cannot be held in person, they should be conducted using whatever IT is available. The effectiveness of mitigation measures will depend on the weakest implementation, and therefore it is important that all contractors and sub-contractors understand the risks and the procedure to be followed.
- The PIU, either directly or through the Supervising Engineer, may provide support to projects in identifying appropriate mitigation measures, particularly where these will involve interface with local services, in particular health and emergency services. In many cases, the PIU can play a valuable role in connecting project representatives with local Government agencies, and helping coordinate a strategic response, which takes into account the availability of resources. To be most effective, projects should consult and coordinate with relevant Government agencies and other projects in the vicinity.
- Workers should be encouraged to use the existing project grievance mechanism to report concerns relating to COVID-19, preparations being made by the project to address COVID-19 related issues, how procedures are being implemented, and concerns about the health of their co-workers and other staff.

5. WHAT SHOULD THE CONTRACTOR COVER?

The Contractor should identify measures to address the COVID-19 situation. What will be possible will depend on the context of the project: the location, existing project resources,

availability of supplies, capacity of local emergency/health services, the extent to which the virus already exist in the area. A systematic approach to planning, recognizing the challenges associated with rapidly changing circumstances, will help the project put in place the best measures possible to address the situation. As discussed above, measures to address COVID-19 may be presented in different ways (as a contingency plan, as an extension of the existing project emergency and preparedness plan or as standalone procedures). PIUs and contractors should refer to guidance issued by relevant authorities, both national and international (e.g. WHO), which is regularly updated.

Addressing COVID-19 at a project site goes beyond occupational health and safety, and is a broader project issue which will require the involvement of different members of a project management team. In many cases, the most effective approach will be to establish procedures to address the issues, and then to ensure that these procedures are implemented systematically. Where appropriate given the project context, a designated team should be established to address COVID-19 issues, including PIU representatives, the Supervising Engineer, management (e.g. the project manager) of the contractor and sub-contractors, security, and medical and OHS professionals. Procedures should be clear and straightforward, improved as necessary, and supervised and monitored by the COVID-19 focal point(s). Procedures should be documented, distributed to all contractors, and discussed at regular meetings to facilitate adaptive management. The issues set out below include a number that represent expected good workplace management but are especially pertinent in preparing the project response to COVID-19.

(a) ASSESSING WORKFORCE CHARACTERISTICS

Many construction sites will have a mix of workers e.g. workers from the local communities; workers from a different part of the country; workers from another country. Workers will be employed under different terms and conditions and be accommodated in different ways. Assessing these different aspects of the workforce will help in identifying appropriate mitigation measures:

- The Contractor should prepare a detailed profile of the project work force, key work activities, schedule for carrying out such activities, different durations of contract and rotations (e.g. 4 weeks on, 4 weeks off).
- This should include a breakdown of workers who reside at home (i.e. workers from the community), workers who lodge within the local community and workers in on-site accommodation. Where possible, it should also identify workers that may be more at risk from COVID-19, those with underlying health issues or who may be otherwise at risk.

- Consideration should be given to ways in which to minimize movement in and out of site. This could include lengthening the term of existing contracts, to avoid workers returning home to affected areas, or returning to site from affected areas.
- Workers accommodated on site should be required to minimize contact with people near the site, and in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided.
- Consideration should be given to requiring workers lodging in the local community to move to site accommodation (subject to availability) where they would be subject to the same restrictions.
- Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work.

(b) ENTRY/EXIT TO THE WORK SITE AND CHECKS ON COMMENCEMENT OF WORK

Entry/exit to the work site should be controlled and documented for both workers and other parties, including support staff and suppliers. Possible measures may include:

- Establishing a system for controlling entry/exit to the site, securing the boundaries of the site, and establishing designating entry/exit points (if they do not already exist). Entry/exit to the site should be documented.
- Training security staff on the (enhanced) system that has been put in place for securing the site and controlling entry and exit, the behaviors required of them in enforcing such system and any COVID -19 specific considerations.
- Training staff who will be monitoring entry to the site, providing them with the resources they need to document entry of workers, conducting temperature checks and recording details of any worker that is denied entry.
- Confirming that workers are fit for work before they enter the site or start work. While procedures should already be in place for this, special attention should be paid to workers with underlying health issues or who may be otherwise at risk. Consideration should be given to demobilization of staff with underlying health issues.
- Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site.
- Providing daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures, using demonstrations and participatory methods.

- During the daily briefings, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell.
- Preventing a worker from an affected area or who has been in contact with an infected person from returning to the site for 14 days or (if that is not possible) isolating such worker for 14 days.
- Preventing a sick worker from entering the site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days.

(c) GENERAL HYGIENE

Requirements on general hygiene should be communicated and monitored, to include:

- Training workers and staff on site on the signs and symptoms of COVID-19, how it is spread, how to protect themselves (including regular hand washing and social distancing) and what to do if they or other people have symptoms (for further information see WHO COVID-19 advice for the public).
- Placing posters and signs around the site, with images and text in local languages.
- Ensuring hand washing facilities supplied with soap, disposable paper towels and closed waste bins exist at key places throughout site, including at entrances/exits to work areas; where there is a toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces. Where hand washing facilities do not exist or are not adequate, arrangements should be made to set them up. Alcohol based sanitizer (if available, 60-95% alcohol) can also be used.
- Review worker accommodations, and assess them in light of the requirements set out in IFC/EBRD guidance on Workers' Accommodation: processes and standards, which provides valuable guidance as to good practice for accommodation.
- Setting aside part of worker accommodation for precautionary self-quarantine as well as more formal isolation of staff who may be infected (see paragraph (f)).

(d) CLEANING AND WASTE DISPOSAL

Conduct regular and thorough cleaning of all site facilities, including offices, accommodation, canteens, common spaces. Review cleaning protocols for key construction equipment (particularly if it is being operated by different workers). This should include:

- Providing cleaning staff with adequate cleaning equipment, materials and disinfectant.
- Review general cleaning systems, training cleaning staff on appropriate cleaning procedures and appropriate frequency in high use or high-risk areas.
- Where it is anticipated that cleaners will be required to clean areas that have been or are suspected to have been contaminated with COVID-19, providing them with appropriate PPE: gowns or aprons, gloves, eye protection (masks, goggles or face screens) and

boots or closed work shoes. If appropriate PPE is not available, cleaners should be provided with best available alternatives.

- Training cleaners in proper hygiene (including hand washing) prior to, during and after conducting cleaning activities; how to safely use PPE (where required); in waste control (including for used PPE and cleaning materials).
- Any medical waste produced during the care of ill workers should be collected safely in designated containers or bags and treated and disposed of following relevant requirements (e.g., national, WHO). If open burning and incineration of medical wastes is necessary, this should be for as limited a duration as possible. Waste should be reduced and segregated, so that only the smallest amount of waste is incinerated (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19).

(e) ADJUSTING WORK PRACTICES

Consider changes to work processes and timings to reduce or minimize contact between workers, recognizing that this is likely to impact the project schedule. Such measures could include:

- Decreasing the size of work teams.
- Limiting the number of workers on site at any one time.
- Changing to a 24-hour work rotation.
- Adapting or redesigning work processes for specific work activities and tasks to enable social distancing, and training workers on these processes.
- Continuing with the usual safety trainings, adding COVID-19 specific considerations. Training should include proper use of normal PPE. While as of the date of this note, general advice is that construction workers do not require COVID-19 specific PPE, this should be kept under review (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- Reviewing work methods to reduce use of construction PPE, in case supplies become scarce or the PPE is needed for medical workers or cleaners. This could include, e.g. trying to reduce the need for dust masks by checking that water sprinkling systems are in good working order and are maintained or reducing the speed limit for haul trucks.
- Arranging (where possible) for work breaks to be taken in outdoor areas within the site.
- Consider changing canteen layouts and phasing meal times to allow for social distancing and phasing access to and/or temporarily restricting access to leisure facilities that may exist on site, including gyms.
- At some point, it may be necessary to review the overall project schedule, to assess the extent to which it needs to be adjusted (or work stopped completely) to reflect prudent

work practices, potential exposure of both workers and the community and availability of supplies, taking into account Government advice and instructions.

(f) PROJECT MEDICAL SERVICES

Consider whether existing project medical services are adequate, taking into account existing infrastructure (size of clinic/medical post, number of beds, isolation facilities), medical staff, equipment and supplies, procedures and training. Where these are not adequate, consider upgrading services where possible, including:

- Expanding medical infrastructure and preparing areas where patients can be isolated. Guidance on setting up isolation facilities is set out in WHO interim guidance on considerations for quarantine of individuals in the context of containment for COVID-19). Isolation facilities should be located away from worker accommodation and ongoing work activities. Where possible, workers should be provided with a single well-ventilated room (open windows and door). Where this is not possible, isolation facilities should allow at least 1 meter between workers in the same room, separating workers with curtains, if possible. Sick workers should limit their movements, avoiding common areas and facilities and not be allowed visitors until they have been clear of symptoms for 14 days. If they need to use common areas and facilities (e.g. kitchens or canteens), they should only do so when unaffected workers are not present and the area/facilities should be cleaned prior to and after such use.
- Training medical staff, which should include current WHO advice on COVID-19 and recommendations on the specifics of COVID-19. Where COVID-19 infection is suspected, medical providers on site should follow WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected.
- Assessing the current stock of equipment, supplies and medicines on site, and obtaining additional stock, where required and possible. This could include medical PPE, such as gowns, aprons, medical masks, gloves, and eye protection. Refer to WHO guidance as to what is advised (for further information see WHO interim guidance on rational use of personal protective equipment (PPE) for COVID-19).
- If PPE items are unavailable due to world-wide shortages, medical staff on the project should agree on alternatives and try to procure them. Alternatives that may commonly be found on constructions sites include dust masks, construction gloves and eye goggles. While these items are not recommended, they should be used as a last resort if no medical PPE is available.
- Ventilators will not normally be available on work sites, and in any event, intubation should only be conducted by experienced medical staff. If a worker is extremely ill and

unable to breathe properly on his or her own, they should be referred immediately to the local hospital (see (g) below).

- Review existing methods for dealing with medical waste, including systems for storage and disposal (for further information see WHO interim guidance on water, sanitation and waste management for COVID-19, and WHO guidance on safe management of wastes from health-care activities).

(g) LOCAL MEDICAL AND OTHER SERVICES

Given the limited scope of project medical services, the project may need to refer sick workers to local medical services. Preparation for this includes:

- Obtaining information as to the resources and capacity of local medical services (e.g. number of beds, availability of trained staff and essential supplies).
- Conducting preliminary discussions with specific medical facilities, to agree what should be done in the event of ill workers needing to be referred.
- Considering ways in which the project may be able to support local medical services in preparing for members of the community becoming ill, recognizing that the elderly or those with pre-existing medical conditions require additional support to access appropriate treatment if they become ill.
- Clarifying the way in which an ill worker will be transported to the medical facility, and checking availability of such transportation.
- Establishing an agreed protocol for communications with local emergency/medical services.
- Agreeing with the local medical services/specific medical facilities the scope of services to be provided, the procedure for in-take of patients and (where relevant) any costs or payments that may be involved.
- A procedure should also be prepared so that project management knows what to do in the unfortunate event that a worker ill with COVID-19 dies. While normal project procedures will continue to apply, COVID-19 may raise other issues because of the infectious nature of the disease. The project should liaise with the relevant local authorities to coordinate what should be done, including any reporting or other requirements under national law.

(h) INSTANCES OR SPREAD OF THE VIRUS

WHO provides detailed advice on what should be done to treat a person who becomes sick or displays symptoms that could be associated with the COVID-19 virus (for further information see WHO interim guidance on infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected). The project should set out risk-based procedures to be followed, with differentiated approaches based on case severity

(mild, moderate, severe, critical) and risk factors (such as age, hypertension, diabetes) (for further information see WHO interim guidance on operational considerations for case management of COVID-19 in health facility and community). These may include the following:

- If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on site.
- If testing is available on site, the worker should be tested on site. If a test is not available at site, the worker should be transported to the local health facilities to be tested (if testing is available).
- If the test is positive for COVID-19 or no testing is available, the worker should continue to be isolated. This will either be at the work site or at home. If at home, the worker should be transported to their home in transportation provided by the project.
- Extensive cleaning procedures with high-alcohol content disinfectant should be undertaken in the area where the worker was present, prior to any further work being undertaken in that area. Tools used by the worker should be cleaned using disinfectant and PPE disposed of.
- Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and be required to quarantine themselves for 14 days, even if they have no symptoms.
- Family and other close contacts of the worker should be required to quarantine themselves for 14 days, even if they have no symptoms.
- If a case of COVID-19 is confirmed in a worker on the site, visitors should be restricted from entering the site and worker groups should be isolated from each other as much as possible.
- If workers live at home and has a family member who has a confirmed or suspected case of COVID-19, the worker should quarantine themselves and not be allowed on the project site for 14 days, even if they have no symptoms.
- Workers should continue to be paid throughout periods of illness, isolation or quarantine, or if they are required to stop work, in accordance with national law.
- Medical care (whether on site or in a local hospital or clinic) required by a worker should be paid for by the employer.

(i) CONTINUITY OF SUPPLIES AND PROJECT ACTIVITIES

Where COVID-19 occurs, either in the project site or the community, access to the project site may be restricted, and movement of supplies may be affected.

- Identify back-up individuals, in case key people within the project management team (PIU, Supervising Engineer, Contractor, sub-contractors) become ill, and communicate who these are so that people are aware of the arrangements that have been put in place.
- Document procedures, so that people know what they are, and are not reliant on one person's knowledge.
- Understand the supply chain for necessary supplies of energy, water, food, medical supplies and cleaning equipment, consider how it could be impacted, and what alternatives are available. Early pro-active review of international, regional and national supply chains, especially for those supplies that are critical for the project, is important (e.g. fuel, food, medical, cleaning and other essential supplies). Planning for a 1-2 month interruption of critical goods may be appropriate for projects in more remote areas.
- Place orders for/procure critical supplies. If not available, consider alternatives (where feasible).
- Consider existing security arrangements, and whether these will be adequate in the event of interruption to normal project operations.
- Consider at what point it may become necessary for the project to significantly reduce activities or to stop work completely, and what should be done to prepare for this, and to re-start work when it becomes possible or feasible.

(j) TRAINING AND COMMUNICATION WITH WORKERS

Workers need to be provided with regular opportunities to understand their situation, and how they can best protect themselves, their families and the community. They should be made aware of the procedures that have been put in place by the project, and their own responsibilities in implementing them.

- It is important to be aware that in communities close to the site and amongst workers without access to project management, social media is likely to be a major source of information. This raises the importance of regular information and engagement with workers (e.g. through training, town halls, tool boxes) that emphasizes what management is doing to deal with the risks of COVID-19. Allaying fear is an important aspect of work force peace of mind and business continuity. Workers should be given an opportunity to ask questions, express their concerns, and make suggestions.
- Training of workers should be conducted regularly, as discussed in the sections above, providing workers with a clear understanding of how they are expected to behave and carry out their work duties.
- Training should address issues of discrimination or prejudice if a worker becomes ill and provide an understanding of the trajectory of the virus, where workers return to work.

- Training should cover all issues that would normally be required on the work site, including use of safety procedures, use of construction PPE, occupational health and safety issues, and code of conduct, taking into account that work practices may have been adjusted.
- Communications should be clear, based on fact and designed to be easily understood by workers, for example by displaying posters on hand washing and social distancing, and what to do if a worker displays symptoms.

(k) COMMUNICATION AND CONTACT WITH THE COMMUNITY

Relations with the community should be carefully managed, with a focus on measures that are being implemented to safeguard both workers and the community. The community may be concerned about the presence of non-local workers, or the risks posed to the community by local workers presence on the project site. The project should set out risk-based procedures to be followed, which may reflect WHO guidance (for further information see WHO Risk Communication and Community Engagement (RCCE) Action Plan Guidance COVID-19 Preparedness and Response). The following good practice should be considered:

- Communications should be clear, regular, based on fact and designed to be easily understood by community members.
- Communications should utilize available means. In most cases, face-to-face meetings with the community or community representatives will not be possible. Other forms of communication should be used; posters, pamphlets, radio, text message, electronic meetings. The means used should take into account the ability of different members of the community to access them, to make sure that communication reaches these groups.
- The community should be made aware of procedures put in place at site to address issues related to COVID-19. This should include all measures being implemented to limit or prohibit contact between workers and the community. These need to be communicated clearly, as some measures will have financial implications for the community (e.g. if workers are paying for lodging or using local facilities). The community should be made aware of the procedure for entry/exit to the site, the training being given to workers and the procedure that will be followed by the project if a worker becomes sick.
- If project representatives, contractors or workers are interacting with the community, they should practice social distancing and follow other COVID-19 guidance issued by relevant authorities, both national and international (e.g. WHO).

6. EMERGENCY POWERS AND LEGISLATION

Many Borrowers are enacting emergency legislation. The scope of such legislation, and the way it interacts with other legal requirements, will vary from country to country. Such legislation can cover a range of issues, for example:

- Declaring a public health emergency
- Authorizing the use of police or military in certain activities (e.g. enforcing curfews or restrictions on movement)
- Ordering certain categories of employees to work longer hours, not to take holiday or not to leave their job (e.g. health workers)
- Ordering non-essential workers to stay at home, for reduced pay or compulsory holiday

Except in exceptional circumstances (after referral to the World Bank's Operations Environmental and Social Review Committee (OESRC)), projects will need to follow emergency legislation to the extent that these are mandatory or advisable. It is important that the Borrower understands how mandatory requirements of the legislation will impact the project. Teams should require Borrowers (and in turn, Borrowers should request Contractors) to consider how the emergency legislation will impact the obligations of the Borrower set out in the legal agreement and the obligations set out in the construction contracts. Where the legislation requires a material departure from existing contractual obligations, this should be documented, setting out the relevant provisions.

Annex 27: Sample Format for Incident Reporting

IMMEDIATE INCIDENT NOTIFICATION					
1. Incident Details					
Project **Company**		**Date of incident**			
		Time of Incident			
Location of incident		**Type of Incident**	**Environmental**	☐	
			Injury	*Workforce*	☐
				Public/Local community	☐
			Social incident (e.g. violent labor unrest)	☐	

2. WHAT HAPPENED
Brief description of incident

3. INJURED WORKERS						
Employee / Contractor	**Sex**	**Age**	**Job Title / Description**	**Time with company**	**Cause**	**Injury Type (Major / Fatal)**

4. INJURED MEMBERS OF PUBLIC						
Name	**Sex**	**Age**	**Community**	**Place of Residence**	**Cause**	**Injury Type (Major / Fatal)**

5. ENVIRONMENTAL INCIDENT

Type (Spill / Gas Release)	Total Loss (Litres /kG)	Cause	Damage

6. WITNESSES TO INCIDENT			
Name	**Sex**	**Place of Residence**	**Description of incident**

7. OTHER RELEVANT INFORMATION				
Have the authorities been informed?	**Yes**	☐	**No**	☐
Please provide further information here				
Media attention?	**Yes**	☐	**No**	☐
Please provide further information here				
Any effects off-site?	**Yes**	☐	**No**	☐
Please provide further information here				
Photographs taken? *(please include them in this report)*	**Yes**	☐	**No**	☐
Date				
Which immediate corrective actions have been taken after the accident? By whom?				
Please describe here if the accident lead to changes into the works organisation or process, if specific equipment has been acquired/mobilised, if protection measures were implemented, if works have stopped etc.				
Person completing form:				
Name and position:				
Contact details:				
Phone		**Email**		

Annex 28: Different Relevant Exclusion List

Bangladesh Bank Exclusion List[57]

Sl.No.	Sector / Activities
1	Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under the Convention on International Trade in Endangered Species (CITES). Links: United Nations (UN) list of banned chemicals and products: http://www.un.org/esa/coordination/Consolidated.list-13FinalFinal.pdf https://cites.org/sites/default/files/eng/app/2017/E-Appendices-2017-10-04.pdf
2	Ship breaking/ trading activities which include: 1. Ships with prevalent asbestos use (for e.g. passenger cruise); 2. Ships not certified —gas freell for hot work
3	Drift net fishing, deep sea bottom trawling, or fishing with the use of explosives or cyanide
4	Hydraulic horn and >75 decibel horns, polypropylene and polythene bags, two stroke engines.
5	Operations impacting UNESCO World Heritage Site and/or Ramsar site
6	Illegal logging, and logging operations or conversion of land for plantation use in primary tropical moist forests
7	Production or activities involving forced labour/ child labour
8	Production or trade in: 1. Weapons and munitions 2. Tobacco in any form 3. Gambling, casinos 4. Pornography (goods/stores/web-based) 5. Brick production through Fixed Chimney Kiln (FCK)
9	Production or activities that impinge on the lands owned, or claimed under adjudication,by Indigenous Peoples, without full documented consent of such peoples

[57] **https://www.bb.org.bd/mediaroom/circulars/gbcrd/jun262022sfd03e.pdf**

IFC Exclusion List[58]

The IFC Exclusion List defines the types of projects that IFC **does not** finance.

IFC does not finance the following projects:

- Production or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides/herbicides, ozone depleting substances, PCB's, wildlife or products regulated under CITES.
- Production or trade in weapons and munitions.[1]
- Production or trade in alcoholic beverages (excluding beer and wine).[1]
- Production or trade in tobacco.[1]
- Gambling, casinos and equivalent enterprises.[1]
- Production or trade in radioactive materials. This does not apply to the purchase of medical equipment, quality control (measurement) equipment and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.
- Production or trade in unbonded asbestos fibers. This does not apply to purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.
- Drift net fishing in the marine environment using nets in excess of 2.5 km. in length.

A reasonableness test will be applied when the activities of the project company would have a significant development impact but circumstances of the country require adjustment to the Exclusion List.

All financial intermediaries (FIs), except those engaged in activities specified below*, must apply the following exclusions, in addition to IFC's Exclusion List:

- Production or activities involving harmful or exploitative forms of forced labor[2]/harmful child labor.[3]
- Commercial logging operations for use in primary tropical moist forest.
- Production or trade in wood or other forestry products other than from sustainably managed forests.

* When investing in **microfinance** activities, FIs will apply the following items in addition to the IFC Exclusion List:

- Production or activities involving harmful or exploitative forms of forced labor[2]/harmful child labor.[3]
- Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.
- Production or activities that impinge on the lands owned, or claimed under adjudication, by Indigenous Peoples, without full documented consent of such peoples.

* **Trade finance projects**, given the nature of the transactions, FIs will apply the following items in addition to the IFC Exclusion List:

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[58] **https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/company-resources/ifcexclusionlist#2007**

- Production or activities involving harmful or exploitative forms of forced labor[2]/harmful child labor.[3]

Footnotes

[1] 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.

[2] Forced labor means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

[3] Harmful child labor means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development.

ADB PROHIBITED INVESTMENT ACTIVITIES LIST[59]

The following do not qualify for Asian Development Bank financing:
(i) production or activities involving harmful or exploitative forms of forced labor[1] or child labor;[2]
(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,[3] pesticides, and herbicides,[4] (b) ozone-depleting substances,[5] (c) polychlorinated biphenyls[6] and other hazardous chemicals,[7] (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,[8] and (e) transboundary trade in waste or waste products;[9]

(iii) production of or trade in weapons and munitions, including paramilitary materials;

(iv) production of or trade in alcoholic beverages, excluding beer and wine;[10]

(v) production of or trade in tobacco;[10]

(vi) gambling, casinos, and equivalent enterprises;[10]

(vii) production of or trade in radioactive materials,[11] including nuclear reactors and components thereof;

(viii) production of, trade in, or use of unbonded asbestos fibers;[12]

(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.

[1] Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.
[2] 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).
[3] A list of pharmaceutical products subject to phaseouts or bans is available at http://www.who.int.
[4] A list of pesticides and herbicides subject to phaseouts or bans is available at http://www.pic.int.
[5] 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.
[6] 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.
[7] A list of hazardous chemicals is available at http://www.pic.int.
[8] A list is available at http://www.cites.org.
[9] As defined by the Basel Convention; see http://www.basel.int.
[10] 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.

[59] **https://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf**

[11] 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.

[12] This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

Exclusion List of KfW Group[60]

I. Exclusions

In the following areas KfW Group does not offer financing for new projects or purposes: *

1. Production or trade in any product or activity subject to national or international phase-out or prohibition regulations or to an international ban, for example

i) certain pharmaceuticals, pesticides, herbicides and other toxic substances (under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability"),

ii) ozone depleting substances (under the Montreal Protocol),

iii) protected wildlife or wildlife products (under CITES / Washington Convention)

iv) prohibited transboundary trade in waste (under the Basel Convention).

2. Investments which could be associated with the destruction ** or significant impairment of areas particularly worthy of protection (without adequate compensation in accordance with international standards).

3. Production or trade in controversial weapons or critical components thereof (nuclear weapons and radioactive ammunition, biological and chemical weapons of mass destruction, cluster bombs, anti-personnel mines, enriched uranium).

4. Production or trade in radioactive material. This does not apply to the procurement of medical equipment, quality control equipment or other application for which the radioactive source is insignificant and/or adequately shielded.

5. Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.

6. Destructive fishing methods or drift net fishing in the marine environment using nets in excess of 2.5 km.

7. Nuclear power plants (apart from measures that reduce environmental hazards of existing assets) and mines with uranium as an essential source of extraction.

8. Prospection, exploration and mining of coal; land-based means of transport and related infrastructure essentially used for coal; power plants, heating stations and cogeneration facilities essentially fired with coal, as well as associated stub lines. ***

9. Non-conventional prospection, exploration and extraction of oil from bituminous shale, tar sands or oil sands.

[60] **https://www.kfw.de/PDF/Download-Center/Konzernthemen/Nachhaltigkeit/Ausschlussliste_EN.pdf**

II. Supplementary Requirements

In selected sectors, KfW Group ties its direct financial commitment for concrete new projects to the following qualitative conditions: *

1. Outside the EU and the OECD high income countries, large agricultural or forestry enterprises producing palm oil or wood must either comply with recognised international certification systems (RSPO or FSC) or equivalent regulations to ensure sustainable cultivation conditions, or must be in the process of achieving compliance.

2. Large dam and hydropower projects use the recommendations of the World Commission on Dams (WCD) as orientation. ****

3. Projects for non-conventional prospection, exploration and extraction of gas will disclose in accordance with international standards,

- that no material groundwater drawdown or contamination is to be expected,

- that measures for resource protection (in particular water) and recycling are taken,

- that suitable technology is used for safe drilling, which includes integrated bore piping and pressure testing.

* Deviations can result from mandated transactions (Zuweisungsgeschäft) in accordance with § 2 (4) of the Law Concerning KfW, or from instructions of the relevant federal ministries.

** "Destruction" means (i) the destruction or severe deterioration of the integrity of an area caused by a major and prolonged change in the use of land or water, or (ii) the alteration of a habitat which leads to the inability of the affected area to perform its function.

*** Investments in power transmission grids with significant coal-based power feed-in will only be pursued in countries and regions with an ambitious national climate protection policy or strategy (NDC), or where the investments are targeted at reducing the share of coal-based power in the relevant grid.

In developing countries, heating stations and cogeneration facilities (CHP) essentially fired with coal can be co-financed in individual cases based on a rigid assessment, if there is a particularly high sustainability contribution, major environmental hazards are reduced, and if there demonstrably is no more climate-friendly alternative.

**** Dams with a height of at least 15 meters measured from the foundation or dams with a height between 5 and 15 meters with a reservoir volume of more than 3 million cubic meters.

AIIB Environmental and Social Exclusion List[61]

The Bank will not knowingly finance Projects involving the following:

1. Forced labor[i] or harmful or exploitative forms of child labor.[ii]

2. The production of, or trade in, any product or activity deemed illegal under national laws or regulations of the Member in whose territory the Project is located, or international conventions and agreements, or subject to international phase out or bans, such as:

2.1. Production of, or trade in, products containing polychlorinated biphenyl (PCBs).[iii]

2.2. Production of, or trade in, pharmaceuticals, pesticides/herbicides and other hazardous substances subject to international phase outs or bans (Rotterdam Convention, Stockholm Convention).[iv]

2.3. Production of, or trade in, ozone depleting substances subject to international phase out (Montreal Protocol). [v]

3. Trade in wildlife or production of, or trade in, wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).[vi]

4. Transboundary movements of waste prohibited under international law (Basel Convention). [vi]

5. Production of, or trade in, weapons and munitions, including paramilitary materials.

6. Production of, or trade in, alcoholic beverages, excluding beer and wine. [viii]

7. Production of, or trade in, tobacco.[ix]

8. Gambling, casinos and equivalent enterprises. [x]

9. Production of, trade in, or use of asbestos fibers, whether or not bonded.[xi]

10. Activities prohibited by legislation of the Member in whose territory the Project is located or by international conventions relating to the protection of biodiversity resources or cultural resources, such as, Bonn Convention, Ramsar Convention, World Heritage Convention and Convention on Biological Diversity. [xii]

11. Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests.

12. Production or trade in wood or other forestry products other than from sustainably managed forests.

13. 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.

14. Shipment of oil or other hazardous substances in tankers that do not comply with IMO requirements (IMO, MARPOL, SOLAS and Paris MOU). [xiii]

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[61] https://www.aiib.org/en/policies-strategies/_download/environment-framework/AIIB-Revised-Environmental-and-Social-Framework-ESF-May-2021-final.pdf

[i] Forced labor means any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty (including any kind of forced or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements, or labor by trafficked persons).

[ii] For purposes of this List, harmful or exploitative forms of child labor means the employment of children under the age of 18 for work which by its nature or the circumstances in which it is carried out is likely to jeopardize their health, safety or morals. However, if the laws or regulations of the country in which the Project is located provide, in conformity with the International Labour Organization's Minimum Age Convention, 1973, that children at least 16 years of age may be employed for such work on condition that their health, safety and morals are fully protected and that they have received adequate specific instruction or vocational training in the relevant branch of activity, then child labor means employment of children for work that does not comply with these laws and regulations.

[iii] PCBs: Polychlorinated biphenyls are a group of highly toxic chemicals. PCBs are likely to be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950 to 1985.

[iv] United Nations Consolidated List of Products whose Consumption and/or Sale have been Banned, Withdrawn, Severely Restricted or not Approved by Governments; Convention on the Prior Informed Consent Procedures for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention); Stockholm Convention on Persistent Organic Pollutants; World Health Organization Recommended Classification of Pesticides by Hazard. A list of pharmaceutical products subject to phase outs or bans is available at https://www.who.int/medicines/areas/quality_safety/safety_efficacy/pharm_ restrictions/en/. A list of pesticides, herbicides and other hazardous substances subject to phase outs or bans is available at http://www.pic.int/TheConvention/Chemicals/AnnexIIIChemicals/tabid/1132/language/en-US/Default.aspx

[v] Ozone Depleting Substances (ODSs): Chemical compounds which react with and deplete stratospheric ozone, resulting in the widely publicized "ozone holes." The Montreal Protocol on Substances that Deplete the Ozone Layer lists ODSs and their target reduction and phase out dates. A list of the chemical compounds regulated by the Montreal Protocol, which includes aerosols, refrigerants, foam blowing agents, solvents and fire protection agents, together with details of signatory countries and phase out target dates, is available from the United Nations Environment Programme, https://ozone.unep.org/treaties/montreal-protocol

[vi] The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). A list of CITES listed species is available from the CITES secretariat, https://www.cites.org/eng/disc/species.php vii Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, see http://www.basel.int

[viii] This does not apply to Clients who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to the entity's primary operations.

[ix] This does not apply to Clients who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to the entity's primary operations.

[x] This does not apply to Clients who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to the entity's primary operations.

[xi] In special circumstances, if necessary to enable a Client to transition from the use of bonded asbestos to alternative materials, the Bank may agree with the Client on a reasonable transition period, provided that the asbestos content of the materials being used is less than 20 percent. Projects involving disposal of asbestos are not prohibited, provided a suitable asbestos management plan is adopted for such disposal.

[xii] Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) - https://www.cms.int/; Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention) - https://www.ramsar.org/; Convention Concerning the Protection of the World Cultural and Natural Heritage - https://whc.unesco.org/en/convention/; Convention on Biological Diversity - https://www.cbd.int/

[xiii] Noncompliance with International Maritime Organisation (IMO) requirements: tankers that do not have all required International Convention for the Prevention of Pollution from Ships (MARPOL) or International Convention for the Safety of Life at Sea (SOLAS) certificates (including, without limitation, International Safety Management Code compliance), tankers banned by the Paris Memorandum of Understanding on Port State Control (Paris MOU), and tankers due for phase out under MARPOL regulation 13G. No single hull tanker over 25 years old should be used. http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx

AFD Exclusion list[62]

1. Production or trade in any product or activity deemed illegal under French and host country laws or regulations or international conventions and agreements.

2. Production or activities involving forced labour[1] or child labour[2] .

3. Trade in wildlife or wildlife products regulated under CITES[3] .

4. Drift net fishing in the marine environment using nets in excess of 2.5 km. in length.

5. Any activity involving or requiring destruction[4] of Critical Habitat[5] and any forest project under which no sustainable development and managing plan is carried out.

6. Production or use of or trade in hazardous materials such as asbestos fibbers and products containing PCBs[6] .

7. Production, use of or trade in pharmaceuticals, pesticides/herbicides, chemicals, ozone depleting substances[7] and other hazardous substances subject to international phase-outs or bans.

8. Cross-border trade in waste and waste products unless compliant to the Basel Convention and the underlying regulations.

9. Production or trade in[8]:

• weapons and/or munitions;

• tobacco;

• hard liquor for human consumption.

10. Gambling, casinos and any equivalent enterprises[10+9].

11. Any business relating to pornography or prostitution.

12. Any activity involving significant alteration, damage or removal of any Critical Cultural Heritage[10].

13. Production and distribution of racist, anti-democratic or with the intent to discriminate part of the population.

14. Exploitation of diamond mines, and commercialization of diamonds, when the host country has not adhered to the Kimberley Process.

15. Any sector or service subject to United Nations, European Union and/or French embargo without any threshold.

1 Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty as defined by ILO conventions

2 Persons may only be employed if they are at least 14 years old, as defined in the ILO Fundamental Human Rights Conventions (Minimum Age Convention C138, Art. 2), unless local legislation specifies compulsory school attendance or the minimum age for working. In such cases the higher age shall apply.

3 CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora. (Washington, l 993).

4 Destruction means the (1) elimination or severe diminution of the integrity of a habitat caused by a major, long-term change in land or water use; or (2) modification of a habitat in such a way that the habitat's ability to maintain its role (see footnote under) is lost.

[62] **https://www.afd.fr/en/ressources/exclusion-list-afd-group-foreign-countries**

[5] Critical habitat is a subset of both natural and modified habitat that deserves particular attention. Critical habitat includes areas with high biodiversity value that meet the criteria of the World Conservation Union (IUCN) classification, including habitat required for the survival of critically endangered or endangered species as defined by the IUCN Red List of Threatened Species or as defined in any national legislation; areas having special significance for endemic or restricted-range species; sites that are critical for the survival of migratory species; areas supporting globally significant concentrations or numbers of individuals of congregatory species; areas with unique assemblages of species or which are associated with key evolutionary processes or provide key ecosystem services; and areas having biodiversity of significant social, economic or cultural importance to local communities. Primary Forest or forests of High Conservation Value shall be considered Critical Habitats.

[6] PCBs: Polychlorinated biphenyls - a group of highly toxic chemicals. PCBs are likely to be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950-1985.

[7] Ozone Depleting Substances (ODSs): Chemical compounds which react with and deplete stratospheric ozone, resulting in the widely publicized 'ozone holes'. The Montreal Protocol lists ODSs and their target reduction and phase out dates.

[8] Activities excluded when representing more than 10 % of the balance sheet or the financed volume and for Financial Institutions more than 10% of the portfolio volume financing

[9] Any direct financing of these projects or activities including them (hotel together with a casino for example). Urban development plans which could later incorporate such projects are not concerned

[10] Is considered as « Critical Cultural Heritage » any part of cultural heritage acknowledged by international or national community for its historical, social or cultural interest.

Annex A: Environmental and Social Management Framework (ESMF) and Environmental and Social Management System (ESMS)

BANGLADESH: RURAL ELECTRIFICATION AND

RENEWABLE ENERGY DEVELOPMENT PROJECT II (RERED II) And ADDITIONAL FINANCING

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

December, 2017

Prepared by

Infrastructure Development Company Limited

Power Cell, Bangladesh

The updated Harmonised ESMF is applicable to the original RERED, RERED II along with both Additional Financing (AF-1 and AF-2).

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BERC	Bangladesh Energy Regulatory Commission
CFL	Compact Fluorescent Lamp
EA	Environmental Assessment
ECA	Environmental Conservation Act
EHS	Environment and Health Safety
ELIB	Efficient Lighting Initiatives of Bangladesh
EMP	Environmental Management Plan
EMS	Environmental Management system
ESMF	Environmental and Social Management Framework
GOB	Government of Bangladesh
IAF	International Accreditation Forum
IDA	International Development Association
IDA	International Development Association
IDCOL	Infrastructure Development Company Limited
IFC	International Finance Corporation
ISO	International Organization for Standardization
JICA	Japan International Cooperation Agency
kW	Kilowatt
MW	Mega-watt
NGO	Non-Governmental Organization
OHSAS	Occupational Health and Safety Standard
PO	Participating Organization
PPIDF	Public Private Infrastructure Development Facility
RAP	Resettlement Action Plan
REREDP	Rural Electrification and Renewable Energy Development Project
RERED-AF	Rural Electrification and Renewable Energy Development Project -Additional Financing
SHS	Solar Home Systems
SREDA	Sustainable Renewable Energy Development Authority
SPS	Safeguards Policy Statement
WB	World Bank

EXECUTIVE SUMMARY

The major objective of the Rural Electrification and Renewable Energy Development Project (REREDP) of Infrastructure Development Company Limited (IDCOL) is to increase access to clean energy in rural areas through renewable energy. It will support: (i) increased access to electricity in rural areas through renewable energy; (ii) large-scale dissemination of more efficient cook stoves and fuels for cooking; and (iii) improved technical and institutional efficiency in the power sector. The proposed additional financing (AF) will contribute towards increasing access to electricity in remote rural areas where grid electricity is not economically viable.

The Solar Home Systems (SHS) program of Bangladesh supported by the World Bank is emerging as a viable electrification option for lighting and other basic services in areas without grid access. SHS are being installed under the ongoing renewable energy project and the proposed RERED-II AF will continue this support. Further the commercial needs of the rural markets and small enterprises would be served by renewable energy-based mini-grids, under the Remote Area Power Supply Systems (RAPSS) Guidelines of 2007. Other options for increasing access to clean energy are being supported through the project that includes solar-irrigation pump, solar mini-grid, biogas and biomass based power projects and other options like micro-grids to ensure sustainable development.

The Environmental and Social Management Framework (ESMF) has been updated for the proposed additional financing. However, the updated harmonized ESMF is applicable to the original RERED, RERED II Project along with both Additional Financing (AF-1 and AF-2) No major changes are proposed except that the ESMF will now be applicable for only IDCOL as the efficient lighting component implemented by the Bangladesh Rural Electrification Board (BREB) in 2012. Also, the ESMF will be applicable for the whole renewable energy program of IDCOL incorporating the requirements of other major development partners including the Asian Development Bank (ADB), Japan International Co-operation Agency (JICA), GIZ and KfW. In addition, it is believed that the ESMF will be able to meet the basic environmental and social safeguards of GEF, GPOBA, USAID and DFID, which are also supporting the program.

It is assumed that mini-grid/micro-grid (solar based system) does not associate with air pollution during operation phase. The primary concerns related to environmental, health, and safety issues are associated with improper manufacturing, and disposal of expired lead-acid battery. The project components primarily deal with the solar panels and batteries[1]. The ESMF is required to identify the major environmental and social impacts and formulate required environmental and social management measures. IDCOL as well as all relevant development partners and stakeholders participating in REREDP have agreed to adopt this harmonised ESMF, which defines the environmental and social requirements needed for processing the financing of each sub-component. This ESMF is in compliance with all the applicable environmental and social legislation of the Government of Bangladesh (GOB). The project is designated as environmental

[1] With the efficient lighting component proposed to be dropped from the project, further deployment of CFLs will no longer be supported under the proejct.

Category B (partial assessment) according to OP/BP of the World Bank and only one environmental safeguard policy OP/BP 4.01 has been triggered.

The credit facility will not allow any land acquisition. In addition, it restricts the use of any type of public land. Land, whether made available via direct purchase, or leasing will be screened to ensure that no physical or economic displacement of communities/persons will take place. Private lands, which are disputed or have encroachments on them (informal settlers, non-titled entities) will not be used for the project. The Project will not allow any type of involuntary resettlement or adverse impacts to Indigenous People (IP). Therefore OP 4.12 has not been triggered for the project.

The sub-projects will be implemented by private sponsors/proponents with IDCOL being the financial intermediary. All sub-project products or services will be available to beneficiaries on a purely commercial basis through installments collected at various intervals as appropriate for the sub-projects. The provisions are exactly the same for all customers who are willing to purchase the services and/or products on a voluntary basis. Reaching as many customers as possible is in the best interest of the project proponents. No negative impacts are anticipated towards IPs. Although OP 4.10 has not been triggered for the project, all areas where IPs reside will be screened through a screening procedure using a survey questionnaire. The project proponent will duly consult and communicate with the local population in local languages in a culturally sensitive manner so that the product or service is described adequately and all terms and conditions are clearly understood by them, including warranty periods and provisions. This was the approach adopted in the previous phase of the project and that experience demonstrates that all IPs who were able to to purchase the products and services under this project. No complaints regarding inclusion or any kind of discrimination were reported either to IDCOL or any of the project proponents. In fact IP populations living in remote areas without access to electricity have benefited greatly from the SHS and biogas subprojects (mini-grids and ICS have not been introduced in IP areas as yet; only 1 mini-grid has been installed so far at Swandip and the ICS is in the process of being launched). In case of implementing all sub-projects in IP prone area, IDCOL will also follow this approach in order to tailor the awareness raising, mobilization and training campaigns to the needs of IPs in the relevant locations so, that the statutory rights and privileges of the IP, as well as their customs and norms are adequately complied with. All awareness raising, mobilization and training campaigns will be tailored to the needs of IPs in the relevant locations. For this purpose a brief social assessment will be carried out.

Legislative bases for Environmental Impact Assessment (EIA) in Bangladesh are the Environmental Conservation Act 1995 (ECA'95) and the Environmental Conservation Rules 1997 (ECR'97). Department of Environment (DOE), under the Ministry of Environment and Forest (MOEF), is the regulatory body responsible for enforcing the ECA'95 and ECR'97. Other law of Bangladesh like Renewable Energy Policy of Bangladesh (2008), Bangladesh Labor Law (2006), etc. will be obliged for the project. The ESMF will also be guided by the World Bank's Safeguards (Relevant Policies) mainly OP 4.01 Environmental Assessment, ADB's Safeguards Policy Statement (SPS)

2009 and other related operational manual (OM Section F1/BP) will be triggered for this project.

The major anticipated negative environmental impacts of this project are:

- Improper disposal and recycling of lead acid storage batteries, as causes for lead sulfate contamination in the surrounding lands and water bodies. Lead sulfate is a water soluble substance that could contaminate groundwater. Lead sulfide dust or lead concentrate gaseous substance enter the body of living beings through the nose and/or mouth through breathing. Very fine dust particles penetrates into the lungs and affect the human body and other animals;
- Improper disposal of PV panels will be a concern when the program supported panels start to reach the end of their useful lives of 20 years (the program started in 2003 with majority of the solar home systems being installed after 2008). Lead leaching is primarily linked to 1st generation crystalline silicon PV panels and Cadmium leaching is a risk associated with 2nd generation thin film panels. In addition, glass and aluminium are also common features in most of the PV panels resulting various types of environmental and health risks;
- Improper disposal of slurry and ground salinity may appear as matter of concern for biogas and solar-irrigation projects respectively;
- There is possibility of public health hazards due to improper disposal of CFL bulbs as there are mercury in the CFL bulbs. A national disposal guideline was prepared to ensure safe disposal of CFLs throughout the country even though the proposed CFLs component was dropped from the project.

The following are the major progress achieved under the ongoing RERED II project:

- There are 14 en-listed battery suppliers in IDCOL SHS program, who have fully completed the ISO 14001:2004 (Environmental Management Standard) and OHSAS 18001:2007 (Occupational Health Safety Standard) certification process. Out of these 14 battery suppliers, only 4 have their own recycling plants while the rest have entered into arrangements with the existing 4 recycling plants to use their facilities. Given the growth of the program, the existing recycling capacity will become inadequate in the near future; all the existing manufacturers need to have their own recycling plants. IDCOL will take initiative to require the existing suppliers irrespective of local manufacturers or importers to set-up their own recycling plants by June 30, 2016.
- For the CFL component, an international consultant was hired to develop a national guideline for the proper disposal of lamps and ensure safe collection of waste CFL bulbs.
- Audit Consultants (Environment Audit specialist and Mechanical Engineering Specialist) are being hired for undertaking an environment audit to assess the adequacy of the current mechanism for ensuring proper recycling of batteries.

As mentioned before, the purpose of this ESMF is to identify the likely environmental and social impacts, propose suitable mitigation measures and implementation of these measures. Mini-grids, micro-grids, biogas and biomass based captive plants, and solar

irrigation pumps need an environmental and social screening/assessment with management plan. No site specific environmental assessment will be required for household systems (solar home system, biogas digesters, improved cookstoves (ICS), CFLs, etc.). The measures under the ESMF include:

- Prepare guidelines for selecting new PV Panel and battery supplier;
- Provide technical guidance to environmental improvement on battery and CFL recycling support;
- Arrange hands-on training and awareness programs for POs on EHS aspects;
- Assign the IDCOL's Solar Inspectors to monitor the distribution of new battery as well as collection of expired battery;
- Strengthen IDCOL's capacity for environmental and social safeguard management;
- Ensure regular monitoring of battery manufacturing and recycling plants;
- Ensure proper awareness and arrangement to mitigate the environmental and health hazard due to improper management and disposal of CFL bulbs;
- Disclose this harmonized ESMF in the website of IDCOL as well as all relevant stakeholders;
- Disclose the summary of the ESMF in Bengali in IDCOL website.

IDCOL is planning to establish a commercial green building for usage as office spaces with the objective of achieving Leadership in Energy & Environmental Design (LEED) platinum certification. IDCOL has recently been allocated a plot for this by the Government of Bangladesh.

IDCOL has already gained considerable experience in complying with the environmental and social safeguards of the DOE, WB and ADB. IDCOL has established the Environment and Social Safeguards Management Unit (ESMU) in their regular organogram to institutionalize the environmental and social management in its operation.

I. INTRODUCTION

1.1 BACKGROUND OF THE ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

1. The major objective of the Rural Electrification and Renewable Energy Development Project (REREDP) of Infrastructure Development Company Limited (IDCOL) is to increase access to clean energy in rural areas through renewable energy. It will support: (i) increased access to electricity in rural areas through renewable energy; (ii) large-scale dissemination of more efficient cook stoves and fuels for cooking; and (iii) improved technical and institutional efficiency in the power sector.

2. The proposed RERED-AF-2 will not be introducing any new type of activities. It is planned to be implemented nationwide, and will support improved cook stoves (ICS) as clean cooking option for households, solar irrigation pumps (SIP) and solar PV based mini grid projects (SMG), as same as the parent project.

3. No significant and/or irreversible adverse environmental and social impacts are anticipated. The project is designated as environmental Category B according to the WB safeguard policy; OP 4.01 and OP4.10 have been triggered as they were for the parent project. The AF-2 will follow the same ESMF (updated in April, 2014) which is in application for the ongoing project since overall safeguard requirements are assessed to be satisfactorily complied. A Gender Assessment was carried out for the project, with particular focus on the cook stoves component; the report showed very good outcomes and positive outcomes for overall wellbeing of women using the stoves.

4. The renewable energy program is being implemented by the Infrastructure Development Company Limited (IDCOL). It is expected that these interventions yield net positive environmental impacts. No significant and/or irreversible adverse environmental and social issues are expected but obviously these interventions bear some environmental risk. The primary environmental, health, and safety issues involve how they are manufactured, installed, and ultimately disposed of. Proper consideration of all environmental and social factors during design and implementation is of utmost concern. An environmental management and social management framework (ESMF) was adopted under the original RERED project, which was updated during the two additional financings of the RERED-AF-2 project. The ESMF has been further reviewed and revised for the RERED II-AF Project. This updated ESMF is based on the assessment report of the existing ESMF implementation and is aimed towards a harmonized ESMF applicable for the renewable energy program of IDCOL supported by different development partners including the World Bank, Asian Development Bank, Japan International Cooperation Agency (JICA), German KfW, GIZ etc. The updated harmonized ESMF is applicable to the original RERED, RERED II Project along with both Additional Financing (AF-1 and AF-2)

5. Success in Solar Home Systems (SHS) program of Bangladesh supported by World Bank encouraged IDCOL to take initiative for promoting other renewable energy technologies like solar irrigation pumps (SIP), solar mini-grid (SMG) projects and clean cooking option for households through improved cook stoves (ICS), which are also getting success and need to go further. Up to 30 November, 2017 about 1.38 million ICS, one thousand SIP and 25 SMG were implemented under IDCOL's renewable energy activities. IDCOL has set a target in respect of various sub-project components as is mentioned in the following Table **01**.

Table 01: Targets of IDCOL's REREDP-AF 2

Project/Program	Target (number with year)
Improved Cook Stove Program (ICS)	5 million by 2021
Solar Irrigation Program (SIP)	3,000 by 2021
Solar Mini Grid (SMG)	70 by 2021

6. It is expected that the components under the REREDP interventions yield positive environmental impacts. But obviously these interventions bear some environmental and health safety risks. The primary environmental, health, and safety issues involve how they are manufactured, installed, and ultimately disposed of. So, proper consideration of all environmental and social factors during design and implementation is of utmost concern. As a result, there is necessity of an environmental and social management framework (ESMF) by describing the potential environmental and social impacts and their feasible mitigation measures.

7. This ESMF is required for the RERED-AF2 to identify the required environmental management measures that need to be taken, in order to ensure compliance with the Government of Bangladesh own requirements and those of the World Bank (WB) and other development partners. All the major environmental impacts along with mitigation and management measures have been compiled in the form of ESMF.

8. The ESMF is being updated for the proposed additional financing AF 2. No major changes are proposed except that the ESMF will now be applicable for only IDCOL as the efficient lighting component implemented by the Bangladesh Rural Electrification Board (BREB) is discontinued. However, based on the experience and lesson learnt from RERED II AF, the ESMF is further updated monitoring and screening format are included in the annexures. Also, the ESMF will be applicable for the whole renewable energy program of IDCOL incorporating the requirements of all the different development partners supporting the program.

9. IDCOL has recently been allocated a 0.164 Acre plot at Agargaon, Sher-E-Bangla Nagar, Dhaka by the Government of Bangladesh. This southeast-facing land has a 60 feet wide road in its front and plots on three other sides. IDCOL is planning to establish a commercial green building in the plot for usage as office spaces with the objective of achieving Leadership in Energy & Environmental Design (LEED) platinum certification. According to the ECR'97, Schedule-1 all multi-storied commercial buildings

will fall under the Orange-B category, thus it requires a site clearance and subsequent environmental clearance certificate issued by DoE. ECC application must be accompanied with a feasibility study report and IEE/ESIA. ToR of the ESIA should be approved by DoE. According to the WB's Environmental Assessment (OP/BP 4.01), the proposed sub-project IDCOL multi-storied commercial building has been classified as Category B, as the potential impacts are limited and largely mitigable and reversible. Therefore, IEE/ESIA along with an ESMP are recommended to be carried out during the preparation phase. A ToR for environmental and social impact assessment (ESIA) for IDCOL's commercial (office) green building project is given in Annex 22.

10. Consequently, this harmonized ESMF has been prepared, which is adopted by IDCOL to ensure the relevant safeguards policy of associated development partners including the World Bank (WB), Asian Development Bank (ADB), Japan International Co-operation Agency (JICA) and KfW. In addition, the relevant environmental, social and occupational health safety compliances of Bangladesh government have been complied with. So, it can be concluded that this ESMF is capable enough to meet the major environmental, social and occupational health safety compliances of other supporting development partners including DFID, USAID and so on.

II. BRIEF PROJECT DESCRIPTION

2.1 WORLD BANK PROJECT

Rural Electrification and Renewable Energy Development Project- II (REREDP-II)

2.1.1 Component A: Solar Home Systems (SHS) Component

11. Through the Component A of Rural Electrification and Renewable Energy Development Project-II (REREDP-II), the WB would further scale up support to the Solar Home Systems (SHS) program of Bangladesh for providing access to electricity to households and shops in rural areas where grid electricity has not been reached yet. Customers are expected to provide 10%-15% of the SHS prices as down payment. The WB administered IDA funds (and IDCOL own funds) will refinance 60%-70% of the micro-finance extended by the POs to the households.

2.1.2 Component B: Remote Area Power Supply Systems (RAPSS)

12. Component B of REREDP-II includes the support to various technologies (mini-grid, micro-grid, solar irrigation pumps, biogas and biomass based captive plants etc) to meet the electricity needs of rural household, enterprises, and businesses that could not otherwise be met with SHS. The implementation activities, including selecting the sponsors for establishing, operating, and maintaining the various sub-projects would be undertaken by IDCOL. For mini-grids, sponsor equity will be a minimum of 20% with IDCOL providing the balance funds (including credit and capital buy-down grant to keep the end-user tariff affordable) to the mini-grid schemes building on the lessons learned from the pilots under already completed REREDP. The least cost technology options (solar PV, biomass gasification, etc.) will be used depending on the resource availability in the specific locations of the mini-grids. The component would also support biogas based captive plants to supply electricity in rural areas. Depending on demand and viability of the sub-projects, the component can support financing other applications such as solar cooling and drying or advanced hybrid brick kilns. The project sponsor will be required to either possess his own land or have valid lease documents. No land acquisition is allowed under the project. All land will be screened to ensure that no displacement of people (with or without title) will take place. IDCOL has followed this approach in the previous phase of the project and the social safeguards assessment shows that no displacement has taken place under the project (neither physical nor economic).

13. The component will also support solar irrigation pumps that would replace diesel-operated pumps thus contributing to increased access to clean energy by farmers. Similar to the mini-grid schemes, private sponsors would identify locations and reach agreements with groups of farmers on the selling rate for water and on the duration and quantity of water supply. IDCOL will ensure via screening of the farmer groups that in areas where IP populations reside side by side with mainstream populations there is adequate representation of IPs in farmer groups and the awareness raising, mobilization and training campaigns are tailored to the needs of IPs in the relevant locations. IDCOL performs regular monitoring of project areas and beneficiaries through a well-planned and implemented procedure. Sponsors will be putting in equity of at least 20%, while the rest of the project cost will be financed through a combination of credit and grant to keep

the tariff affordable to farmers. IDCOL will do site specific due diligence before approving the sub-projects.

2.1.3 Component C: Technical Assistance to IDCOL

14. This component would support IDCOL and the POs/sponsors in implementation, monitoring and evaluation of SHS and renewable energy investments to ensure effective implementation of Components A and B. The monitoring is to ensure that: (a) funds are being used for the intended purpose; (b) the POs/sponsors comply with established technical, after-sales service, and consumer protection standards; (c) customers are satisfied with the services; and (d) hazardous wastes such as used batteries are safely recycled. TA-supported activities would include IDCOL inspections and monitoring activities, technical performance audits of PV systems and components, procurement audit, third party monitoring, piloting of new and improved solar products including LED lamps, etc.

2.1.4 Component D: Household Energy Component

15. The proposed household energy component supports the efforts of various NGOs in providing rural households with clean cooking solutions. The strategic approach of this component includes: (i) awareness raising through social mobilization to ensure potential users are aware of the fuel saving and health benefits associated with clean cooking; (ii) research and development to enhance product quality, performance, safety and durability; (iii) setting up of performance standards, labels and testing facilities; and (iv) support to selected partner organizations to generate demand and to facilitate enterprise creation. The target is to commercially disseminate about 1 million improved cook stoves and 45,000 biogas units within the implementation period of the Project. Implemented by IDCOL, the component will build on the success of Bangladeshi NGOs in the areas of community outreach in total sanitation programs. It will also build on the earlier work undertaken by local institutions in the areas of stove design and reduction of emission of toxic pollutants from incomplete combustion of wood fuels. The implementation of this component will be in close collaboration with on-going activities in the sector by NGOs, GIZ, USAID and upcoming activities that will be undertaken through the Global Alliance of Clean Cook stoves. In IP areas sponsors will conduct the consultation and communication with local communities in the local languages in a culturally appropriate manner and will ensure that relevant feedback is duly incorporated in the delivery of services and products.

2.1.5 Additional financing RERED II-AF 2

16. In this context, the additional financing is required to scale up the RERED II Access to Electricity component to support the installation of 1,000 solar irrigation pumps (SIP) and 30 solar mini-grids (SMG), and the Household Energy component to support an additional 4 million Improved Cook Stoves (ICS) in rural areas of Bangladesh. Of the proposed additional IDA credit, would be allocated for the Access to Electricity component for investments in private sector SIPs that displace diesel irrigation pumps, and in SMGs installed primarily on islands that will not be connected to the national grid to offset diesel-powered mini-grids. The proposed additional fund to the Household Energy component is primarily aimed at supporting the continued growth of the ICS program which has emerged as a viable model for increasing efficiency of fuel use for cooking. It will reduce indoor air pollution and

improve health, cut GHG emissions, and lower households' cost of cooking.

2.2 ASIAN DEVELOPMENT BANK PROJECT

Public Private Infrastructure Development Facility-II (PPIDF-II)

2.2.1 Component 1: Increased Available Long-term Debt Financing for Infrastructure Projects

17. The output will be achieved through component 1 which will provide IDCOL with local currency or $ funding in the amount of up to $100 million equivalent.

18. The proceeds from this Project component will be used to finance private sector-sponsored medium and large infrastructure projects (SMIPs) in Bangladesh with an individual project size of at least $10 million.

2.2.2 Component 2: Increased Availability and Accessibility of Financing for SHS

19. The output will be achieved through component 2, which will provide IDCOL with a credit line of $10 million in local currency equivalent for its SHS program. IDCOL's SHS program is a demand-driven model for increasing access to electricity in remote rural areas where grid connection is not economically feasible or would take a long time to reach. It is to be noted that through the lending facility of PPIDF-I, 321,164 SHS have been installed throughout the country.

20. IDCOL's SHS program provides refinancing, sets technical specifications for equipment, develops publicity materials, extends loans, installs the systems, monitors their performance, and provides maintenance support. In particular, IDCOL provides loans at an approximate interest rate of 6%–9% (per annum) with a tenor of 5–7 years and a grace period of up to 1 year to participating organizations (POs), which then provide customers in rural areas with financing of up to 80% of the cost of an SHS with a capacity of 10 watts–130 watts.

21. Funds used by IDCOL for refinancing stem exclusively from donor loans channeled through the Government. IDCOL's main responsibility is, therefore, to raise and channel funding in the form of loans to POs and to monitor the overall performance of its SHS program. POs, in a second step, will then select subproject areas and potential customers, extend loans, install the systems, monitor their performance, and provide maintenance support. In addition to the refinancing arrangement, donors devised a grant scheme to incentivize IDCOL and its POs to increase the affordability of these renewable energy applications to buyers in rural off-grid areas, where the poorer section of the population normally lives. The prices of SHSs depend not only on the institutional capacity of IDCOL and its POs in operating cost efficiently but also on world prices for the various system components that are subject to demand and supply. Thus, the grant scheme will shelter end-users from some of the price fluctuations as well as accelerate use of the program.

22. The main rationale for component 2 is to increase the financing available to the rural poor for the purchase of an SHS which is in line with the provision of funds already

provided by other donors. The funds will increase SHS installation rates and the successful implementation of alternative energy generation in off-grid areas. This will assist the Government in implementing its vision of universal electricity access by 2020.

2.3 JAPAN INTERNATIONAL COOPERATION AGENCY PROJECT

Renewable Energy Development Project

2.3.1 Components of Renewable Energy Development Project (REDP)

23. There are three components of JICAS's Renewable Energy Development Project. The Component 1 includes Provision of Funds to POs/Sponsors in establishing 575,469 SHS, 1,200 solar pumps for irrigation, 29 mini-grids, 20 biomass gasification plant and 60 biogas based power generation plants. The Component 2 and 3 include Implementation Support and Consulting Services. The amount of total fund under REDP is about 11,335 million Japanese Yen.

2.4 COMPONENTS OF KfW THROUGH RENEWABLE ENERGY DEVELOPMENT PROJECT

2.4.1 Components of Renewable Energy Development Project (REDP)

24. Having contributed financing for 440,000 SHS, KfW is currently providing support to IDCOL Biogas and other renewable energy projects including (solar mini-grid, solar irrigation pump, biomass and biogas based power plant etc) with funds from German Financial Cooperation. Altogether, German Financial Cooperation has already provided 5 million USD as credit support and 26 million USD as grant support via KfW to IDCOL. In addition, it is considering about 14 million USD as grant support to other renewable energy projects.

III. RELEVANT POLICY, ACT AND RULE

3.1 GENERAL

25. Legislative bases for Environmental Impact Assessment (EIA) in Bangladesh are the Environmental Conservation Act 1995 (ECA'95) and the Environmental Conservation Rules 1997 (ECR'97). Department of Environment (DOE), under the Ministry of Environment and Forests (MOEF) is the regulatory body responsible for enforcing the ECA'95 and ECR'97. It is the responsibility of the proponent to conduct an Environmental Assessment (EA) of development proposal and the responsibility to review EIAs for the purpose of issuing Environmental Clearance Certificate (ECC) rests on the DOE.

3.2 BANGLADESH ENVIRONMENTAL CONSERVATION ACT (ECA), 1995

26. The Environmental Conservation Act (ECA) of 1995 is the main legislative framework document relating to environmental protection in Bangladesh. This umbrella Act includes laws for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. This Act established the DOE, and empowers its Director General to take measures as he considers necessary which includes conducting inquiries, preventing probable accidents, advising the Government, coordinating with other authorities or agencies, and collecting & publishing information about environmental pollution. According to this act (Section 12), no industrial unit or project shall be established or undertaken without obtaining, in a manner prescribed by the accompanying Rules, an (ECC) from the Director General of the DOE.

27. The Act was amended in 2006 (SRO No. 175-Act/2006 dated August 29, 2006) on collection and recycling of used/non-functional batteries for conservation of environment, improving environmental standard and control and prevention of environmental pollution. According to this amendment, no recycling of battery will be permitted without environmental clearance of DOE. This also restricted the improper disposal of used batteries or any parts of used battery in open place, water bodies, waste bins, etc. All used batteries must be sent to the DOE approved battery recycling industry at earliest convenience. No financial transaction was allowed for used/non-functional batteries. However, the act was amended on same issue again in 2008 (SRO No. 29-Act/2008 dated February 11, 2008) to allow financial transaction on mutually agreed fixed cost.

3.3 BANGLADESH ENVIRONMENTAL CONSERVATION RULES (ECR), 1997

28. The Environment Conservation Rules, 1997 were issued by the Government of Bangladesh in exercise of the power conferred under the Environment Conservation Act (Section 20), 1995. Under these Rules, the following aspects, among others, are covered:

- Declaration of ecologically critical areas;
- Classification of industries and projects into four categories;
- Procedures for issuing the Environmental Clearance Certificate;

- Determination of environmental standards;

29. The Rule 3 defines the factors to be considered in declaring an area 'ecologically critical area' (ECA) as per Section 5 of ECA'95. It empowers the Government to declare an area 'ECA', if it is satisfied that the ecosystem of the area has reached or is threatened to reach a critical state or condition due to environmental degradation. The Government is also empowered to specify which of the operations or processes shall be carried out or shall not be initiated in the ecologically critical area. Under this mandate, MOEF has declared Sundarban, Cox's Bazar-Tekhnaf Sea Shore, Saint Martin Island, Sonadia Island, Hakaluki Haor, Tanguar Haor, Marzat Baor and Gulshan-Baridhara Lake as ecologically critical areas and prohibited certain activities in those areas.

30. ECR'97 (Rule 7) classifies industrial units and projects into four categories depending on environmental impact and location for the purpose of issuance of ECC as are:

- Green
- Orange A
- Orange B, and
- Red

31. All existing industrial units and projects and proposed industrial units and projects, that are considered to be low polluting are categorized under "Green" and shall be granted Environmental Clearance. For proposed industrial units and projects falling in the Orange- A, Orange- B and Red Categories, firstly a site clearance certificate and thereafter an environmental clearance certificate will be issued. A detailed description of those four categories of industries has been given in Schedule-1 of ECR'97.

32. Apart from general requirement, for every Orange-B and Red category proposed industrial unit or project; the application must be accompanied with feasibility report on Initial Environmental Examination (IEE), Environmental Impact Assessment (EIA) based on approved TOR by DOE, Environmental Management Plan (EMP) along with lay-out plan (showing location of ETP), time schedule of ETP, etc.

33. The ECR'97 also contains the procedures for obtaining Environmental Clearance Certificates (ECC) from the Department of Environment for different types of proposed units or projects. Any person or organization wishing to establish an industrial unit or project must obtain ECC from the Director General. The application for such certificate must be in the prescribed form together with the prescribed fees laid down in Schedule 13, through the deposit of a Treasury Chalan in favor of the Director General. Rule 8 prescribes the duration of validity of such certificate (3 years from green category and 1 year for other categories) and compulsory requirement renewal of certificate at least 30 days before expiry of its validity.

34. There is no clear and specific guidance about application of renewable energy technologies and energy efficient CFL bulb project in both ECA'95 and ECR'97.

3.4 ENVIRONMENTAL CONSERVATION ACT (AMENDMENT 2010)

35. This amendment of the act introduces new rules and restriction on:

- ensure proper management of hazardous wastes to prevent environmental pollution and health risk
- No remarked water body cannot be filled up/changed; in case of national interest; it can be done after getting clearance from the respective department; and
- Emitter of any activities/incident will be bound to control emission of environmental pollutants that exceeds the existing emission standards

3.5 RENEWABLE ENERGY POLICY OF BANGLADESH, 2008

36. The renewable energy policy of Bangladesh has been approved on December 18, 2008 with the target of developing renewable energy resources. This Policy laid out the target of meeting 5% of total power demand from renewable energy sources by 2015 and 10% by 2020. The policy provides an overall guidance of

- institutional arrangements
- resource, technology and program development
- investment and fiscal incentives
- regulatory policy

37. The policy promotes appropriate, efficient and environment friendly use of renewable energy. It also suggest that for large biomass electricity projects (i.e., greater than 1 MW) the project developer must demonstrate that the biomass is being sustainably harvested and that no adverse social impact will result from that development. It also restricted the larger scale production and use of bio-fuels which may jeopardize the existing crops.

3.6 REMOTE AREA POWER SUPPLY SYSTEMS (RAPSS) GUIDELINE, 2007

38. The Remote Area Power Supply Systems (RAPSS) guideline of 2007 allows for private sector participation in development, operation, and maintenance of electricity generation system and distribution networks in remote rural areas including isolated islands to supplement GOB efforts at achieving universal access by 2020. However, there has not been much progress in implementing the RAPSS schemes. GOB is in the process to establish the Sustainable and Renewable Energy Development Agency (SREDA) as an autonomous body to lead its efforts in promoting renewable energy and energy efficiency in the country.

3.7 BANGLADESH LABOR LAW, 2006

39. This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable work environment and reasonable working conditions. In the chapter VI of this law safety precaution regarding explosive or inflammable dust/ gas, protection of eyes, protection against fire, works with cranes and other lifting machinery,

lifting of excessive weights are described. And in the Chapter VIII provision safety measure like as appliances of first –aid , maintenance of safety record book, rooms for children, housing facilities, medical care, group insurance, etc. are illustrated.

3.8 WORLD BANK'S SAFEGUARDS (RELEVANT POLICIES)

OP 4.01 Environmental Assessment

40. The Bank requires environmental assessment (EA) of projects proposed for Bank support to ensure that they are environmentally sound and sustainable, and thus to improve decision making. EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. EA takes into account the natural environment (air, water and land); human health and safety; social aspects (involuntary resettlement, tribal peoples and physical cultural resources); and trans-boundary and global environmental aspects. The borrower is responsible for carrying out the EA and the Bank advises the bower on the Bank's EA requirements.

41. The Bank classifies the proposed project into three major categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

Category A: The proposed project is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works.

Category B: The proposed project's potential adverse environmental impacts on human population or environmentally important areas-including wetlands, forests, grasslands, or other natural habitats- 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 Category A projects.

Category C: The proposed project is likely to have minimal or no adverse environmental impacts.

OP 4.04 on Natural Habitats

42. The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank therefore supports the protection, maintenance, and rehabilitation of natural habitats and their functions in its economic and sector work, project financing, and policy dialogue. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. The Bank promotes and supports natural habitat conservation and improved land use by financing projects designed to integrate into national and regional

development the conservation of natural habitats and the maintenance of ecological functions. Furthermore, the Bank promotes the rehabilitation of degraded natural habitats. The Bank does not support projects that involve the significant conversion or degradation of critical natural habitats.

43. Of the two environmental safeguard policies that are relevant to this project, only OP 4.01 on Environmental Assessment is triggered in case of RERED additional financing.

OP 4.10 - Indigenous Peoples

44. This policy contributes to the Bank's mission of poverty reduction and sustainable development by ensuring that the development process fully respects the dignity, human rights, economies, and cultures of Tribal Peoples. For all projects that are proposed for Bank financing and affect Tribal Peoples, the Bank requires the borrower to engage in a process of free, prior, and informed consultation. The Bank provides project financing only where free, prior, and informed consultation results in broad community support to the project by the affected Tribal Peoples. Such Bank-financed projects include measures to (a) avoid potentially adverse effects on the Tribal Peoples' communities; or (b) when avoidance is not feasible, minimize, mitigate, or compensate for such effects. Bank-financed projects are also designed to ensure that the Tribal Peoples receive social and economic benefits that are culturally appropriate and gender and inter-generationally inclusive.

45. The Bank recognizes that the identities and cultures of Tribal Peoples are inextricably linked to the lands on which they live and the natural resources on which they depend. These distinct circumstances expose Tribal Peoples to different types of risks and levels of impacts from development projects, including loss of identity, culture, and customary livelihoods, as well as exposure to disease. Gender and intergenerational issues among Tribal Peoples also are complex. As social groups with identities that are often distinct from dominant groups in their national societies, Tribal Peoples are frequently among the most marginalized and vulnerable segments of the population. As a result, their economic, social, and legal status often limits their capacity to defend their interests in and rights to lands, territories, and other productive resources, and/or restricts their ability to participate in and benefit from development. At the same time, the Bank recognizes that Tribal Peoples play a vital role in sustainable development and that their rights are increasingly being addressed under both domestic and international law.

OP 4.12 - Involuntary Resettlement

46. Bank's experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. This policy includes safeguards to address and mitigate these impoverishment risks.

47. Implication of WB Policy: In view of subprojects nature, the overall AF is classified as a Category 'B' as applied in the original project and the safeguard policy OP/BP 4.01 has been triggered to ensure that the sub project design and implementation is focused on reducing adverse impacts and enhancing positive impacts. The sub-projects will be reaching areas where Indigenous People (IP) live and therefore OP/BP4.10 has now been triggered in this updated ESMF. Availing of the services from the sub-projects will be purely on willing-buyer willing seller basis. The project has a screening process for IPs and has implemented a consultation and communication process in those areas that is consistent with OP 4.10. Project proponents and partner organizations are committed to be as inclusive as possible as this increases their customer base and raises their commercial viability. Sub-project specific environment and social screening, and if necessary impact assessments, will be undertaken and appropriate mitigation plans to be prepared before the sub-project financing are consider under the RAPSS component. IDCOL will review each screening/assessment and will regularly monitor the implementation of environment and social management plan.

3.9 JICA GUIDELINES ON ENVIRONMENTAL AND SOCIAL SAFEGUARDS

48. JICA has already started to provide lending support in IDCOL SHS program. So, relevant standards and policies on environmental and social safeguards are applicable to IDCOL SHS Program.

49. JICA has prepared "Guidelines for Environmental and Social Considerations, April 2010" as the referential guidelines for environmental and social considerations. The objectives of the guidelines are to encourage Project proponents etc. to have appropriate consideration for environmental and social impacts, as well as to ensure that JICA's support for and examination of environmental and social considerations are conducted accordingly. The guidelines outline JICA's responsibilities and procedures, along with its requirements for project proponents etc., in order to facilitate the achievement of these objectives. In doing so, JICA endeavors to ensure transparency, predictability, and accountability in its support by considering environmental and social issues.

50. According to the guidelines, JICA classifies development projects into four categories with regards to the extent of environmental and social impacts, and taking into account the outlines, scale, site and other conditions. The four categories are as follows:

Category A. Proposed projects are likely to have significant adverse impacts on the environment and society.

Category B. Proposed projects are classified as Category B if their potential adverse impacts on the environment and society are less adverse than those of Category A projects.

Category C. Proposed projects are classified as Category C if they are likely to have minimal or little adverse impact on the environment and society.

Category FI. A proposed project is classified as Category FI if it satisfies all of the followings:

- JICA's funding of the project is provided to a financial intermediary or executing agency such as IDCOL;
- The selection and appraisal of the components is substantially undertaken by such an institution only after JICA's approval of the funding, so that the components cannot be specified prior to JICA's approval of funding (or project appraisal); and
- Those components are expected to have a potential impact on the environment

51. Over a certain period of time, JICA confirms with project proponents etc. the results of monitoring the items that have significant environmental impacts. This is done in order to confirm that project proponents etc. are undertaking environmental and social considerations for projects that fall under Categories A, B, and FI.

3.10 ADB GUIDELINES ON ENVIRONMENTAL AND SOCIAL SAFEGUARDS

52. ADB's Safeguards Policy Statement (SPS) 2009, consolidated its previous policy on the environment (2002), involuntary resettlement (1995) and indigenous peoples (1998). These are accompanied by Operations Manual sections on Environmental Considerations in ADB Operations (OM Section F1); Involuntary Resettlement (OM Section F2); and Indigenous Peoples (OM Section F3). The goal of SPS is to promote the sustainability of project outcomes by protecting the environment and people from potential adverse impacts of projects. ADB finances projects that comply with its SPS and host country's social and environmental laws and regulations, including international law the host country is obligated to implement.

53. The SPS, 2009 clearly spells out the ADB's commitment on sustainable development. It has described the required environmental and social compliance measures in detail. Major requirement of SPS includes (i) impacts are identified and assessed early in the project cycle; (ii) plans to avoid, minimize, mitigate, or compensate for the potential adverse impacts are developed and implemented; and (iii) affected people are informed and consulted during project preparation and implementation. ADB adopted a new accountability mechanism in 2003, whereby people adversely affected by ADB-financed projects can express their grievances; seek solutions; and report alleged violations of ADB's operational policies and procedures, including safeguard policies.

54. According to SPS, 2009, ADB carries out project screening and categorization at the earliest stage of project preparation when sufficient information is available for this purpose. Screening and categorization are undertaken to (i) reflect the significance of potential impacts or risks that a project might present; (ii) identify the level of assessment and institutional resources required for the safeguard measures; and (iii) determine disclosure requirements.

55. ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. Each proposed project is scrutinized as to its

type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following four categories:

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 EIA including an EMP is required.

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 IEE, including an EMP, is required.

Category C. A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. An EIA or IEE is not required, although environmental implications need to be reviewed.

Category FI. A proposed project is classified as category FI if it involves the investment of ADB funds to, or through, a financial intermediary. An appropriate Environment and Social Management System (ESMS) should be in place for FIs.

56. ADB will screen all projects to determine whether or not they involve involuntary resettlement. For a project involving involuntary resettlement, a resettlement plan will be prepared that is commensurate with the extent and degree of the impacts. The degree of impacts shall be determined by (i) the scope of physical and economic displacement, and (ii) the vulnerability of the affected persons.

57. ADB will screen all projects to determine whether or not they have potential impacts on Tribal Peoples. For projects with impacts on Tribal Peoples, an Tribal Peoples plan will be prepared. The plan's level of detail and comprehensiveness will be commensurate with the degree of impacts. The degree of impacts is determined by evaluating (i) the magnitude of the impact on Tribal Peoples' customary rights of use and access to land and natural resources; socioeconomic status; cultural and communal integrity; health, education, livelihood systems, and social security status; or tribal knowledge; and (ii) the vulnerability of the affected Tribal Peoples.

58. To deal with the safeguards requirement of small and medium infrastructure projects under PPIDF, IDCOL has already adopted an Environmental and Social Management Framework (ESMF), which has already been acknowledged by ADB. As the major focus of ESMF was to ensure the safeguards compliances for small and medium infrastructure projects, the ESMF has been adopted to ensure the required safeguards compliances in renewable energy projects in a comprehensive manner.

3.11 SUSTAINABILITY GUIDELINES OF KfW DEVELOPMENT BANK

59. For all projects implemented through KfW on behalf of German Financial Cooperation, it has to be ensured that they are compatible with environmental and other

crucial development standards. The objective of environmental and social impact assessments (ESIA) and climate change assessments is to anticipate and appraise any foreseeable impact a project may have on the environment, the climate and/or on social factors, and to identify and prevent any negative impact, or limit it to a tolerable level and (provided that the negative impact is inevitable but still tolerable) introduce compensation measures.

60. Similar to other donors, KfW appraises each new project at an early stage in order to determine its relevance in terms of environmental and social aspects and risks, as well as in terms of substantial greenhouse gas reduction potential and substantial need of adaptation to possible climate change. All projects will be classified into one of the following three categories A, B or C, according to the relevance of their potentially negative environmental and social impact.

61. Category A. Projects will be classified as category A, if they may have a severe negative impact on the environment and/or the social conditions of those concerned. A potentially severe negative impact means that the consequences are manifold, irreversible or unprecedented. Such consequences may affect a larger area beyond the site of the facility under construction, the site of the facility itself or the project area in a narrower sense. As a matter of principle, any projects that are considered sensitive must be classified as category A. For category A projects, it is mandatory to analyse and appraise any negative ecological and social consequences as part of an independent environmental and social impact study (ESIS) and to draw up an environmental and social management plan (ESMP).

62. Category B. Projects will be classified as category B, if they may have a potentially negative impact on the environment and on the social conditions of those concerned, which, however, is less severe than that of category A projects and can usually be mitigated through state-of-the-art countermeasures or standard solutions. Typically, the potential consequences of category B projects are limited to the local area, are in most cases reversible and are easier to mitigate through appropriate measures. For category B projects, the need for and the scope, priorities and depth of an ESIS have to be determined on a case-by-case basis.

63. Category C. Projects will be classified as category C if they are expected to have no or only minor negative environmental and social consequences and if the implementation and operation of the project does not require any particular protection, compensation or monitoring measures. Category C projects usually do not require any additional analysis within the meaning of this Guideline or any further ESIA procedures. However, category C projects should be monitored for any relevant changes over their life cycle.

64. By aligning ESIAs with internationally recognised environmental and social standards (e.g. World Bank Safeguard Policies, IFC Performance Standards, Environmental, Health and Safety Guidelines of the World Bank Group, ILO Core Labour Standards, EU Environmental Legislation), KfW Development Bank aims to improve donor harmonisation in accordance with the Paris Declaration.

IV. ENVIRONMENTAL ASSESSMENT

65. This ESMF has been developed by IDCOL specifically for the proposed operation to ensure due diligence, to avoid any environmental degradation issues for the project SHS component, and other renewable energy component including mini-grid, solar irrigation, biogas, improved cook stove and biogas and biomass gasification based power projects

4.1 ASSESSMENT OF FIRST PHASE PROJECT

66. The following major action has been undertaken under the existing ESMF of ongoing RERED, financed by the WB:

- IDCOL has appointed a full time Environmental Specialist in addition to the existing Specialist to take care the environmental and social safeguards. The new Specialist will join from May 1, 2014

- To ensure the compliance of safeguards more effectively, IDCOL has made ISO 14001:2004 (Environmental Management Standard) and OHSAS 18001:2007 (Occupational Health Safety Standard) compliances for all battery suppliers and expired battery recyclers. At present there are 14 battery suppliers and 4 recyclers who have complied with these requirements while the rest have entered into arrangements with the existing 4 recycling plants to use their facilities.

- IDCOL has developed the 'Policy Guidelines on Disposal of Warranty Expired Batteries' on June 14, 2005 for RERED project. Based on the guidelines, IDCOL facilitated an agreement between battery manufacturers and POs. According to the agreement, POs are responsible to notify the customers before 3 months of the warranty expiration date and advice customers to replace the battery. PO representatives are accountable to collect batteries from customers and to safely transport to regional locations of battery manufacturer. The manufacturer is responsible for collecting batteries from regional centers and to transport it to the site where the batteries will be recycled or disposed in an environment-friendly manner. The battery disposal issue has been discussed with POs in monthly operational meeting. An agreement copy is attached in Annex-7. For ensuring proper collection of expired battery IDCOL has introduced a format as is shown in Annex-6. Moreover, it has introduced a new clause in the Buy-back Agreement to be signed between PO and household. According to this clause, household shall not sell expired battery to any second party and such battery shall be returned to any of the IDCOL's POs or supplier of the battery.

- IDCOL quarterly monitors the Environment, Health and Safety (EHS) compliances of the three battery recycling plants.

- IDCOL arranges quarterly awareness raising training to the battery manufacturers and recyclers to enhance their awareness about the importance of EHS.
- IDCOL arranges quarterly meetings for the battery suppliers and recyclers where they have to present their quarterly EHS Compliance Report.

67. Annex 21 shows the detailed review of experience with implementation of the ESMF including a description of how used batteries have been recycled.

V. ENVIRONMENTAL AND SOCIAL IMPACTS

5.1 ANTICIPATED ENVIRONMENTAL AND SOCIAL IMPACTS

68. The project will support: (i) increase access to electricity in rural areas through renewable energy; (ii) support large-scale dissemination of more efficient cook stoves and fuels for cooking; and (iii) improve technical and institutional efficiency in the power sector. In case of SHS, SIP & SMG, there is an issue of Sulphur-di-oxide (SO2) emission and other gaseous substance during operation phase. Moreover, there is issue of significant emission of Lead oxide (PbO), Hydrogen sulfide (H2S) etc. gaseous substances during battery manufacturing and recycling process. Battery is used for mini-grid project, there is no air pollution during operation phase. But during recycling, there is risk of pollution. Ensuring proper disposal or recycling of expired and PV panel is also appearing as a prime requirement for EHS context.

69. Based on the experience and lesson learnt from the RERED-II project, the environmental and social activities & monitoring format been changed or modified based on the practical perspective view. For SMG project, IDCOL prepared a battery recycling agreement for the project sponsors and the battery suppliers, currently implemented for the projects (annexure 7a). Also, updated appraisal report format (annexure 1), the Environmental & Social appraisal report and terms of reference (ToR) for the ESIA report (annexure 10). For SIP project, IDCOL has also updated the EHS monitoring format and using in regular monitoring purpose (annexures 8B). For ICS program, IDCOL prepared an environmental & social field observation format (annexure 8C).

70. This ESMF identifies some of the key environmental impacts associated with these technologies and these are stipulated below.

- The chemicals typically used in PV module manufacturing are aluminum, hydrochloric acid, silicon, phosphine, etc. Materials used in some solar systems can create health and safety hazards for workers and anyone else coming into contact with them. Workers involved in manufacturing photovoltaic modules and components must consequently be protected from exposure to these materials, as well as proper disposal is required after expire of the efficiency of these panels.

- The SHS or mini-grid/micro-grid mainly comprise of Solar Modules and storage battery. Improper disposal and recycling of lead acid storage batteries result in lead sulfate contamination in lands and water bodies. Through percolation, lead sulfate can contaminate groundwater and transfer up the food chain. Lead can enter body in two ways: by breathing or by swallowing it. Lead Sulfide dust enters the body through breathing. Very fine lead particles may penetrates into the lungs result in absorption in the bloodstream. In addition, there is an impending threat for the workers due to the inhalation of lead fumes.

- Long exposure to lead pollution results in the adverse impact in nervous system and cause headaches, dizziness, irritability, memory problems, and disturbance in sleep. It can affect the digestive system and cause nausea, vomiting, constipation, appetite loss, and abdominal pain. Lead

also affects formation of blood and can result in anemia. Too much lead can also cause miscarriages and stillbirths when pregnant women are exposed to lead. In men, the sperm can be affected and this may result in infertility.

- The possibility of GHG emission during manufacturing, operation and recycling of lead-acid batteries could be a matter of concern. So, required measures need to be adopted to mitigate as well as compensate.

- Biomass power i.e., combustion of biomass and biomass-derived fuels may produce air pollution if not properly designed, constructed and operated. Advanced technologies with proper operation should generate much lower emissions.

- Improper disposal of CFL bulbs is significant concern due to adverse impact of mercury pollution. Elemental (metallic) mercury is toxic and exposure to excessive levels can permanently damage brain and kidneys. Being absorbed through skin, mercury compounds can cause severe renal and gastrointestinal damage. Organic compounds of mercury such as methyl mercury are considered the most toxic forms of the element. Exposures to very small amounts of organic compounds of mercury can result in devastating neurological damage and death.

- No land acquisition or displacement of people from public or private lands is permitted under the project. The IP areas will be screened to identify relevant communities and a culturally appropriate communication process (which has been in use during the previous phase of the project and has been assessed to yield good results) will be used to clearly describe the products and services as well as warranty issues and other provisions terms and conditions of payments etc. No adverse social impacts are expected. All products and services are available on a purely commercial basis to all paying customers regardless of ethnicity. There have been no reported cases of discrimination or exclusion as it is in the best interest of the project proponents to reach as many customers as possible.

- Customers, including IPs, have benefited greatly from the project especially IPs living in remote areas without access to electricity.

5.2 MITIGATION MEASURES

71. Through this ESMF it has been tried to identify the likely environmental and social impacts and determine suitable mitigation measures. For sub-projects of mini-grids and solar irrigation pumps need an environmental and social screening/assessment with management plan, during project implementation prior to approval for any sub-project as have been provided as Annex-8. No site specific environmental assessment will be required for household system (solar home system, biomass etc.). The requirement to carry out an environmental analysis as part of project preparation can be waived. However, following measures in the various components of RERED II will be undertaken under the ESMF.

5.2.1 Solar Home Systems (SHS) Component

72. Environment and occupational health & safety are major issues to the battery recycling and manufacturing under the program. All battery suppliers and expired battery recyclers are required to be ISO 14001:2004 and OHSAS: 18001:2007 certified. In addition to the above certification, IDCOL has to make sure the following measures in the battery industry for proper implementation of EMS and OHS through regular monitoring and compliance.

i. The industry will ensure appropriate work clothes and musk to the workers

- use coveralls, work boots, and a washable or disposable cap
- use full protection mask (not simple cotton nose musk) to avoid inhalation lead-containing furnace emissions
- remove work clothes before eating or smoking and before leaving work
- use a change area separate from the work area
- provide separate work and street clothes
- regular wash of working clothes

ii. The industry will promote personal hygiene practices of workers

- keep hands away from your lips and mouth
- avoid eating or smoking in the work area
- avoid rubbing sleeves on face
- always wash hands and face thoroughly with soap and water before breaks
- rinse mouth before eating or smoking

iii. The industry will adopt the following mitigation measures to improve environmental practices

- proper storage facilities of used batteries and its components at recycling factories
- use of mechanized process to dismantling the battery and its components
- neutralization of disposed acid by using sodium hydroxide (NaOH)/calcium carbonate ($CaCO_3$)
- use of cleaner fuel (natural gas, LPG etc.) instead of low-grade coal as fuel for smelting
- safe disposal of waste water from recycling plant

73. All battery manufacturers and recyclers need to be oriented with the advanced effluent treatment facility for proper disposal of sludge (Sulphuric acid and lead).

5.2.2 Remote Area Power Supply Component

74. Mini-grids/micro-grids would be on existing rights of way, which are largely rural roadways and the planning will be carried out jointly with the local community. Therefore, this mini-grid comprising small rural area will not create any potential adverse environmental impacts. Care will be taken to minimize deforestation in securing rights of way. Mini/micro grids based on solar PV require battery storage room and proper maintenance of these batteries. The project will promote the capacity development of local operator to maintain the system. An environmental impact assessment will be carried out and proper mitigation measures will be undertaken by the project proponent.

75. The concerns related to the small-scale wind energy projects results from noise impact and potential interference with bird migration pattern. Windmills make some noise, and the amount of noise increases with the speed of the sails/blades. Since the environmental impacts of small-scale windmills are not significant, environmental assessment will be included in the feasibility and design study of the windmills.

76. The biomass and biogas based electricity projects will be of small to medium scale (below 1 MW). These projects will be mostly captive type and if required, micro grid may need to be established. The following are the key environmental risks if the system is not properly designed, constructed, operated and maintained.

Effluent emission, On-site contamination, Hazardous materials issues

- Methane emissions from waste storage facility
- Contamination of surface and groundwater due to disposal of anaerobic digestion effluents- pathogens, particulate matter, COD/BOD
- Emission of nitrogen oxides, sulfur oxides, particulates, trace amounts of toxic materials, including dioxins due to biogas combustion
- Impacts due to waste storage: odor, visual intrusion, windblown litter, attraction of flies and rodents

Occupational Health and Safety issues

- Occupational accidents and health hazards due to methane emissions during waste storage and gas collection

77. For small-scale household level biomass and biogas project, no environmental assessment will be carried out. Only for commercial plants, detailed environmental assessment will be carried out and site specific environmental management plan will be prepared. In general, the following are the mitigation and enhancement measures to be taken for biomass and biogas based electricity project.

- Appropriate location of waste storage facilities (considering proximity to populated areas, human quarters, working areas etc.)
- Proper design, operation and maintenance of waste storage facilities and gas collection facilities
- Regular monitoring to ensure compliance of operation and maintenance agreed practices

- Frequent monitoring to prevent/minimize biogas leakage during normal operation conditions
- Consider treatment of raw biogas on site to eliminate hydrogen sulfide and ammonia content in order to prevent the formation of corrosive sulfurous, sulfuric and nitrogen oxides
- Planning and carrying out proper waste disposal practices (avoiding discharge of untreated effluents in nearby agricultural land or waterways)
- Provision of fire prevention measures in case of large plant

78. The EAs for solar based mini-grid, micro-grid, wind power, mini-hydro, biomass or biogas based electricity will follow the government procedure for environmental clearance. The reports will be submitted to the respective development partners for review and clearance prior to clearance of construction. An appraisal (for SMG) format to be followed is explained in Annex-9. An updated version of ESIA report format is also attached in Annex-10. In addition, IDCOL will follow preliminary assessment on the environmental and social impacts.

79. For the solar irrigation pumps, environmental screening with environmental management plan will be carried out. IDCOL will monitor and ensure the environmental compliance as per management plan. In Annex-13, a format of assessing environmental impact of solar irrigation project is attached which is to be duly filled up by the Project sponsor and verified by the respective official of IDCOL

5.2.3 Household Energy

80. IDCOL will ensure that improved cook stove (ICS) are being prepared in an environment friendly atmosphere. Households currently use traditional fuels such as wood, twigs, leaves, agricultural and plant residues, paddy husk, jute sticks and dried animal dung for cooking. Under this project, the combustion process of these fuels will be improved by raising the stove efficiency that will reduce the smoke containing large amount of particulate matter and gaseous pollutants. IDCOL will engage an independent consultant to monitor the compliance and efficiency of the certain percentage of ICS manufacturing plant.

5.2.4 CFL

81. A national guideline for collection of waste CFL bulbs will be developed incorporating good practices in the developed and regional countries. There should be also awareness raising initiatives including safety instruction at CFL packets, proper collection and disposal of expired CFL bulbs in a safe manner. The project will also explore options for recycling the glass materials from the destroyed incandescent light bulbs.

5.2.5 IDCOL Multi-storied Green Tower

82. Significant environmental impact related to project siting is the land cover and land use changes. Environmental impacts during project implementation are air pollution, noise pollution, soil contamination, generation of solid waste and hazardous waste, site clearance and restoration, and occupational health and safety. Environmental impact during post-project operational period is the generation of solid waste. A detailed

version of ESMP must be included in the IEE/ESIA of the sub-project IDCOL Green Building Tower. Relevant Components of ESMP need to be included in the contract documents. Environmental Codes of Practice (ECoPs) and Site Specific Management Plans such as Pollution Prevention Plan, Waste Disposal and Effluent Management Plan, Drinking Water Supply and Sanitation Plan, Occupational Health and Safety (OHS) Plan, Traffic Management Plan, Construction Camp Management Plan, Fuel and Hazardous Substances Management Plan, Emergency Preparedness Plan, Health, Safety and Environment Plan will also be applicable for the project.

83. World Bank reaffirms its recognition and endorsement of the fundamental importance of transparency and accountability to the development process. For all Category A and B projects, the borrower should consult the project-affected groups about the project's environmental aspects and take their views into account. The borrower should initiate such consultations as early as possible. For a Category B project, the borrower should provide relevant information on project interventions in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted. The borrower also ensures that IEE/ESIA reports for Category B subprojects are made available in a public place accessible to affected groups. The document needs to be translated into Bengali. Public availability of the IEE/ESIA report for Category B project in the borrowing country and official receipt by the Bank are prerequisites to Bank appraisal of these projects.

5.3 GENDER AND SOCIAL DIMENSION OF THE PROJECT

84. IDCOL will adopt the following gender-related design features such as: (i) assess internal mechanisms and capacities to promote greater visibility of gender and social inclusion considerations in the design of its subprojects; (ii) ensure that all recipient sub-projects and sub-borrowers under the Project will identify and maximize opportunities for women's participation in all employment opportunities during construction, operation and maintenance of infrastructure, with potential adoption of evidence-based gender-related targets; (iii) promote adherence to national core labor standards and commitments to gender equality and women's empowerment stated in the Government's legislation and regulations; (iv) assess the social and gender impact of the SHS program—and the potential use of other identified women friendly technologies for greater social and gender-related benefits; and (v) ensure the use of the Gender Action Framework as has been provided as Annex-12, developed for the Project in the design of the ensuing subproject .

85. IDCOL will disseminate information to its sub-borrowers on (i) the Government's National Policy for Women's Advancement which has been reflected in the Sixth Five-Year Plan; and (ii) Bangladesh Bank's Department of Financial Institutions and Markets (DFIM) Circular no.2 on Actions Corporate Social Responsibility in Financial Institutions, which requires financial institutions to report on gender equality-related performance indicators bi-annually.

A framework for tribal people development will be followed. The detail of the framework has been shown in the Annex 20.

5.4 PRINCIPLES FOR SAFEGUARD MANAGEMENT

86. The objective of the ESMF is to ensure that activities under the proposed operations will address the following issues:

- If possible avoid, or minimize potential negative environmental and social impacts as a result of either individual subprojects or their cumulative effects;
- Enhance positive environmental and social outcomes;
- Protect environmentally sensitive areas from additional disturbance from project interventions;
- Protect human health;
- Compensate the GHG emission during operation of SHS due to Lead-acid battery;
- Ensure compliance with ECR, 1997 and safeguard policies and standards of the WB, ADB JICA and KfW;
- Maintain gender neutral attitudes in construction and operation of sub-projects;
- Ensure the compliance of Labour Law 2006 and ILO requirements (as are applicable) by all entrepreneurs associated with the REREDP ;
- Ensure womens' participation in sub-project activities according to the skills and requirement.

87. In view of the ESMF objectives and assessment of the nature, the project will be based on the following principles:

A. SOCIAL ASPECTS

88. **Involuntary resettlement:** IDCOL will not allow any type of land acquisition resulting involuntary resettlement. No public lands will be used for any sub-project. Land, whether made available via direct purchase, or leasing will be screened to ensure that no physical or economic displacement of communities/persons will take place. Private lands which are disputed or have encroachments on them (informal settlers, non-titled entities) will not be used for the project. It may be mentioned that such encumbrances are very rare in rural areas. For screening involuntary resettlement and tribal people aspects, a well-structured questionnaire for social compliance (Annex-2) will be followed. In most of the cases, the private sponsors (NGOs or other partner organizations) have put up the value of purchased land as their equity. The same approach will be used for all components of the current project, including the purchase of land for the mini-grids.

89. **Tribal peoples:** The project may extend facilities in areas where indigenous people (IPs) live. However, availing the facilities/services/products is purely on a voluntary basis for all paying customers (including IPs). In case of the mini-grids too, the connections will be made on a purely commercial basis, same as in the previous pilot sub-projects. In case of the cook-stoves component, the customers (whether IPs or not) will have to buy the product on a voluntary basis. No negative impacts are anticipated

towards IPs. SHSs are also being installed in IP areas like Chittagong Hill Tracts through Partner Organizations (POs), which are well-versed in IP languages to offer adequate consultation on maintenance of products and proper usage of facilities offered. The POs will follow the TPF and prepare and implement the TPP included above after duly completing the screening process.

90. **Social Audit**: A third party monitoring agency will be engaged to assess and monitor the social safeguards compliance, with focus on the land and IP issues, on an annual basis. This can be combined with the yearly environmental audit.

91. **Capacity building on Gender Development:** IDCOL will adopt measures to enhance its institutional capacity on social safeguards preferably on gender aspects, which will facilitate to address gender aspects in its operation in a more satisfactory manner.

B. ENVIRONMENTAL AND HEALTH SAFETY ASPECTS

92. Selection of new battery suppliers: It is already said that the manufacturing of lead-acid battery is associated with significant environmental and health safety impacts. So, IDCOL will require ISO 14001:2004 and OHSAS 18001:2007 certifications for battery manufacturing plant and expired battery recycling plant. The detail of the battery supplier enlistment criteria has been provided in Annex-3, which has covered the requirements as are applicable to local and imported battery supplier.

93. Selection of new PV panel suppliers: It is already said that the manufacturing of PV panel more specifically PV cell manufacturing process is associated with significant environmental and health safety impacts. So, IDCOL will require ISO 14001:2004 and OHSAS 18001:2007 certifications for PV panel manufacturing plants. The detail of the PV panel supplier enlistment criteria has been provided in Annex-4, which has covered the requirements as are applicable to local and imported PV panel supplier. In addition, IDCOL will try to formulate technical requirement for ensuring application of PV panel with more life time and less disposal requirement.

94. EHS measures about CFL bulbs: The main objectives of introducing CFL bulbs through ELIB Program were energy efficiency and reduction of pollution. But in adequate management and improper awareness, the CFL bulb could become a matter of significant health safety concern requiring immediate measures such as:

- *Management Policy of CFL*

95. To ensure the proper EHS measures, there should be a national CFL Management Policy which will clearly depict all necessary measures, as are required for proper handling during operational phase as well as disposal phase including the recycling/*reuse* arrangement.

- *Provide Technical and Financial Support*

96. Based on the recommendations and guidelines of the CFL Management Policy, the respective *stakeholder* is expected to provide required financial and technical support for their implementation.

97. **Proper disposal of PV Panels:** According to the 'Study on the Impact of Photovoltaic Panels (PV panel)' by European Commission in 2011, PV Panels associate with Lead and Cadmium leaching having potential risk to contaminate soil and water. Moreover, there is also hazards associated with glass and aluminum. So, there is a dire need of a PV Panel Disposal Policy. Because due to natural calamity like Sidr, Aila and regular cyclones, a significant numbers of panel are assumed to be affected and need immediate disposal in an environment friendly manner. Moreover, there is informal concern that quality of some of the PV panels may not be good enough to survive upto the anticipated warranty period. As a result, an Action Plan needs to be formulated to determine the actual course of actions in case of proper disposal of PV Panel.

98. **Divisional battery breaking point:** In general, about 50% of electrolyte (Sulfuric Acid) of a Lead-acid battery remains un-utilized after the expiration of life period. But none of the expired battery recyclers in Bangladesh collect expired battery with electrolyte. They raise the issue of weight and fire hazard**.** So, initiative has to be adopted to to convince the battery recyclers to collect expired battery with electrolyte and set-up divisional breaking point at all seven divisions in Bangladesh**.**

99. **EHS measures in case of bio-gas plant:** According to the Department of Environment, Bangladesh-" if any cattle farm belongs to 10 cattle in urban area or 25 cattle in rural areas, the project has been categorized as **Orange A** category, meaning that it requires a brief Environmental Impact Assessment Report (IEE). In case of poultry, the numbers are up to 250 and up to 1000 respectively." But "if any cattle farm belongs to more than 10 cattle in urban area or more than 25 cattle in rural areas, the project has been categorized as **Orange B** category, meaning that it requires detail Environmental Impact Assessment Report (EIA). For any commercially operated biogas project, there should be an environmental impact assessment by the project sponsor for any number of cattle's/birds or any location (urban or rural). The environmental assessment report is to be submitted to IDCOL, which could be shared with stakeholders. The respective official of IDCOL will visit the project site and will assess the suitability of the site in respect of environmental and social and safeguards, which will also be shared to the relevant stakeholders.

100. **EHS measures in case of bio-gas and biomass based power project:** In parallel of ensuring the requirement of the DOE in case of bio-gas and biomass based power project, the respective official of IDCOL will visit the project site and will assess the suitability of the site in respect of environmental and social safeguards. This report will be duly submitted to relevant development partners during the appraisal process of each new project. But in case of operational phase, there will be a regular monitoring of environmental and social safeguards.

C. CAPACITY BUILDING

101. **Capacity building on basic EHS aspects:** IDCOL is arranging quarterly EHS awareness session by focusing on the battery manufacturers and recyclers. In addition, it also provides awareness raising training to the POs annually. IDCOL will continue this quarterly training to the battery recyclers as well as manufacturers. In addition, there will be an initiative for a separate session in Training of Trainers (ToTs) to disseminate basic EHS awareness.

102. **Capacity building on Gender Development:** IDCOL will adopt measures to enhance its institutional capacity on social safeguards preferably on gender aspects, which will facilitate to address gender aspects in its operation in a more satisfactory manner.

D. DEVELOPMENT OF COORDINATION COMMITTEE

103. **Developing Synergy:** With the representative of all stakeholders a Co-ordination Committee may be informed who will discuss with government and other relevant entities to adopt the required legal measures to ensure proper management of matter manufacturing and recycling in regard of environment and health safety.

E. COMPENSATION AND MITIGATION MEASURES

104. **Air Treatment Plant (ATP) at Formation Unit:** It is assumed that that during formation of lead-acid battery, significant amount of Sulfur-di-Oxide (SO_2) and Hydrogen sulfide (H_2S) emit, which results serious health hazard to the workers and adjacent neighborhood. So, IDCOL has required all battery suppliers will have to install the ATP with proper design and scrubber facility especially in the formation unit. In addition, there should be also arrangement of safety wash and emergency eye wash facility

105. **Two-Tree Model:** It is true that in spite of adopting a number of measures, all sorts environmental and health safety adverse impacts associated with the REREDP projects are inconvenient to address. So, there should be an arrangement of compensation measure. In this regard, 'Two-Tree Model' can be a suitable option as compensation measure. Under this scheme for each SHS, two trees will be distributed to the customers at free of cost, of which one tree will be of fruit producing and another one will be wood producing. In this regard, IDCOL has already had discussion with a number of stakeholders including the Department of Forest. In this regard, an Action Plan could be formulated.

F. DELISTMENT CRITERIA

106. De-listment criteria for ISO 14001:2004 (Environmental Management System)[2] and OHSAS 18001:2007 (Occupational Health and Safety Management System)[3]

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[2] ISO 14001:2004 specifies requirements for an environmental management system to enable an organization to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organization subscribes, and information about significant environmental aspects.

[3] OHSAS 18001 is an occupational health and safety assessment series for health and safety management systems. It is intended to help an organization to control occupational health and safety risks.

107. Certification Agency: IDCOL has required the ISO 14001 and OHSAS 18001 certifications to make sure the extra vigilance in implementation of EMS and OHSAS properly. So, IDCOL will go for permanent delistment for certification body according to the criteria as has been mentioned in Annex-5 if there is inadequate response from the certification bodies.

108. De-listment criteria for battery suppliers: If any battery supplier fails to submit the quarterly EHS compliance report and/or fails to attend the compliance meeting it has to explain the reason within two weeks (14 days) in writing. If any battery supplier fails to meet this requirement, it will be temporarily de-listed from IDCOL list of suppliers for at least three months. The same measures will be applicable to any battery supplier as is found significantly non-responsive about the desired level EHS compliances.

109. All battery suppliers under IDCOL SHS program irrespective of local manufacturers and importers have to establish their own recycling plant by June 30, 2016.

G. GRIEVANCE MECHANISM

110. IDCOL has an established method for addressing grievances in this project. All customers relevant to all sub-projects are given the contact numbers for IDCOL Customer Care Center which is staffed by male and female members. All complaints are recorded and a computerized documentation process shows exactly which complaints have been resolved and which require follow-up. Complaints are then registered at the relevant branch offices where they are resolved. If the complaint is not resolved at this stage the complainant is directed to the head of the project proponent agency at the monthly Operational Committee Meetings where all senior officials of all project proponent agencies are required to be present. In the rare event that complaints are not resolved at this stage also, the customer is free to go for legal action.

H. Promoting New Components

111. This harmonized ESMF has been designed based on the potential adverse impacts of current project components. But due to the increasing trend of number, types and technology of rural electrification, renewable energy and energy efficient project, IDCOL should have an independent EHS impact assessment measures in case of promoting new project/project components. It will help IDCOL to address the EHS issue in a more efficient manner and enhance brand image to a greater extent. In this regard, IDCOL is expected to follow the guidelines as has been provided in Annex-11.

I. Access to Information

112. The harmonized ESMF has been prepared by IDCOL in consultation with the relevant project stakeholders including POs (NGOs), battery manufacturers, existing and potential users of renewable energy technologies, other agencies. The ESMF will be made available in the website of IDCOL and other stakeholders. In addition, there will be also the summary of the ESMF written in Bengali language and available in the website.

VI. MONITORING AND REPORTING OF ESMF IMPLEMENTATION

113. IDCOL has gained experience in implementing environmental management framework by complying with the safeguards requirement of the WB, ADB and the Department of Environment (DOE). IDCOL has established an independent Environment and Social Safeguards Management Unit (ESMU) to institutionalize the environmental and social management in its operation. It has already deployed a full-time Environmental Specialist.

114. Monitoring the EHS compliance of battery suppliers and recyclers: IDCOL will half-yearly monitor all en-listed recycling plants to assess their compliance in respect of the requirement of ESMF.IDCOL will monthly monitor at least 2 (two) battery manufacturing plants of two manufacturer to assess their compliance in respect of the requirement of ESMF.

115. Monitoring the EHS compliance of solar irrigation project: IDCOL will quarterly monitor environmental and social compliances of at least 3 (three) operational solar irrigation projects. But in case of new solar irrigation project, the respective official of IDCOL will visit the project site and assess the suitability of site in respect of basic environmental and social aspects of each project, which is to be duly submitted to the relevant stakeholders with attachment of EHS Screening Report as is to prepared by the project sponsor.

116. Monitoring the EHS compliance of solar mini-grid project: IDCOL will half-yearly monitor the implementation of EMP and relevant environmental and social compliances of at least 2 (two) construction/operational solar mini-grid projects. But in case of new mini-grid project, IDCOL will visit the project site and assess the suitability of site in respect of basic environmental and social aspects, which is to be duly submitted to the relevant stakeholders with the attachment of EIA report as is to be prepared by the project sponsor.

117. Monitoring of the EHS compliances of POs: IDCOL will monitor at least 2 (two) branch offices of two separate POs to assess the environmental and health safety compliance including management of lead-acid battery and so on

118. Monitoring the distribution of new battery as well as collection of expired battery: IDCOL will strengthen monitoring on distribution of new battery as well as collection of expired battery. IDCOL will assign its Solar Inspectors to monitor the distribution of new battery as well as collection of expired battery. With the monthly inspection report, they have to submit report about distribution of new battery and collection of expired battery scenario. IDCOL will quarterly submit the collection of expired battery and distribution of new battery status report to the development partners.

119. Monitoring of land purchase: IDCOL will regularly monitor the land purchase processes and application of screening mechanism to rule out any displacement. In this regard, the respective official of IDCOL will visit the project site in case of solar irrigation and mini-grid and will have focus group discussion with male and female group, in case of necessity. In addition, he needs to have consultation with the representatives of civil society, relevant local government authority to ensure that here is no dispute with land, gender impact and valuation issue.

120. Monitoring of ICS manufacturing plant: IDCOL will quarterly monitor at least two operational ICS manufacturing plants to assess the basic environmental and health safety compliances.

121. Monitoring of commercial bio-gas project: IDCOL will half-yearly monitor the implementation of EMP and relevant environmental and social compliances of construction/operational commercial bio-gas projects. But in case of new commercial bio-gas project (where bio-gas is used from cooking purpose0, IDCOL will visit and assess the suitability of the site in respect of environmental and social safeguards.

122. Monitoring of bio-gas and biomass based power project: IDCOL will half-yearly monitor the implementation of EMP and relevant environmental and social compliances of at least 2 (two) construction/operational bio-gas and biomass based power projects. But in case of new bio-gas and biomass based power projects, IDCOL will visit and assess the suitability of the site in respect of environmental and social safeguards.

123. Reporting by IDCOL: The reporting and monitoring schedule with disclosure arrangement is provided in Table 02.

Table 02: Monitoring and Reporting schedule of IDCOL under REREDP

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
01	**Solar Home system**	Environmental and health safety (EHS) compliances of all IDCOL en-listed battery recycling plants with their effectiveness of ESMF implementation.	**Yearly**	Yearly Report	IDCOL website
		EHS compliances of all IDCOL en-listed battery suppliers with their effectiveness of ESMF implementation.	**Monthly** (manufacturing plant of two suppliers in each month)	**Quarterly** Report by comprising the observation of monthly monitoring	IDCOL website
		Expired battery collection and distribution of new battery	**Six Monthly** (collect monthly report from POs and battery recyclers and compile)	**Six Monthly**	IDCOL website
		Quarterly EHS Compliance meeting at IDCOL for raising awareness of battery recyclers and manufacturers and assess their status of EHS implementation based on the submitted quarterly report	**Six Monthly** (all battery recyclers and suppliers will attend the quarterly meeting, submit Compliance Report and share findings, IDCOL will arrange awareness raising presentation and so on.)	**Six Monthly** (Outcome of the quarterly meeting based on the observation of the quarterly report submitted by the manufacturers and recyclers as well as presentation provided by IDCOL and other participants)	IDCOL website
02	**Solar irrigation**	Basic environmental, social and health safety compliance assessment of solar irrigation project under construction/operation.	**Quarterly** (at least three operational projects)	**Quarterly** (based on the observation of monitoring)	IDCOL website
		Assessment of suitability of project site in respect of basic environmental and social aspects for each new solar irrigation project as is to be installed.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
03	**Mini-Grid**	Basic environmental, social and health safety compliance assessment including implementation of EMP of solar mini-grid project under construction/operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly** (based on the observation of monitoring)	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new mini-grid project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
04	**ICS**	Environmental and health compliance of manufacturing, operation and maintenance of ICS.	**Quarterly** (at the least three ICS manufacturing plant of three POs)	**Quarterly**	IDCOL website
05	**Biogas project**	Basic environmental, social and health safety compliance assessment including implementation of EMP of commercial bio gas based project under	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
		construction/operation			
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial biogas project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
06	**Biogas and biomass based power project**	Basic environmental, social and health safety compliance assessment including implementation of EMP of commercial bio gas/biomass based project under operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial biogas project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
07		Describe the status of ESMF implementation over the annual scenario	**Annual Report**	**Annual**	IDCOL website

ANNEX 1: ENVIRONMENTAL AND SOCIAL ASSESSMENT CHECKLIST

Project Settings

(a) Location :

(b) GPS Coordination :

(c) Description of land :

- Nature of land ownership :
- Level from the road :
- Lower level from the road :
- Requirement for land filling:

(d) Description of the project site

- Distance from the east side :
- Distance from the west side :
- Distance from the north side :
- Distance from the south side :

(e) Proposed customers

- Households :
- Shops :
- Offices :
- Educational institutions :
- Mosque :
- Union Parishad :
- Rice mills :
- Husking mills :

Environmental Screening

CRITERIA	Details
PROJECT SITTING	Buffer Zone : 1 km
IS THERE ANY CULTURAL HERITAGE SITE LOCATED IN THE PROJECT AREA?	
IS THERE ANY PROTECTED AREA LOCATED NEAR THE PROJECT AREA?	
IS THE PROJECT SITE PRONE TO FLOODING OR NOT?	
IS THERE ANY MANGROVE IN THE PROJECT SITE	
Will the project cause any damage of historical /cultural monuments (mosque/ temple/ church/ madrasa/ school/ college/ grave yard etc.) of the	

project site?	
Will the project cause any Encroachment into precious ecosystem (e.g. sensitive habitats like protected forest areas or terrestrial wildlife habitats)?	
Will the project cause any dislocation or involuntary resettlement of people?	
Will the project cause any risks vulnerabilities related to occupational health and safety due to physical, chemical hazards during project construction and operation?	
Will the project cause any aesthetic degradation and property value loss due to establishment of plant and ancillary facilities?	
Will the project cause any risks for community safety due to the transport, storage, and use and/or disposal of materials such as raw materials, fuel and other chemicals during construction and operation?	
Is there any tree clearing required in the project site?	
Name of the Flora (0-200 meter form the project site):	
Name of the Fauna (0-200) meter form the project site):	

Social Screening

CRITERIA	Details
PROJECT SITTING	Buffer Zone : 1 km
Is there any recorded litigation issue associate with the site?	
Is there any local communities (para/village) live near (200 meter) the project site? Please explain	
Any Local conflicts of Interest in the proposed project site?	
Does the water usage in the project might affect the surround communities?	
Is there any minorities / indigenous (IP) communities live near the Project site?	
Is there any impact of the project on livelihood pattern of tribal people?	

Environmental & Social Benefits from the Proposed Project

Environmental benefits	
Social benefits	

Potential Environmental and Social Impacts

Aspect	Key potential impact	Mitigation measures	Performance indicator
Pre-construction Phase			
Land Use	The proposed project may degrade surrounding agricultural land.		
Flood Hazards	Flood may damage the Project and its various components.		
Land Filling/ Earth Filling (approximately XX feet)	▪ Pollution from overflow of filled earth (dredged materials). ▪ Top soil loss if earth filling by the agricultural land erosion from the filled materials and side slope of filled lands. ▪ Leaching from the filled sediments may damage nearby agricultural lands. ▪ Reducing flood plain storage area and increase local flooding.		
Construction Phase			
Visual Amenity	Visual impacts from construction activities such as materials lay down, excavation and backfilling		
Air Quality	▪ Dust generation due to construction activities. ▪ Exhaust Emissions due to operation of construction plant and Machinery.		

Aspect	Key potential impact	Mitigation measures	Performance indicator
Noise	Increased noise levels during the construction & machinery handling period		
Soil	Soil disturbance due to removal of top soil and potential accidental spillage		
Waste Generation	Improper management and handling of hazardous and non-hazardous waste during construction.		
Health and Safety risks	▪ Potential of exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.		
Operation Phase			
Visual Amenity	Potential glare from PV panels		
Air & noise	PV panel damage, Battery damage or acid spillage. Vibrational Noise from the backup generator		
Soil	Potential spillage of stored oil and chemicals		
Health and Safety	Potential of exposure to safety events during operation activities such as slipping and tripping, working at height		

Aspect	Key potential impact	Mitigation measures	Performance indicator
	activities, and fire		
Social Impacts			

Compliance Scenario

DOE Requirement

According to the categorization of Department of Environment (DOE), the Project seems to fall in **RED category**. For taking up a project, the sponsor needs to obtain the clearance from the DOE in three stages as per requirement of the country:

- Initial stage : Site Clearance Certificate (SCC)
- Advanced stage : Environmental Clearance Certificate (ECC)
- Follow-up stage : Annual renew of ECC

Initial Stage

Without the SCC, the sponsor cannot apply for approval of the civil design of the project to the local authorities. For obtaining the SCC the following two documents need to be submitted to the DOE:

- An Initial Environmental Examination (IEE) Checklist
- A TOR for detailed Environmental Impact Assessment (EIA)

After SCC is obtained, the sponsor can proceed for land development and other primary civil works.

Advanced Stage

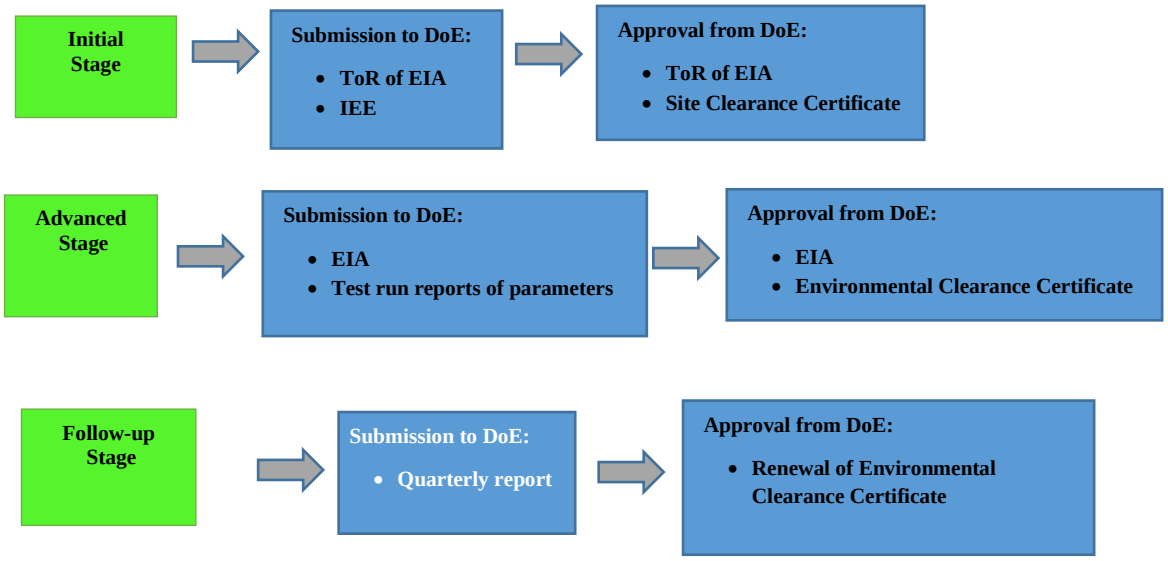
After having SCC the sponsors need to proceed for ECC. For obtaining ECC the EIA has to be submitted to DOE. The EIA will include the following documents:

- No objection certificate from local authority
- Outline of the plan for relocation and rehabilitation (If applicable)
- Feasibility Report
- Environmental Management Plan (including process flow diagram, layout plan, effluent treatment plant and its effectiveness)
- Emergency Plan relating to adverse environmental impact and plan for mitigation of the effects of pollution
- Detail Plan for addressing the TOR already submitted

Construction of super-structure and erection of capital machinery can be done after obtaining the ECC.

Follow-up Stage

The follow-up stage starts after having ECC and starting commercial operation. The Project Company has to submit quarterly test report of certain parameters like Sox, NOx, Co, PM10, PM2.5, water quality etc. according to the EMP as mentioned in the approved EIA. The most important activity under follow-up stage is to **renew ECC** every year. The aforesaid three stages have been presented in the following:



The Project Company has been informed about the required environmental compliance process. They are in the process of engaging an EIA Consultant.

ANNEX 2: SCREENING OF SOCIAL COMPLIANCE (WB)

A. Involuntary Resettlement Aspect

- Is any land acquisition required for the project?
- Type of land (public, private or lease)
- Is there any settlement present in the site?
- Is there any recorded litigation issue associate with the site?
- Is there any close relationship between the general livelihood pattern and the site in the project area?
- Does the project require physical or economic displacement of any person/household/community?

B. Tribal People Aspect

- Is the project site located within the habitat of tribal people?
- Is there any impact of the project on religious and cultural practice and belief of tribal people?
- Is there any impact of the project on livelihood pattern of tribal people?
- Is there any settlement recorded (present and near past) in the site?
- Is there necessity of displacing (physically or economically) any person/household/community?
- What local language(s) is (are) used by the IP population?
- Are the PO staffs conversant in these languages and is the information material relevant to the terms and conditions of purchasing the services and operation and maintenance of equipment available in local languages?

ANNEX 3: GUIDELINES FOR SELECTING NEW BATTERY SUPPLIER[4]

A. Local Battery Supplier

The battery supplier, who will supply battery made in Bangladesh, has to comply the following requirements, to supply battery in IDCOL's SHS program:

1. **Compliance with Department of Environment:** The respective battery supplier has to submit the Environmental Clearance Certificate as is issued by the Department of Environment. And they have to submit sufficient evidence that the requirements/terms and conditions of the DOE are sufficiently implemented.

2. **ISO 14001:2004 and OHSAS 18001:2007 compliances:** The battery supplier has to be ISO 14001:2004/2005 and OHSAS 18001:2007 certified from a certification body as is approved by International Accreditation Forum (IAF) or American International Accreditation Organization (AIAO).

3. **Practicing Experience:** During IDCOL EHS audit, if it is found that the supplier has failed to install properly design ETP, ATP, and above all to meet the major clauses of the aforesaid two standards, it has to alleviate all limitations as well as to show the record of practicing the aforesaid two compliances at least six months individually. Thereafter, its en-listment may be considered

4. **Basic Infrastructure:** All basic infrastructures including effluent treatment plant an air treatment plant (ATP) have to be fully operational. During application in IDCOL, the design detail of ETP and ATP are to be submitted. No exhaust fan will be considered as an alternative of ATP. In addition, the formation will be completely closed. No fume will be allowed to move freely in the unit. They must be properly neutralized.

5. **Safety shower and emergency eye-wash equipment:** The supplier has to ensure installation of adequate number of safety shower and emergency eye wash equipment at suitable places in the battery manufacturing plant, especially in acid intensive areas.

Photographs: A typical emergency shower and safety eye wash equipment

[4] This guideline is already in practice in IDCOL REREDP to ensure better EHS management in battery manufacturing plant.

6. **Technical Standard:** The battery has to meet the compliances and standards required by Technical Standard Committee of IDCOL.

7. **Recycling arrangement:** The respective battery supplier has to submit a legally approved contractual arrangement with IDCOL en-listed expired battery recycler.

8. **Baseline EHS Assessment Report:** The battery supplier has to submit an EHS compliance Report by mentioning how he is complying with the environmental and occupational health safety aspects.

9. **Disclosure of EHS Assessment Report:** The EHS assessment Report, irrespective of being prepared by an independent third party or IDCOL representative is to be duly disclosed to all relevant development partners.

B. Imported Battery Supplier

If a battery supplier approaches to supply imported battery in IDCOL SHS program, he has to comply with the following requirements in addition of the technical requirement of IDCOL:

1. **Statutory requirement:** The respective battery supplier has to submit Environmental Clearance Certificate as is issued by the respective entity of the respective country;

2. **ISO 14001 and OHSAS requirement:** The respective battery supplier has to submit ISO 14001 and OHSAS 18001 compliance certificates of the respective battery manufacturing plant.

3. **Baseline EHS Assessment Report:** The battery supplier has to submit an EHS Assessment Report by mentioning how he is complying with the environmental and occupational health safety aspects.

4. **Disclosure of EHS Assessment Report:** The EHS assessment Report, irrespective of being prepared by an independent third party or IDCOL representative is to be duly disclosed to **all relevant** development partners.

5. **Recycling arrangement:** The respective battery supplier has to submit a legally approved contractual arrangement with IDCOL en-listed expired battery recycler. From 1 January 2015 IDCOL will not en-list any battery suppliers having no independent battery recycling plant.

ANNEX 4: GUIDELINES FOR SELECTING NEW PV PANEL SUPPLIER[5]

A. Local PV Panel Supplier

The supplier, who will apply to supply PV panel made in Bangladesh, has to comply with the following procedure to be enlisted in IDCOL's SHS program:

1. **Compliance with Department of Environment:** The respective PV Panel supplier has to submit the Environmental Clearance Certificate as is issued by the Department of Environment. And they have to submit sufficient evidence that the requirements/terms and conditions of the DOE are sufficiently implemented.

2. **ISO 14001:2004 and OHSAS 18001:2007 compliances:** The PV panel supplier has to be ISO 14001:2004 and OHSAS 18001:2007 certified from a certification body as is approved by International Accreditation Forum (IAF) or American International Accreditation Organization (AIAO).

3. **Practicing Experience:** The supplier has to prove the record of practicing the aforesaid two compliances at least six months individually. In this case of the two compliance certificates, six (6) months will be counted from the date of issuing of latter one.

4. **Technical Standard:** The PV panel has to meet the compliances and standards required by Technical Standard Committee of IDCOL.

5. **Baseline EHS Assessment Report:** The PV panel supplier has to submit an EHS Assessment Report by mentioning how he is complying with the environmental and occupational health safety aspects.

6. **Disclosure of EHS Assessment Report:** The EHS Assessment Report, irrespective of being prepared by an independent third party or IDCOL representative, is to be duly disclosed to all relevant development partners.

[5] This guidelines is introduced in this harmonized ESMF for ensuring better EHS management

B. Imported PV Panel Supplier

If a PV panel supplier approaches to supply imported PV Panel in IDCOL SHS program, he has to comply the following requirements in addition of the technical requirement of IDCOL:

1. **Statutory requirement:** The respective panel supplier has to submit Environmental Clearance Certificate as is issued by the respective entity of the respective country;

2. **ISO 14001 and OHSAS requirement:** The respective PV panel supplier has to submit ISO 14001 and OHSAS 18001 compliance certificate of the respective PV panel manufacturing plant.

3. **Baseline EHS Assessment Report:** The PV panel supplier has to submit an EHS Assessment Report by mentioning how he is complying with the environmental and occupational health safety aspects.

4. **Disclosure of EHS Assessment Report:** The EHS Assessment Report, irrespective of being prepared by an independent third party or IDCOL representative**,** is to be duly disclosed to all relevant development partners.

ANNEX 5: GUIDELINE OF DE-LISTING OF ISO AND OHSAS CERTIFICATION BODIES[6]

A. Criteria for Temporary De-listment

If any ISO and OHSAS certification body providing ISO 14001 and OHSAS 18001 certifications to battery suppliers, recyclers or PV panel suppliers is found to be alleged with any of the following misconduct, it will be temporarily de-listed from IDCOL list of approved certification bodies for six months:

1. Issuance of ISO 14001 and OHSAS 18001 certificates before the company/factory is being awarded the Environmental Clearance Certificate from the Department of Environment.
2. Issuance of ISO 14001 and OHSAS 18001 certificates without the detail design of ETP of ATP, where they are required. The design of ETP is to be clearly mentioned the specification/capacity of all components and design aspects like design flow rate, capacity of mixing tank, primary clarifier, sludge holding tank and so on.
3. Issuance of ISO 14001 and OHSAS 18001 certificates without ensuring proper signage, firefighting arrangement and general training arrangement.
4. Issuance of ISO 14001 and OHSAS 18001 certificates without distributing standards and properly orient the requirement of the standards to the top management as well as Management Representative.
5. Issuance of ISO 14001 and OHSAS 18001 certificates based on the incomplete documentation by inadequately covering the requirement of clauses
6. Issuance of ISO 14001 and OHSAS 18001 certificates without considering the basic environmental and health safety standards of the ECR, 1997 like noise level, pH of effluent, chemical standards of effluent. In case of unavailability of standards in ECR, 1997 it has to seek the best practices including IFC EHS guidelines.

B. Criteria for Permanent Delistment

Any ISO and OHSAS certification body as being again alleged with any of the aforesaid aspect, after being temporarily de-listed, will be permanently de-listed from IDCOL list of approved ISO and OHSAS certification bodies.

[6] This guideline is introduced in this harmonized ESMF to ensure better vigilance by ISO and OHSAS certification bodies.

ANNEX 6: INFORMATION OF EXPIRED BATTERIES[7]

Sl. no	ID	Customer name	Unit office	District	Panel serial no.	Panel capacity (wp)	Battery model and size	Manufacturer	Date of return	Sent to (manufacturer)

PO will have to collect data regarding expired batteries and IDCOL will check and store in their database

[7]The format is followed for ensuring proper collection of expired battery. The collection system is

- POs are responsible notify the customers before 3 months of the warranty expiration date and to collect expired batteries from customers and to safely transportation of regional locations of battery manufacturer/recycler.
- The manufacturer/recycler is responsible for collecting batteries from regional centers and to transport it to the site where the batteries will be recycled or disposed in an environment-friendly manner.

ANNEX 7: (a) AGREEMENT FOR BUYING BACK EXPIRED BATTERIES[8]

Agreement for Buying Back of Warranty Expired Batteries

This Agreement (the "Agreement") for Buying back of warranty expired/non-functional (not eligible for replacement under warranty policy) solar battery for safe disposal is executed on…[Date]…among…[Name of a Battery manufacturer]…having its registered office at …[Office Address]…and Participating Organizations of Infrastructure Development Company Limited (IDCOL), as listed below (hereafter **"POs")**:
…[Name of the PO, Office Address]…

Whereas:

1. IDCOL requires the POs to make necessary contractual arrangements with battery manufacturers for environment friendly recycling of all batteries used under IDCOL Solar Energy Program under Section 9.14 of the Participation Agreements between IDCOL and POs;

2. The Government of Bangladesh has issued SRO No. 175-Act/2006 dated 29 August 2006 on collection and recycling of used/non-functional batteries for conservation of environment, improving environmental standard and control and prevention of environmental pollution;

3. The Government of Bangladesh has issued SRO No. 29-Act/2008 dated 11 February 2008 that allows payment of consideration during the return of used/non-functional batteries; and

4. All parties realize the need for safe and environment friendly recycling/disposal of warranty expired/non-functional (not eligible for replacement under warranty policy) batteries under IDCOL Solar Energy Program as per provisions in this agreement.

Now therefore,…[Name of a Battery manufacturer]…& POs do hereby agree as follows:

1. Customer Notification:

PO shall notify the customers before 3 months of the warranty expiration date and advise him/her to replace the battery. The customer is free to continue using the existing battery after warranty period if s/he wants to do so. However, the customer will be required to inform the PO's representative when s/he would stop using the battery after the expiration of warranty period. The PO will incorporate relevant provisions in the SHS sell/lease agreement requiring the customer (a) to furnish the warranty-expired or non-functional (not eligible for replacement under warranty policy) battery to the PO (b) not to keep it with them; and (c) not to sell it to any second party.

2. Collection of Batteries by PO:

[8] This agreement is signed between IDCOL and PO, which ensures that the respective PO will purchase the expired battery from users.

PO representatives will collect the batteries from the customers and store it in the local offices. PO will take necessary measures to ensure safe storage of the batteries. The batteries must be collected within 30 days after the customer stops using it. The PO representative will ensure that no component/part of the battery is left behind and the acid does not spill out of the battery during transportation. POs will not sell any battery to the customers of IDCOL Solar Energy Program without provisions for buying back of the warranty expired/non-functional (not eligible for replacement under warranty policy) battery.
PO will send the warranty expired batteries within 30 days to any of the ten regional locations, designated by Battery Manufacturer, at Dhaka, Chittagong, Khulna, Faridpur, Bogra, Sylhet, Barisal, Borguna, Rangpur, Brahmanbaria.

3. Collection of Batteries by …[Name of a Battery manufacturer]…:

…[Name of a Battery manufacturer]…will collect the batteries from the regional locations and ensure safe transportation of the batteries to the site where the batteries will be recycled/disposed of in an environment-friendly manner.

4. Price & payment:

4.1. The battery manufacturers will pay 24% of the current market price (including VAT) of new batteries to the POs for exchange of warranty expired batteries of similar size at their regional collection points. The salvage value is subject to review for every six months. Salvage value would be retained by the POs as down-payment and remaining price of new battery would be loan from POs to customers. IDCOL will refinance this loan amount which shall not exceed USD 100 equivalent BDT for each battery.

4.2. IDCOL will provide USD 5 equivalent BDT as grant to the PO for collection of each warranty expired from the household subject to the availability of fund.

4.3. The customer's portion of buying back price shall be given during the collection time.

4.4. …[Name of a Battery manufacturer]… will make full payment for bought back batteries through A/C payee cheque in favor of the POs within 45 days of receipt of the batteries in the regional locations.

4.5. Subject to the availability of Fund, IDCOL will provided USD 5 equivalent BDT to the battery recyclers for proper recycling of each battery.

5. Review of price

Both the parties will sit in every six months to review the buy-back price.

This Agreement is signed, sealed and delivered by authorized representatives of …[Name of a Battery manufacturer]… and POs on the date first mentioned above

(b) BATTERY RECYCLING AGREEMENT For (…… kWp Solar Mini Grid Project at ……..District)

THIS AGREEMENT is made on the _____day of _____, 201, (the Agreement) between **……..,** having its registered Head Office at ……., represented by its Executive Director, ……(the Buyer) and **…….** BATTERY COMPANY LTD. having its registered Corporate Office at ……, represented by its Managing Director ……. (the Supplier).

A. The Buyer is going to set up a …. kWp Solar Mini Grid Project (the Project) at …… District (the Project Site) for which it requires …. nos. of 1540 Ah, 2V Battery (the Batteries) and the Supplier has been selected for supplying the Batteries through a competitive process.

B. With a view to recycling the Batteries, the Buyer and the Supplier have decided to enter into an agreement to determine the terms and condition of collection and recycling of the Batteries.

NOW THE PARTIES HEREBY AGREE THAT

Section 1. Warranty Service of the Supplier
The Supplier shall provide warranty services of 7 (seven) years to the Buyer for the Batteries subject to the terms and conditions mentioned in the quotation submitted by the Supplier at the time selection.

Section 2: Collection of Batteries

The Supplier shall collect the Batteries from the Project Site at its own cost and arrangement within_____number of days from the date of being informed of damage of Battery/expiry of Warranty Period:

a. If the Batteries are damaged during the Warranty Period; or

b. Upon expiry of the Warranty Period.

Section 3: Recycling of the Batteries

After collection from the Project Site, the Supplier shall recycle every damaged or warranty expired Batteries in environment friendly way.

Section 4: Compliance with Environmental Social Management Framework (ESMF)

During the collection and the recycling of damaged or warranty expired Batteries, the Supplier shall follow the environmental, health and social compliances, under the Environmental Social Management Framework (ESMF) of IDCOL.

Section 5: Price of warranty expired Batteries

The Supplier shall pay the Buyer for the warranty expired Batteries and the Supplier shall pay the price on or before the collection of warranty expired Batteries on the basis of 30% of LME

(London Metal Exchange for Lead) price for dry weight which shall be followed on average of the week.

Section 6: Liquidated damages for delay in collection of damaged/warranty expired Batteries

The Supplier shall be liable to pay liquidated damages at the rate of 14 (fourteen) days of delay in collection of Batteries as mentioned in section 2.

Section 7: Sale of the damaged/warranty expired Batteries to any third party

If the Buyer sells the damaged/warranty expired Batteries to any third party, the Supplier shall be discharged from its liabilities for collection and recycling of damaged/warranty expired Batteries under this Agreement and the Buyer shall be responsible to enter into necessary arrangements for collection and recycling of the damaged/warranty expired Batteries with that third party.

Section 8: Dispute Resolution

8.1. *Negotiation*. Any dispute that may arise between the Buyer and the Supplier in connection with or under this Agreement shall be tried to be amicably resolved through mutual negotiation of both parties.

8.2. *Mediation*. If any dispute referred to in paragraph (8.1) above arises and cannot be resolved through negotiation, it will be referred to a third party mediator selected by both parties for a mediated resolution; and the cost of such mediation will be shared jointly by both parties.

8.3. *Arbitration*. In case a dispute is not resolved through methods as per paragraphs (8.1) and (8.2) above, it shall be referred to arbitration under the Arbitration Act 2001 (the **"Act"**) of Bangladesh as the last resort; the arbitral award thereon shall be final and binding; and the cost of such arbitration shall be shared jointly by the parties or as may otherwise be determined under the Act.

IN WITNESS WHERE OF, the parties have caused this Agreement to be signed in their respective names on the date first above written.

FOR …….. 1. Witness

BY.....

FOR …….BATTERY COMPANY LTD.

2. Witness BY…….....

MK,L

ANNEX 8: Monitoring Format for Renewable Energy Project

A. BATTERY FACTORY EHS MONITORING FORMAT

Name: **Date:**

Question	yes	No	Remarks
Mandatory Questions			
Name of the MR:			
His/her qualification:			
Management review report / minutes:			
Budget Allocation:			
Training report:			
DOE Clearance Certificate:			
Acid License:			
EMS & OHASAS Certificate:			
Civil Defense:			
ETP design and discharge water QC report:			
Exits / Evacuation routes			
Are exit signs, evacuation routes illuminated, visible, marked and maintained clear from work areas?			
Is evacuation plans posted in local language in a prominent place where they can be easily read, with 'You are here' clearly marked?			
Do evacuation plans match the floor layout? Also, areas in front of Exits marked with "KEEP CLEAR" markings and maintained clear.			
Aisles			
Are aisles clearly marked and spacious and maintained clear of any obstruction?			
Emergency lights maintained properly to provide adequate illumination?			
Are all Emergency lights tested monthly and records of test maintained?			

Fire Extinguishers/ Hose Reel / Hydrant			
Is there adequate number of fire extinguishers available and the location are clearly marked? Does it maintained clear of obstruction?			
Are extinguishers visually checked monthly and control tags maintained?			
Are fire extinguishers inspected annually by an outside professional agency;			

Emergency Preparedness			
Does the facility have a documented emergency preparedness program?			
Does the facility conduct evacuation drills and maintain records?			
Does the facility maintain test records of fire alarms and Phone numbers of local fire dept(s)/ factory management and Hospitals Ambulance & Police easily available / posted?			
Are Assembly areas easily accessible and maintained clear?			

Question	yes	No	Remarks
Medical care / First Aid			
Does the First Aid kits provided in all work areas with locations highlighted and easily accessible? Are medicines being checked to ensure that expired medicines are not being administered?			
Does the First Aid kits kept unlocked or if the kits locked, are the keys available within close proximity?			
Is there adequate number of employees been trained in First Aid by a recognized organization and the certificates checked to ensure the validity?			
Does factory conduct checks to ensure that if any first-aid trained employee has left the organization he/she is replaced with another such trained person?			

Lead alloy and Chemical Storage Area			
Is there any appropriate warning signs displayed?			
Is there an effective ventilation system to discharge fumes?			
Is there any effective secondary containment system for liquid chemicals to avoid spillage on floor? Does the floor maintained clean and free of chemical spillage?			
Is MSDS (Material Safety Data Sheet) posted in areas where chemicals are stored / being used?			
Is there any appropriate PPE (Personal Protective Equipment) are available and being used in the chemical storage and usage areas?			
Is entry restricted in the chemical storage area?			
Does hazardous sign or label being used in all drums, containers, and dispensers clearly labeled?			
Eye Wash/shower			
Is there any functional eye wash station available near the chemical storage/usage area/working area?			

Question	yes	No	Remarks
Electrical Safety			
Are all electrical switches labeled in English & local language?			
Are power-generators suitably earthed?			
Is all electrical maintenance carried out, logged?			
Are there any loose wires / damaged switch-gear / unplugged connections/ open junction boxes / taped joints etc?			
Are appropriate fire extinguishers installed near panel boards?			
Are Exhaust pipes of Power generators insulated?			
Are rubber mats provided in front of all Electric Panel Boards?			
Is the Power Generator room maintained free of waste items?			

Question	yes	No	Remarks
Personal Protective Equipment			
Are mesh gloves provided to the operators? Are they being used?			
Are appropriate gloves / masks / eye protection provided for workers in charging			

unit operations? Are they being used?			
Are Appropriate PPEs provided to workers in the washing section? Are they being used?			
Accident Register are updated			
Machinery			
Are exhaust fans installed at safe heights to avoid injury?			
Are fan blades adequately guarded?			
Are safety devices in working condition?			
Are noise levels in work areas within the desired norms?			
Waste Water Treatment (Discharge from Washing)			
Are all discharges within the parameters defined by the country's Environment laws?			

Dining and Kitchen Facilities			
Are Kitchen & Dining area floors maintained clean?			
Is adequate seating arrangement provided?			
Is cooked food kept covered?			
Are those serving food using appropriate gloves?			
Are fire extinguisher's installed near cooking areas?			
Is potable drinking water provided?			
Are hand wash and utensils washing areas well maintained?			
Bathrooms / Toilets			
Are the number of toilets adequate, marked and segregated for both men and women?			
Are wash rooms/ toilets well maintained and ventilated?			
Is running water available?			
House-Keeping			
Are waste chemical removed regularly?			
Are floors cleaned regularly to remove dust and garbage?			
Are floors cleaned and check ventilation system periodically?			
Is garbage appropriately disposed off?			
Storage			
Is all materials appropriately stored on racks or pallets with well-defined aisles between rows, maintained free of obstruction?			
Are the general and trims stores well-kept with passages maintained clear?			
Are fuels like diesel, petrol, cooking gas appropriately stored away from rain and sunlight in well ventilated areas with entry restricted to authorized personnel only?			
Are 'No Smoking' signs and appropriate Firefighting equipment installed in storage areas?			

B. Monitoring / Observation report for environmental, social and health safety compliance of three Solar Irrigation Project (Operational)

Background:

Technical Description:

Solar PV technology: Solar PV modules are used for producing electricity from sunlight
Pumping Technology: Electricity from solar module is used for the operation of the pump. By using pump water is being stored in a heading tank for a time being afterwards water supplied to the adjacent land for agricultural purpose.

Steps Involved:

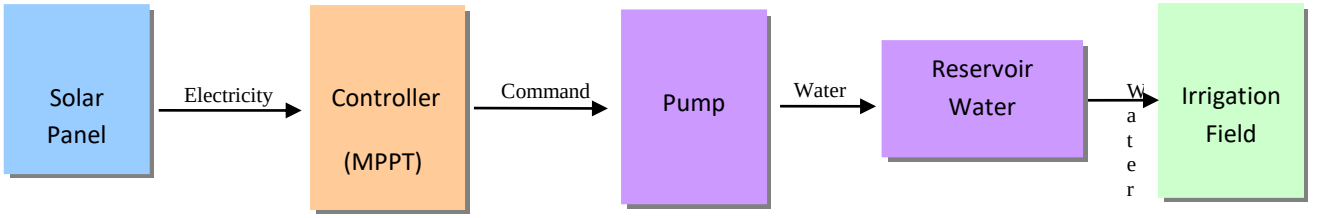


Figure: Solar Irrigation Process

Alternate Usage:

The pump controllers will have a provision for alternate usage, mainly rice husking at all the sites. This will allow the sponsor to utilize the idle electricity of the system to be used at loads similar to that of the pumping motor. The husking machines will be operated only during idle hours of the pumps and hence, there is no competing use of pumps and the husking machine.

Monitoring Methodology:

The observation report been followed the field primary data, visual scenario (environmental, health and social issues), water testing and group discussions with the farmers in the project areas.

Observation:

Environmental Issues need to be observed in the surrounding (forests, wetlands, creeks, streams, undeveloped areas, residential areas, industrial areas, environmentally sensitive areas) environments of the three project areas. Farmers of the project areas are using water for irrigation purpose in their conventional manner to cultivate crops.

Arsenic, pH level and Total dissolve solid (TDS) need to be tested in the project area and health and safety concern need to be verified during the field visit.

Resettlement and tribal people's need to be observed during the field visit

Overview of the Project area:

Queries Of the Projects	Remarks		
Project area:	**1**	**2**	**3**
Source of water-	Ground water	Ground water	Ground water
Areas (decimal) to be covered under irrigation			
Capacity of PV panel (Wp)			
Maximum yield of pump (L/day)			
Size storage of head tanker (Length, breath and height in m) Height:			
Maximum volume of water (L/day) required in a given period of time in dry season.			

Environmental Compliances:

Project area:	**1**			**2**			**3**		
1	**2**			**3**			**4**		
Queries Of the Projects	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**
What is the depth of the pipe used for the extraction water?									
Availability (Flow in L/day or water depth) of ground water source during dry season									

Surrounding environment: Indication of presence of forest, wetlands, creeks, streams, undeveloped areas, residential areas, industrial areas, environmentally sensitive areas, recognized or protected area etc. within 200m periphery of the project command area:									
Is there any future possibility to use the irrigation water for drinking purposes of the local community?									
Crop cultivation practice in the project area:									
Does the project fulfill water requirement for the cultivated fields? [If "No" explain]									

Environmental Health and Safety Issues:

Project area:	**1**			**2**			**3**				
1	**2**			**3**			**4**			**Mitigation Measures**	**Follow up actions**
Queries Of the Projects	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**		
Does the project create any health & safety issues for the villagers?											
Does the water quality of the source meet the national standard?											

Does the project create any significant negative effects on surrounding water, air or noise quality?											

Social Compliances:

Project area:	**1**			**2**			**3**				
1	**2**			**3**			**4**			**Mitigation measure**	**Follow up action**
Queries Of the Projects	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**		
Does the project, comply with the proposed water supply within the irrigation fields?											
Does the project, comply with the committed charge											
Any existence of hidden charges [If yes explain]											
Is there any documented process of collecting charges?											
Does the fees collection process is acceptable or not? [If not please explain]											
Will the communities require awareness or training program on proper use and maintenance of water management?			.								

[If "Yes" – please explain]											
Does the operator require awareness or training program on proper use and maintenance of water management? [If "Yes" – please explain]											

Gender Compliances:

Project area:	**1**			**1**			**1**		
1	**2**			**3**			**4**		
	YES √	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**	**YES √**	**NO ×**	**Remarks**
Does the project create improved quality of livelihood for the respective families?									
Whether the project is useful to solve the uncertainty of water during the irrigation time?									
Any valuable comments to improve the project? **[While monitoring the project, personnel of IDCOL are consulted with a numbers of stakeholders. Some of their suggestions/comments seem to be noteworthy]**									

C. **Environmental & Social Field Observation report for Improve CookStoves (ICS)**

Component: Improve Cook Stoves (ICS)

P.O's Name & Address:

Date of visit:

Purpose of visit: Over all EHS compliance inspection at the ICS-production center and households

Issues Observed:

At production Center:

Practices of EHS compliance are ……
Environment of production area:
Insertion of Rockwool process:
Storage scenario
The ratio of cement : sand : chips

Pictures as an evidence:

At House Hold Level:

Does the customers need training to use the new version stove …

ANNEX 9: ENVIRONMENTAL CLEARANCE PROCESS OF THE DOE

STEP	ENVIRONMENTAL CLEARANCE PROCEDURE FOR THE PROJECT FOR MAJOR SUBPROJECT
1	Feasibility Report submitted to Department of Environment (DOE) and IDCOL
2	IEE Report Preparation and submission to IDCOL
3	Upon satisfactory adequacy check IEE submitted to DOE and IDA
4	DOE makes decision whether EIA is required or if IEE is adequate
5	If IEE is adequate (no significant environmental issues), DOE provides Environmental Clearance
6	Developer obtains "no objection" letter from Local Authority for site clearance
7	If IEE is not adequate (environmental issues requiring detailed analysis), DOE comments on draft TOR for EIA study
8	Public Consultation on the EIA
9	EIA review by DOE and IDA
10	Finalization of Environmental Management Plan, based on comments/conditions by DOE and IDA
11	Environmental Clearance by DOE and no objection from IDA

ANNEX 10: TERMS OF REFERENCE (ToR) ENVIRONMENT AND SOCIAL ASSESSMENT REPORT FOR MINIGRID

BACKGROUND

The major objective of the Rural Electrification and Renewable Energy Development Project (REREDP II) of Infrastructure Development Company Limited (IDCOL) is to increase access to clean energy in rural areas through renewable energy. It will support: (i) increased access to electricity in rural areas through renewable energy; (ii) large-scale dissemination of more efficient cook stoves and fuels for cooking; and (iii) improved technical and institutional efficiency in the power sector. The proposed additional financing (AF) will contribute towards increasing access to electricity in remote rural areas where grid electricity is not economically viable.

It is understood that mini-grid/micro-grid (solar based system) does not associate with air pollution during operational phase. The primary concerns related to environmental, health, and safety issues are associated with improper manufacturing and disposal of expired lead-acid battery. The project components primarily deal with the solar panels, batteries and generators (which will use as back up). The Environment and Social assessment is required to identify the major environmental and social impacts and formulate required environmental and social management measures. IDCOL as well as all relevant development partners and stakeholders participating in REREDP II have agreed the environmental and social requirements needed for processing the financing of each sub-component. The project is designated as environmental Category B (partial assessment) according to OP/BP of the World Bank and only one environmental safeguard policy OP/BP 4.01 has been triggered.

EHS measures in case of bio-gas plant: According to the Department of Environment, Bangladesh-" if any cattle farm belongs to 10 cattle in urban area or 25 cattle in rural areas, the project has been categorized as **Orange A** category", meaning that it requires a brief Environmental Impact Assessment Report (IEE). In case of poultry- "the numbers are up to 250 and up to 1000 respectively." But "if any cattle farm belongs to more than 10 cattle in urban area or more than 25 cattle in rural areas, the project has been categorized as **Orange B** category", meaning that it requires detail Environmental and Social Impact Assessment Report (ESIA). For any commercially operated biogas project, there should be an environmental and social impact assessment (ESIA) by the project sponsor for any number of cattle's/birds or any location (urban or rural). The environmental assessment report is to be submitted to IDCOL, which could be shared with stakeholders.

Please note that, according to DOE concern- all power generation project has been categorized as RED category.

Legislative bases for EIA or IEE in Bangladesh are the Environmental Conservation Act 1995 (ECA'95) and the Environmental Conservation Rules 1997 (ECR'97). Department of Environment (DOE), under the Ministry of Environment and Forest (MOEF), is the regulatory body responsible for enforcing the ECA'95 and ECR'97. Other law of Bangladesh like Renewable Energy Policy of Bangladesh (2008), Bangladesh Labor Law (2006), etc. will be obliged for the project. Which will also be guided by the World Bank's Safeguards (Relevant Policies) mainly OP 4.01 Environmental Assessment, ADB's Safeguards Policy Statement (SPS) 2009 and other related operational manual (OM Section F1/BP) will be triggered for this project.

Please note that in the Social Impacts:

In the REREDP II project, No land acquisition or displacement of people (with or without title) from private or public lands is permitted in the project. In areas where IP populations are generally found a screening procedure will be followed to identify relevant groups and communities. A brief social assessment will be conducted to describe the general project area, social conditions in the project area including distribution of population in the project area, a brief discussion of the local economy and primary sources of income, A consultation and communication plan will be prepared and implemented (as has been done in previous project phase) to clearly disseminate project information and gather feedback regarding the needs and priorities of IPs so that awareness raising, training etc. can be properly tailored. The communication process must be carefully documented by the project proponents, including keeping photographs and participant's lists. All sessions and communications modes must be in local languages and follow the customs and norms of local communities. The third party monitoring mechanism will assess the safeguards compliance on a yearly basis.

CONTENTS OF THE REPORT SHOWN BELOW:

ESIA Report:

A. **Executive Summary:**
   This section will describe the project activities, critical environmental and social issues, significant findings and recommended actions.
B. **Introduction:**
   This section will cover the following aspects:
   i. Background of the project (In brief)
   ii. Scope of the ESIA study
   iii. Study methodology in details
   iv. Limitation of the study
C. **Policy, Legal and Administrative Framework**
   This section will cover the following aspects:
   i. General
   ii. Bangladesh Environmental Conservation ACT (ECA) 1995
   iii. Bangladesh Environmental Conservation Rules, 1997
   iv. Renewable energy Policy of Bang, 2008
   v. Remote Area Power Supply Systems (RAPSS) guideline of 2007
   vi. Bangladesh Labor Law, 2006
   vii. National Biodiversity Strategy and Action Plan for Bangladesh, Ministry of environment and Forest, 2004
   viii. World Bank's Guidelines on Environmental and Social Safeguards Policies
   ix. ADB Guidelines on Environmental and Social Safeguards
   x. JICA Guidelines on Environmental and Social safeguards
   xi. Justification of the project on the basis of DOE, WB/ADB/JICA

D. **Description of the Project:**
   This section will cover the following aspects:
   i. Background and Rational of the Project
      - Information of the proposed project history;
      - Rationale for the proposed project;
      - Outline of the Project objectives;

ii. Project Site and Location

- Description of the location of the proposed project with maps (if site is an isolated island please describe all side lengths from the mentioned canal/ river/sea)
- Nearby communities, designated environmentally sensitive area and heritage sites (For solar mini grid buffer zone should be 1 km, cattle based farm or poultry based farm it should be 500 or 250 meters (depend on the farm size).

iii. Technical Aspects

- Description of the proposed project components
- Project equipment and civil works
- Provision of information on proposed emission, effluent and surface water erosion control technologies (If required)

E. **Baseline Environmental Condition (By assuming 1 Km/500m/250m radius air shed depends on the project)** *[Please note: Secondary data is enough for IEE report]*

i. Administrative Information

ii. Demographic Information

iii. Geological Condition

iv. Terrestrial Flora

v. Terrestrial Fauna

vi. Meteorological Condition (Rainfall, Temperature, Humidity, Wind speed) [at least 5 years data need to be analyses]

vii. Air Quality[Please note: Air monitoring is depend on the locations' sensitivity]

- **The presence of SPM, SOx, NOx, CO, PM_{10}, $PM_{2.5}$**
- While measuring air quality- DOE approved technology is to be followed
- Conduct air dispersion model by an US EPA approved model

viii. Nosie Quality

- While measuring noise quality, DOE approved technology is to be followed
- There should be hourly monitoring of baseline noise according to the guideline of DOE and WB/ADB

ix. Surface and Ground water quality

- Surface: **(testing of : pH, TDS, DO, COD, BOD)**
- Ground: **(testing of: pH, Arsenic,TDS, alkalinity, Cl, Fe,)**

x. Project location from flood level

xi. Soil Quality

xii. Seismicity

xiii. Biological Environment (explain about Bio-ecological environment, Terrestrial Ecosystem , Protected areas and red book species)

xiv. Vulnerability to Climate Change and Natural hazard

- Explain in detail about how the project will be affected by the climate change impact
- Explain how the project is vulnerable to various natural calamities including flood, earthquake, drought, cyclone and so on

F. Baseline Socio-economic Condition

(For solar mini grid buffer zone should be 1 km, cattle based farm or poultry based farm it should be 500 or 250 meters (depend on the farm size).

i. Distribution of population in the project area in terms of religion, age, sex, income occupation and their relevance with the project

ii. Physical and cultural resources (school, college, madrasha, mosque,, temple, church etc.) in the project area

iii. Availability of Tribal settlement(if required)
iv. Communication facility

G. Analysis of Project Alternatives

i. Reason to choose the technology
ii. Site Alternative

H. Stakeholder Consultation and disclosure

The consultation will include key informant interview, focus group discussion (male & female) and public consultation. *The consultation will be documented with required facts, figures and evidence including participant list with contact details, photographs.*

I. Grievance Redress Mechanism

This section will describe the grievance redress framework

J. Anticipated Environmental and Social Impacts and Mitigation Measures

i. General
ii. Corridor of Impact (CoI)
iii. Pre-construction Phase
   - Land use
   - Flood Hazards
iv. Construction Phase, Operational Phase and Decommissioning Phase (Content in below for all phases)
   - Visual Amenity
   - Air Quality
   - Noise
   - Soil
   - Water Resources
   - Terrestrial Ecology
   - Waste Generation
   - Health and Safety
   - Employment Opportunities
   - Traffic
   - Archaeology and cultural resources
v. Summary of Anticipated Impacts

K. Environmental and Occupational Management Plan

This section deals with the set of mitigation management measures to be taken to avoid, reduce, mitigate or compensate for adverse environmental, occupational and social impacts with the institutional arrangement, monitoring schedule, parameters to be monitored and so on including tentative monitoring budget.

L. Environmental and Social Benefit

This section will discuss how the project will provide benefits in environmental sector and social life.

M. Conclusion

This section will provide the conclusion drawn from the assessment and provides recommendation

ANNEX 11: GUIDELINE OF INTRODUCING NEW PROJECT COMPONENT[9]

This harmonized ESMF is designed for the current project components under IDCOL REREDP . But in case of adopting/promoting/installing any new product/component under the purview of renewable energy, energy efficiency and so on, IDCOL will follow the following guidelines to ensure the EHS compliance associated with the product at an early stage of the project.

1. **Conduct an EHS Impact assessment:** IDCOL will engage a competent EHS Consultant to assess the EHS Impacts associated with the Project.
2. **Collection of secondary information:** The respective IDCOL official will collect secondary information about the EHS impacts associated with the Product.
3. **Consultation with relevant stakeholders:** IDCOL will prepare a compile observation based on the feedback of EHS Expert and its in-house experts. Thereafter, based on the findings of the compile version it will discuss with the following stakeholders (but not limited)
    - Academician: IDCOL will discuss with nationally reputed academicians having the relevant background about the technology of product. In addition, it will also discuss with reputed academicians having expertise on environmental impacts assessment.
    - Department of Environment: Being the prime government institute to deal with the environmental impact, IDCOL will discuss with the senior representative of DOE.
    - Development partners: IDCOL will discuss with the relevant experts of major development partners including WB, JICA,ADB and KfW.
4. **Information disclosure:** IDCOL will compile all the findings and feedback and will keep in its website for 30 days by announcing at least two national dailies, for general disclosure purpose.
5. **Compilation of feedback and formulation of the mitigation measures:** After compiling all feedback and responses, the relevant mitigation measures will be determined. The mitigation measures can be phasing such as immediate requirement, long term requirement. Immediate requirement includes the urgent health safety measures like awareness raising by media, handbill, leveling or general gathering. Long term requirement includes the technical aspects.

[9] This guidelines has been introduced in this ESMF to ensure better EHS management in future sub-projects/project components as will be implemented under REREDP of IDCOL.

ANNEX 12: GENDER ACTION FRAMEWORK[10] (ADB)

Tasks	Indicators	Responsibility
PLANNING and/or DESIGN PHASE		
Carryout gender and social analysis to inform the finalization of the detailed project report (DPRs) for the facility-financed subprojects with information and data on current patterns of women's involvement in the energy sector, including construction, and operation and maintenance of subproject-financed infrastructure. Include a dedicated social development expert, with gender-related expertise, local knowledge, and experience (3–6 person months, based on the complexity of the facility-financed subproject).	Consultation with community structures and/or groups, project-affected beneficiaries (% targets for women's participation to be developed)	IDCOL
CONSTRUCTION PHASE		
Provide separate facilities required for women at the construction site such as separate toilets, and childcare facilities in case of mother of under five-year children during construction and operation of infrastructure project. Provide equal wage rates for work of equal value for women and men laborers. Identify gender-responsive risk mitigation measures including addressing health and social impacts associated with large-scale infrastructure development (including sexually-transmitted infections, human trafficking). If adequate mitigation initiatives (supported by the Government, NGOs, and/or CBOs) are not in place, identify and budget mitigation initiatives accordingly. Include women in all awareness, training and capacity development activities.	Women employment opportunity(% targets to be developed) Record of wages paid shows no gender disparities for work of equal value Budget allocated for gender-related activities Gender-integrated mitigation measures implemented	IDCOL

[10] This gender action framework is provided by the ADB, which aims at promoting the incorporation of social and/or gender-related approaches and considerations in the design of facility-financed projects. It will guide the preparation of project-specific gender action plans—as needed—should their need arise during the preparation of the detailed project report. The framework builds on the Government's broader commitment to gender, including in the energy sector and promising practices developed by ADB in its support to the energy sector. The gender framework is not a substitute for any other safeguards' frameworks (i.e. resettlement, environment, and/or indigenous people's frameworks) which—by their nature—aim at specifically targeting affected people within the project area.

Tasks	Indicators	Responsibility
OPERATION PHASE		
Establish specific targets for women's employment during operation of infrastructure—based on the gender and social analyses conducted, baseline data collected, and in line with the Government's legislation and regulations, promising practices and—if feasible—adoption of gender targets. Implement gender-responsive Monitoring & Evaluation system whereby: (i) data are disaggregated by sex; (ii) indicators are established at the onset of implementation, monitored against baseline conditions and reported on a regular basis, focusing on improvements to quality of life parameters.	Consultations carried out (% targets for women's participation to be developed)	IDCOL
CAPACITY DEVELOPMENT PHASE		
Contribute to establish long-term capacity to monitor the social and gender-related impacts of subprojects, in line with internationally-established good practices. Develop a training module and gender sensitization training targeting the specific needs and constraints faced by the executing and/or implementing agencies, project monitoring units and/or project implementation units, corporation, and other relevant agencies on gender-related policies, strategies and practices.	Training carried out for the staff (% targets for women's participation to be developed) Training package includes gender session, and facilitated by social development experts	ADB

CBO = community-based organization, IDCOL= Infrastructure Development Company Limited, NGO = nongovernmental organization.

ANNEX13: ESIA SCREENING OF SOLAR IRRIGATION PUMP (WB)

[General Instruction: This screening report will be prepared by the proponent (sponsor) and will be reviewed by IDCOL along with field verification. Softcopy should be available to proponent for required space to describe different sections. Please refer Annex-14 for general standards of irrigation water quality.]

a) Subproject Title/Location:

b) Proponent(s):

c) Project Description

*(*General Note: The solar irrigation pump will be usually installed at that site where the existing irrigation facilities are being operated by the diesel engine. The solar energy with PV systems has a smaller environmental footprint compared to conventional power systems. However, the irrigation and drainage activities may result some negative environmental impacts. This impact may extend both upstream and downstream of the irrigated area. It is necessary to determine the impacts and take measures to mitigate/compensate the impacts.*)*

Brief description of the followings:

- *Project's main objective*
- *Source of water- ground or surface*
- *Components of the project (Please attach physical layout in Annex)*
- *Areas (ha) to be covered under irrigation*
- *Size (sq. m) of the control buildings*
- *Capacity of solar system (watt)*
- *Maximum yield of pump (cu. m/s)*
- *Size storage reservoir (Length, breath and height in m)*
- *Maximum volume of water (cu.m per day) required in a given period of time in dry season.*

d) Existing Environment

Description of the environmental components as indicative below on and surrounding the project site:

- *Lowest ground water table in the locality during dry period (Information from DPHE/ LGED. This information is required only if ground water will be used for irrigation.)*
- *Rate of ground water lowering (If available from DPHE/ LGED/other source. This information is required only if ground water will be used for irrigation.)*
- *Availability (Flow in cu.m/s and/or water depth) of water of the selected surface water source during dry season (This information is required only if surface water will be used for irrigation.)*
- *The quality (mainly arsenic) of available water sources (Test report of nearest tube-wells. This information is required only if ground water will be used for irrigation.)*

Project Location	No. of tube-well within 200m radius/nearby village	Tubewell tested to measure arsenic level		Marking (Green/Red)	Arsenic level in red marked tubewells
		Yes	No		(mg/L)

- *Surrounding environment: Indicate presence of forest, wetlands, creeks, streams, undeveloped areas, residential areas, industrial areas, environmentally sensitive areas, recognized or protected area etc. within 200m periphery of the project command area.*
- *Existing crop cultivation practice in the project area*
- *The gradient of the project area*
- *Existing drainage facilities*

e) Environmental Screening Questionnaire

(General Note: The environmental Screening will be done to identify and examine the environmental effects of the proposed project determine the likely significance of the environmental effects as well as identify appropriate mitigation measures to reduce, eliminate, compensate for, or control these effects.)

Does the project effect	***Yes/No***	***If yes, how***
Will the proposed project support the cultivation of existing crop fields?		
Will the proposed project required land-filling for construction of control structure, storage reservoir and setting-up the solar panel?		
Will the project use the existing irrigation channels?		
If the answer of the above question is no, whether new channels (irrespective of financing) will be constructed?		
Will the drainage channel cross any road?		
Will the irrigation lead to water logging in adjacent land?		
Will the proposed activities impact on natural habitat and environmentally sensitive areas?		
Will the proposed construction, installation, operation, modification, replacement of water pipe, stream line be located alongside or underneath any physical cultural sites?		
Is there any future possibility to use the irrigation water for drinking purposes of the local community?		
If yes, will the water quality of the source meet the national drinking water quality?		
Will the project cause physical changes in the locality such as topography, land use, water bodies, and physical cultural resources?		
Will the proposed project put any significant negative effects on surrounding water, air or noise quality?		
Will the communities require awareness or training program on proper use and maintenance of solar energy plants		

f) Screening Decision

(General Note: Please review the environmental screening and summarize the environmental impacts. Suggest the next step including the Environmental Management Plan)

g) Environmental Management Plan

(General Note: Environmental Management Plan has two parts: Environmental Mitigation Plan and Environmental Monitoring Plan)

1) Environmental Mitigation Plan

Sub-project Activity	Potential Environmental Impact(s)	Mitigation Measures	Location	Estimated Mitigation Cost	Responsibility	
					Implementation	Supervision
Pre-construction Phase						
Construction Phase						
Operation Phase						

2) Environmental Monitoring Plan (Mitigation Monitoring):

A) MITIGATION MONITORING							
Environ-mental Indicator	Parameters/ Units	Location	Means of Monitoring	Frequency/ Duration Standards	Responsibilities		Estimated Cost
					Implemen-tation	Supervision	

h) Environmental Monitoring Plan

Monitoring will be conducted for the following aspects as per the table below:

Monitoring Issue	Frequency	Monitored by	Supervised by
Whether the water is being used for drinking purposes			
Whether any water logging has occurred due to improper maintenance of the system			

i) Public Consultation

(Instruction: Please attach the notes of the consultation held earlier with the farmers regarding the solar irrigation system and their willingness to adopt the technology and cost involvement as an Annex to the screening report. The consultation notes must be supported by signature/thumb print of the participants. Photographs of such meeting will be encouraged)

a) Social Screening Questionnaire

Does the project effect	***Yes/No***
Involuntary Resettlement Aspect	
Is any land acquisition required for the project?	
Type of land (public, private or lease)	
Is there any settlement present in the site?	
Is there any recorded litigation issue associate with the site?	
Is there any close relationship between the general livelihood pattern and the site in the project area?	
Does the project require physical or economic displacement of any person/household/community?	
Tribal People Aspect	
Is the project site located in tribal people prone area?	
Is there any impact of the project on religious and cultural practice and belief of tribal people?	
Is there any impact of the project on livelihood pattern of tribal people?	
Is there any settlement recorded (present and near past) in the site?	
Is there necessity of displacing (physically or economically) any person/household/community?	
What local language(s) is (are) used by the IP population?	

(Appropriate mitigation plan will be developed based on the results of the Social Screening.)

Screening Report Prepared by (Name of the proponent official/consultant): ……

Designation: ……

Date: ……

Screening Report Reviewed & Cleared by (Name of the IDCOL official/consultant): ……

Designation: …… ……..

Date: ……

ANNEX 14: GENERAL STANDARD FOR IRRIGATION WATER (WB)

(VARIES WITH CROP TYPES)

1. Salinity (Salt Content)

Specific conductivity: should be less than 3 mmhos/cm

Total Dissolved Solids: should be less than 2000 mg/l

2. Salinity (Cations and Anions)

Sodium: should be less than 40 me/l

Bicarbonate: should be less than 10 me/l

Chloride: should be less than 30 me/l

Sulphate: should be less than 20 me/l

3. Nutrients

No_3-N: should be less than 10 mg/l

Ammonium-Nitrogen: should be less than 5 mg/l

Phosphate-Phosphorous: should be less than 2 mg/l

4. Miscellaneous

Boron: should be less than 0.2 mg/l

pH: should in the range of 6.5 to 8.4

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mg/l = milligram per liter = parts per million (ppm)

me/l = milliequivalent per liter (mg/l ÷ equivalent weight = me/l)

ANNEX 15: SECREENING CRITERIA AND RESPONSIBILITIES OF PROJECT SPONSOR (JICA)

Screening Criteria for the Selection of Appropriate Sub-Projects

- The sub-project shall observe related environmental laws and regulations including "The Bangladesh Environment Conservation Act, 1995", "The Environment Conservation Rules, 1997" and "Lead Acid Battery Recycling and Management Rules (Statutory Regulatory Order No. 175-Act/2006)".
- The sub-project categorized as "Category A" in "JICA Guidelines" will be rejected in JICA-REDP.
- The sub-project required EIA in obedience to "The Environment Conservation Rules, 1997" including Red category project will be rejected in JICA-REDP.
- The sub-project shall not require physical relocation.
- The sub-project shall not require clearing of natural forest.
- The biomass gasification sub-project shall take proper countermeasures to prevent health disturbance through the production of smoke, dust, ash and tar.

Role of IDCOL

- IDCOL conducts the environmental screening on the basis of the environmental screening form (later attached) prepared by the PO or sponsor and field surveys to examine the potential positive and negative environmental and social impacts and identify whether the sub-project is categorized as "Category A" in "JICA Guidelines" in the appraisal stage.
- IDCOL submits the screening form and a series of the reports on the results of the screening and scoping including the categorization in the appraisal stage, and the environmental monitoring in the operation phase to JICA.
- IDCOL supervises and supports the legal environmental procedure of the PO or sponsor.

Obligation of PO or sponsor

- The PO or sponsor prepares the environmental screening form (later attached) and submit the form to IDCOL.
- The PO or sponsor conducts the environmental procedure regulated in relevant laws and reports the progress and results to IDCOL.
- The PO or sponsor conducts the environmental monitoring and submit the results to IDCOL.

ANNEX 16: POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACT AND MITIGATION MEASURES (JICA)

These potential environmental and social impacts were assessed on the basis of general and typical conditions.

a) SHS Program

Impact Item	Impact	Mitigation Measures
Waste	**Operation Phase:** Old batteries will be collected and recycled. However, because the informal sector has been concerned in the collection, old batteries may remain in inappropriate sites.	IDOCL has prepared "Policy Guidelines on Disposal of Warranty Expired Battery". The customers, POs, and manufactures should observe the Policy fully. In order to identify battery collection conditions, periodic monitoring should be conducted.
Accidents	**Operation Phase:** Risk of accidental electric shock	The POs should instruct basic knowledge on electricity to the customers.
GHG Emission	**Operation Phase:** During operation phase, there is emission of GHG	Proper mitigation and compensation measures are required

b) Solar Irrigation Pump Component

Impact Item	Impact	Mitigation Measures
Ecosystem	**Construction Phase:** Impact on ecosystem will not occur in ordinary circumstances. However, tree clearing may be required depending on project site.	Sub-projects requiring clearing of natural forest should be rejected in the appraisal stage.
Hydrology/ Water usage	**Operation Phase:** Excessive water use may cause impact on hydrology.	The project proponent or agricultural group should prepare a proper water pump-up and use plan reference from experience in the surrounding areas and results of hydrological surveys.
Resettlement/ Land Acquisition	**Pre-Construction Phase:** Resettlement is unlikely to be required in ordinary circumstances. However, land acquisition may be required depending on project site.	Sub-projects requiring involuntary resettlement should be rejected in the appraisal stage. Proper compensation for the lost land should be paid to the affected persons.

Poor people	**Operation Phase:** Impact on poor people may occur depending on water fee and project site.	The project proponent or agricultural group should set a proper payment method reference from experience in the surrounding areas. The payment method should be reviewed in the appraisal stage.
Land use	**Construction Phase:** Shift of land use from agricultural land to PV generation site may be required depending on project site.	Proper compensation for the lost land should be paid to the affected persons.
Social institutions/ Misdistribution/ Local conflicts	**Operation Phase:** Without a steady agricultural group and a proper water allocation or management plan, conflict among local decision-making institutions and users in maintenance works and cost for irrigation system may occur.	The project proponent or agricultural group should formulate the water allocation and management plans reference from experience in the surrounding areas. The plans and capacity of the responsible group to maintain the irrigation system should be reviewed in the appraisal stage. In case of a new installation of an irrigation system, its operation and maintenance should be periodically monitored. In case of replacement of existing diesel pumps, the basic agreement among the existing users should be provided in the appraisal stage.

c) Solar Mini-Grid Component

Impact Item	Impact	Mitigation Measures
Ecosystem	**Construction Phase:** Impact on ecosystem will not occur in ordinary circumstances. However, forest clearing may be required depending on project site.	Sub-projects requiring clearing of natural forest should be rejected in the appraisal stage.
Resettlement/ Land Acquisition	**Pre-Construction Phase:** Land acquisition will be required around marketplace. Involuntary resettlement may be required depending on project site.	Sub-projects requiring involuntary resettlement should be rejected in the appraisal stage. Proper compensation for the lost land should be paid to the affected persons.

Misdistribution/Local conflicts of interest	**Operation Phase:** In case of low supply capacity to demand, misdistribution will occur.In case of big difference between existing electric rate and solar mini-grid electric rate, conflict among users may occur.	The project proponent should install facilities with sufficient capacity and decide the proper rate. The capacity and rate should be reviewed in the appraisal stage. Its operation and maintenance should be periodically monitored.

d) Gasification of Biomass Component

Impact Item	Impact	Mitigation Measures
Air pollution Working conditions (including occupational safety)	**Operation Phase:** Smoke from biomass gasification plant may cause air pollution. The smoke and dust may include hazardous substances and cause health disturbance to the workers.	The project proponent should install highly efficient precipitation (smoke treatment) equipment and/or filter system. The capacity and specification should be reviewed in the appraisal stage. The smoke and dust levels, precipitation equipment, filter system, and health condition of the workers and local people should be monitored periodically.
Ecosystem	**Construction Phase:** Impact on ecosystem will not occur in ordinary circumstances. However, tree clearing may be required depending on project site.	Sub-projects requiring clearing of natural forest should be rejected in the appraisal stage.
Utilization of local resources Local conflicts of interest	**Operation Phase:** In case of rice husk gasification, since the biomass gasification can be used as fuel, compost, cattle feed, or bedding materials in poultry farms, impact on the existing use and conflict among rice husk usersmay occur.	The project proponent should prepare a proper procurement plan of the rice husk without impact on the existing use. The procurement plan should be reviewed in the appraisal stage.

e) Biogas Power Generation Component

Impact Item	Impact	Mitigation Measures

Water pollution	**Operation Phase:** Because waste water will be digested in the system, the environmental load will be reduced. However, improper slurry management may cause water pollution.	The project proponent should install sufficient facilities and conduct the proper maintenance.
Accidents	**Operation Phase:** Accidental gas explosion by insufficient facilities or inadequate operation	The project proponent should install sufficient facilities. The management staff should give the operators training on the safety measures. The design of the facilities should be reviewed in the appraisal stage.

ANNEX 17: ENVIRONMENTAL SCREENING FORM (JICA)

(fromhttp://www.jica.go.jp/english/our_work/social_environmental/guideline/ref.html)

Name of Proposed Project:

Project Executing Organization, Project Proponent or Investment Company:

Name, Address, Organization, and Contact Point of a Responsible Officer:

Name:
Address:
Organization:
Tel:
Fax:
E-Mail:
Date:
Signature:

Check Items

Please write “to be advised (TBA)” when the details of a project are yet to be determined.

Question 1: Address of project site

Question 2: Scale and contents of the project (approximate area, facilities area, production, electricity generated, etc.)

2-1. Project profile (scale and contents)

2-2. How was the necessity of the project confirmed?

Is the project consistent with the higher program/policy?

□YES: Please describe the higher program/policy.

( )

□NO

2-3. Did the proponent consider alternatives before this request?

□YES: Please describe outline of the alternatives
( )

□NO

2-4. Did the proponent implement meetings with the related stakeholders before this request?

□Implemented □Not implemented

If implemented, please mark the following stakeholders.

□Administrative body

□Local residents

□NGO

□Others（ ）

Question 3:

Is the project a new one or an ongoing one? In the case of an ongoing project, have you received strong complaints or other comments from local residents?

□ New □ Ongoing (with complaints) □Ongoing (without complaints)

□Other ( )

Question 4:

Is an Environmental Impact Assessment (EIA), including an Initial Environmental Examination (IEE) Is, required for the project according to a law or guidelines of a host country? If yes, is EIA implemented or planned? If necessary, please fill in the reason why EIA is required.

□Necessity (□Implemented □Ongoing/planning)

(Reason why EIA is required:)

□Not necessary

□Other (please explain)

Question 5:

In the case that steps were taken for an EIA, was the EIA approved by the relevant laws of the host country? If yes, please note the date of approval and the competent authority.

□Approved without a supplementary condition	□Approved with a supplementary condition	□Under appraisal

(Date of approval: Competent authority:)

□Under implementation

□Appraisal process not yet started

□Other ( )

Question 6:

If the project requires a certificate regarding the environment and society other than an EIA, please indicate the title of said certificate. Was it approved?

□Already certified

Title of the certificate: ( )

□Requires a certificate but not yet approved

□Not required

□Other ( )

Question 7:

Are any of the following areas present either inside or surrounding the project site?

□Yes□No

<u>If yes,</u> please mark the corresponding items.

□National parks, protection areas designated by the government (coastline, wetlands, reserved area for ethnic or tribal people, cultural heritage)

□Primeval forests, tropical natural forests

□Ecologically important habitats (coral reefs, mangrove wetlands, tidal flats, etc.)

□Habitats of endangered species for which protection is required under local laws and/or international treaties

□Areas that run the risk of a large scale increase in soil salinity or soil erosion

□Remarkable desertification areas

□Areas with special values from an archaeological, historical, and/or cultural points of view

□Habitats of minorities, tribal people, or nomadic people with a traditional lifestyle, or areas with special social value

Question 8:

Does the project include any of the following items?

□Yes□No

If yes, please mark the appropriate items.

□Involuntary resettlement (scale: households persons)

□Groundwater pumping (scale: m3/year)

□Land reclamation, land development, and/or land-clearing (scale: hectors)

□Logging (scale: hectors)

Question 9:

Please mark related adverse environmental and social impacts, and describe their outlines.

□ Air pollution

□ Water pollution

□ Soil pollution

□ Waste

□ Noise and vibrations

□ Ground subsidence

□ Offensive odors

□ Geographical features

□ Bottom sediment

□ Involuntary resettlement

□ Local economies, such as employment, livelihood, etc.

□ Land use and utilization of local resources

□ Social institutions such as social infrastructure and local decision-making institutions

□ Existing social infrastructures and services

□ Poor, tribal, or ethnic people

□ Misdistribution of benefits and damages

☐ Biota and ecosystems

☐ Water usage

☐Accidents

☐Global warming

☐ Local conflicts of interest

☐ Gender

☐ Children's rights

☐ Cultural heritage

☐ Infectious diseases such as HIV/AIDS

☐ Other ( )

Outline of related impact:

( )

Question 10:

In the case of a loan project such as a two-step loan or a sector loan, can sub-projects be specified at the present time?

☐Yes ☐No

Question 11:

Regarding information disclosure and meetings with stakeholders, if JICA's environmental and social considerations are required, does the proponent agree to information disclosure and meetings with stakeholders through these guidelines?

☐Yes ☐No

Categorization in screening phase: ☐A ☐B ☐C

(This categorization will be reviewed in next phase.)

Note: PO or sponsor will primarily fill-up this screening form and IDCOL will review through field visit.

ANNEX 18: SAMPLE ENVIRONMENTAL SCOPING FORM (JICA)

(It is possible to modify this form or adopt other forms depending on characteristics of the sub-project.)

No.	Impact Item	Assessment		Reason / Remarks
		Pre-Construction andConstruction Phase	Operation Phase	
Pollution				
1	Air pollution			
2	Water pollution			
3	Waste			
4	Soil pollution			
5	Noise and vibration			
6	Ground subsidence			
7	Offensive odors			
8	Bottom sediment			
Natural Environment				
9	Protected areas			
10	Ecosystem			
11	Hydrology			
12	Geographical features			
Social Environment				
13	Resettlement/ Land Acquisition			
14	Poor people			
15	Ethnic minorities and tribal peoples			

16	Local economies, such as employment, livelihood, etc.			
17	Land use and utilization of local resources			
18	Water usage			
19	Existing social infrastructures and services			
20	Social institutions			
21	Misdistribution of benefits and damages			
22	Local conflicts of interest			
23	Cultural heritage			
24	Landscape			
25	Gender			
26	Children's rights			
27	Infectious diseases such as HIV/AIDS			
8	Working conditions			
29	Accidents			
Other				
30	Trans-boundary impacts or climate change			

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C+/-: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected

ANNEX 19: SELECTED POINTS OF EHS COMPLIANCES FOR SUB-PROJECTS "OTHER RENEWABLE ENERGY COMPONENTS" (KfW)

Mini-grid Projects:

- IDCOL should require a recycling plan from the sponsor, which includes a binding recycling mechanism for batteries. The implementation of the recycling needs to be monitored by IDCOL.

Solar irrigation Projects:

- IDCOL must include the findings of water quality (including salinity, arsenic contamination, etc) in the appraisal document, control the salinity / level of contamination during monitoring visits and refuse locations where the water is saline or not safe for use.
- During the appraisal process and before the final sizing of the pump, IDCOL should evaluate the amount of water which can sustainably be drawn from the ground water. The size of the PV panel needs to be selected accordingly.
- The environmental analysis cannot only rely on interviews with the local population, as substantial expertise is needed to evaluate the local environmental impact.

Bio-gas based power plant:

- IDCOL should require a comprehensive slurry management plant. The implementation should be monitored on a regular basis (e.g. upon commissioning of the plant, after 6 months, after 2 years, after 4 years etc.).
- Furthermore, a fertilizer plant should be in place or constructed within the first 6 months of operation. Alternatively, a purchase agreement with a fertilizer company for the slurry should be required as part of the appraisal process.
- Monitor the soil quality in areas where organic fertilizer is applied.
- Analyse the environmental side-effects of poultry farms in Bangladesh. It is recommended to include only smaller farms (e.g. up to 50,000 animals) under the programme to mitigate the local environmental impact of large-scale poultry farming, and to examine the space and living conditions of the animals as part of the appraisal process.

ANNEX 20: TRIBAL PEOPLES DEVELOPMENT FRAMEWORK

Rural Electrification and Renewable Energy Development Project (REREDP) of Infrastructure Development Company Limited (IDCOL) is aimed at increasing access to clean energy in rural areas through renewable energy. The project supports: (i) increased access to electricity in rural areas through renewable energy through solar home systems and other options; (ii) large-scale dissemination of more efficient cook stoves and fuels for cooking; and (iii) improved technical and institutional efficiency in the power sector. The proposed additional financing (AF) will contribute towards increasing access to electricity in remote rural areas where grid electricity is not economically viable.

The Solar Home Systems (SHS) program of Bangladesh supported by the World Bank is emerging as a viable electrification option for lighting and other basic services in areas without grid access. SHS are being installed under the ongoing renewable energy project and the proposed RERED-II AF will continue this support. Further the commercial needs of the rural markets and small enterprises would be served by mini grid renewable energy sources under the Remote Area Power Supply Systems (RAPSS) Guidelines of 2007. The RERED-II AF will also support clean cooking options for households through improved cook stoves (ICS), advanced combustion stoves, and biogas. In addition, IDCOL is supporting to solar-irrigation pump, solar mini-grid, biogas and biomass based power projects to ensure sustainable development.

Table: IDCOL's REREDP services with target

Project/Program	Target (number with year)
Improved Cook Stove Program (ICS)	5 million by 2021
Solar Irrigation Program (SIP)	3,000 by 2021
Solar Mini Grid (SMG)	70 by 2021

WORLD BANK'S SAFEGUARDS: RELEVANT POLICIES

IDCOL and all relevant development partners and stakeholders participating in REREDP have agreed to adopt harmonised ESMF, which defines the environmental and social requirements needed for processing the financing of each sub-component which is incompliant with all the applicable environmental and social legislation of the Government of Bangladesh (GOB). The project is designated as category B in the document, according to OP/BP of the World Bank. The environmental safeguard policy OP/BP 4.01 has been triggered as it is expected that all the components will be in green category and only the Mini-Grid will be Orange3 category. The Project will not allow any type of involuntary resettlement or adverse impacts to Indigenous People (IP). Therefore OP 4.12 has not been triggered for the project.

The Indigenous Peoples Policy OP 4.10 which was not triggered in the previous phase has been triggered for the current one based on findings that the project areas include IP beneficiaries. IDCOL established the Environment and Social Safeguards Management Unit

(ESMU) in their regular organogram to institutionalize the environmental and social management in its operation

IDCOL will have to follow OP4.10 and take necessary actions for awareness rising, mobilization and training campaigns tailored to the needs of IPs in the relevant locations so, that the statutory rights and privileges and their customs and norms of the IP are not hampered or disturbed rather adequately complied with. All awareness raising, mobilization and training campaigns must be tailored to the needs of IPs in the relevant locations. For this purpose proper screening of the IPs in the IP concentrated areas or IPs in mainstream population areas need proper screening for identification of IPs and project based specific brief social assessment needs to be carried out.

Implication of WB Policy: Sub-project specific environment and social screening, and if necessary, appropriate mitigation plans to be prepared and implemented. IDCOL will review each screening/assessment and will regularly monitor the implementation of environment and social management plan and the IPPF.

2. Indigenous Peoples (IP)/ Tribal People (TP) in Bangladesh:

The current Indigenous Peoples policy (May 2005) recognizes the distinct identities and cultures of Tribal Peoples are inextricably linked to the lands on which they live and the natural resources on which they depend. The policy requires client governments to seek broad community support of Tribal Peoples through a process of free, prior, and informed consultation before deciding on development projects affecting Tribal Peoples.
In Bangladesh, IPs are often referred to as small ethnic groups, ethnic communities, tribal, hill people (paharis) and forest people. For the purposes of this document IPs will be referred to as tribal people (TPs) as per government definition.

Bangladesh has roughly 85 percent Muslim population, others are mainly Hindu, Buddhist and Christian. More than 99 percent speak Bengali. Despite the homogeneity of people as a Bengalination, the Chittagong Hill Tracts (CHT) comprising the districts of Rangamati, Khagrachhari and Bandarban has a significant number of ethnic minorities **(0.45 percent of the total population of Bangladesh)** who belong to the 'mongoloid group' and live in a geographically compact area. Three major tribes are the Chakma, Marma and Tripura. They constitute more than88 percent of the total number of TPs in the CHT. Other tribes are Tanchangya, Mro,Bawm,Pankhua, Chak, Kheyang, Lushai and Khumi. The primary census report of 2011 illustrates that total ethnic population group of Bangladesh 1st is Chakma consisted 4,44,748 people while the Marma, the second largest ethnic group compares with 2,02,974 person.

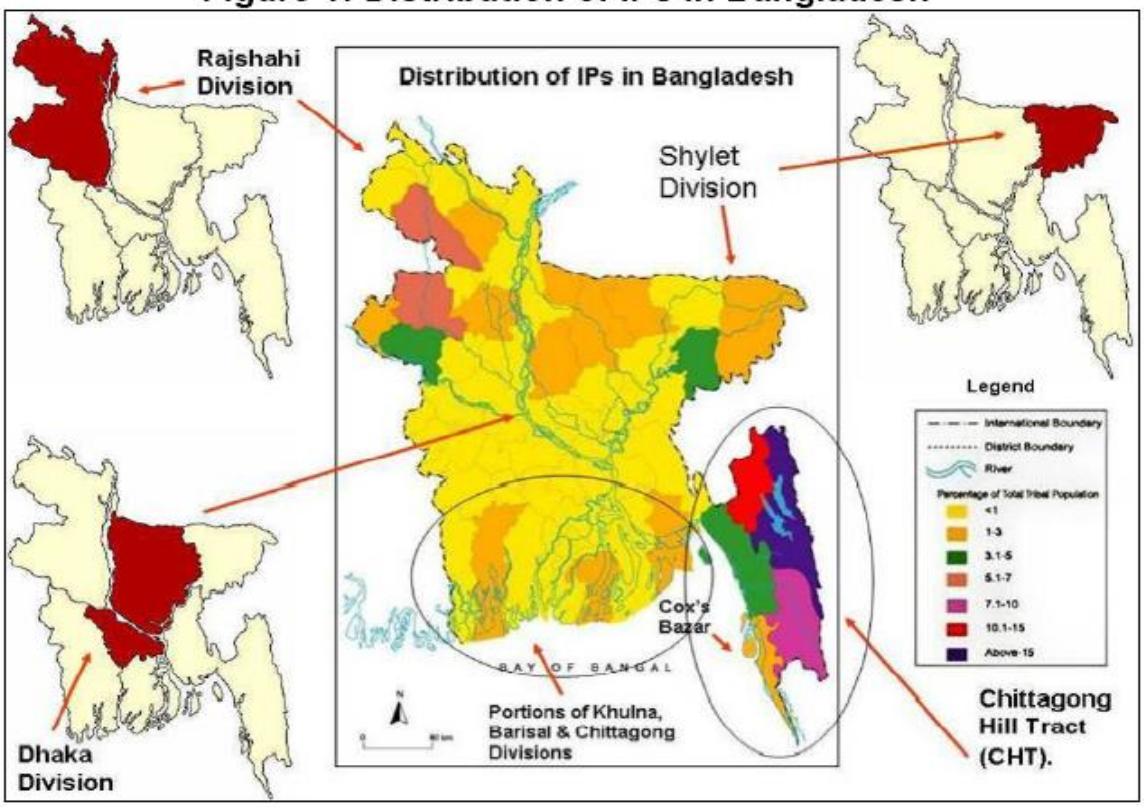
Other than CHT, some other ethnic groups are inhabitants in NorthWest part of the country, Mymensingh and Sylhet regions. In these regions the tribal population is scattered and has become mixed with the mainstream Bengali population. In Southeast there are Rakhains whose origin is Myanmar but many currently live in Cox'sbazar.

Table 1: Areas of TP Concentration in Bangladesh

	Areas of TP Concentration	**Predominant TPs**	**% National TPs**	**% of District Populations**
	Plains			
1.	Rajshahi Division, Naogaon, Dinajpur Rajshahi, &Joypurhat Districts	Santal, Munda and Oraon	36	4
2.	Sylhet Division, Maulavibazar and Hobigonj Districts	Khasia, Manipuri, Patro, Garo and Tripura	8	3
3.	Madhupur Area of Dhaka Division	Garo/Mandi	7	2
4.	Patuakhali (Barisal Division) and Cox'Bazar (Chittagong Division) Districts	Rakahain	6	
5.	Khulna Division, in *Sundarbans*	Munda	2	
	Hills			
6.	Chittagong Hill Tracts	Chakma, Marma, Tripura and others	41	44
	Total		100	

Source: Bangladesh Bureau of Statistics (BBS), 2001

Figure 1: Distribution of IPs in Bangladesh



3. TRIBAL PEOPLE'S POLICY FRAMEWOK:

Identifying the Tribal Peoples:

Although the TPs of Bangladesh are well recognized locally, the IDCOL and POs will examine the following characteristics to make formal identification:

- Self-identification as members of a distinct tribal cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- Customary cultural, economic, social or political institutions that are separate from those of the dominant society and culture; and
- A tribal language, often different from the official language of the country or region.

Impact Mitigation & Development Measures:
Consultation Strategy

The experience of the previous project has been found to be significantly beneficial to all consumers, including IPs. The services under the project are available to all willing customers on a purely commercial basis. Since the partner organizations (POs) aim to reach as many customers as possible to increase their market, there is little scope for exclusion; in fact POs have been proactive in communicating with people as a

marketing strategy. To avoid or minimize adverse impacts and, at the same time, ensure benefits for TPs, IDCOL will have to apply the following basic principles in selection and design of particular activity:

- Ensure that TP communities in general and their organizations are not excluded by any means in activities selection, design and implementation processes.
- Together with TPs, carefully screen the activities for a preliminary understanding of the nature and magnitude of potential impacts, and explore alternatives to avoid or minimize any adverse impacts.
- IDCOL will undertake the necessary tasks in order to adopt an intensive consultation and communication strategy with the tribal communities, community elders/leaders, and formal and informal tribal organizations, civil society organizations like NGOs/CBOs/VOs, and others who are interested in and have knowledge of TP issues.

Consultation will include the activity objectives and scope; the likely key adverse impacts on (and benefits for) TPs; TPs' own perception of the impacts and feedback; and a preliminary assessment of opportunities which IDCOL could promote – in addition to mitigation of the adverse impacts.

All project activities are neutral towards providing benefits to the general people, but an awareness campaign in local/ethnic languages (including posters, workshops etc.) can enhance positive outcomes for TPs especially.

As required for informed consultation, and dissemination of information, IDCOL and POs concerned institutes will provide TPs with all activity-related information, including that on potential adverse impacts if any. To facilitate consultation, IDCOL and POs may

- Prepare a time-table for dialogues during activity selection, design and implementation processes, and consult them in a manner so that they can express their views and preferences freely in case of activities may affect access to common property and resources.
- In addition to the communities in general, consult TP organizations, community leaders and others with adequate gender and generational representation; and civil society organizations like NGOs and groups knowledgeable of TP issues about the impacts of the services.

IDCOL will screen the project activities to ensure compliance with the above principles. For location specific sub-projects that trigger OP 4.10, adequate and appropriate consultation modalities are to be adopted to build consensus among the Tribal population, identify impacts in the light of their unique needs and way of life and implement mitigation measures commensurate with their cultural, religious and societal norms.

Access and inclusion issues: The services of Solar Home Systems (SHS) and Household Energy components are individual schemes and can be purchased from the market. These are providing and ensuring equal access to all the households including

TP HHs. Thus, there is no scope of negative impacts these population rather as they are benefited from the alternative energy sources where electricity is not available from national grid, they are immensely benefited.

The Mini- grid and the irrigation projects will need community involvement and as the participations are voluntarily there is no possibility of adverse impact or discrimination. However, careful observation needed with prior consultation and information dissemination before implementation of such projects so that TPs do not lose access to common properties or resources.

As mentioned earlier no Tribal lands will be acquired and no involuntary resettlement will be needed, there will be no negative impact on Tribal land owners. During any need for land purchase, careful verification by IDCOL will be needed for clarification of the status of the land.

Future screening and monitoring:

The social screening format attached will be relevant for all project components. The project will not undertake any sub-project that triggers land acquisition or any kind of displacement (physical or economic) from public or private lands regardless of their title. No adverse impacts on IPs, through impacts on land or livelihood are permissible under the project.

For all projects screening and assessment should be done for avoiding any adverse impact on TPs rather for positive benefit to reach these population. However as there is open access and no provisions taken to have any adverse impacts on TP population and the activities are in compliance with World Bank's and relevant government policies, IDCOL need to prepare project specific Abbreviated/brief SMF to make sure of their compliance with the required policies for all projects.

Currently there is provision for meetings with the mini-grid plants for assessing the environmental and health safety issues as this component is identified as Orange 3. All other components are expected to be green and have no negative environmental and health safety impacts. Similarly to assess the social safeguards compliance, IDCOL officials will meet with the POs half-yearly meeting with all POs and POs submit their reports of social safeguard issues to IDCOL who then can upload it on their web for dissemination for 3 weeks and send notification emails to the Development Partners.

Currently IDCOL officials are provisioned to visit 2 POs half yearly, there are 47 POs. As per this framework it will visit to 3 POs quarterly to cover 25% of all POs. They IDCOL officials will have consultation with the locals including project beneficiaries to make it participatory and ensure consultation and dissemination of knowledge.

IDCOL needs to ensure these are followed as agreed.

SHS, bio-gas plant for cooking and ICS services under the predecessor RERED project and the on-going RERED II project have brought significant positive changes in the lives of beneficiaries living in the rural and remote off-grid areas. As the project covers all off-grid areas of the country, many IPs could access the services provided by the POs. The SHS has vastly increased women's safety, mobility and entrepreneurial ambitions. It has enabled thousands of

children to study properly at night and do better in school. Similarly, biogas plants for cooking have provided rural women with access to clean energy thus bringing positive impacts on women's health and safety as well as conserving environment by reducing carbon emissions caused by traditional stoves. The third product, the ICS produces less smoke and is more energy efficient and thus can be a welcome change. IDCOL is in an advanced stage of financing six mini-grid projects. The location of one mini-grid project is at Kutubdia Island, Cox's Bazar which has IP inhabitants. IDCOL conducted extensive consultation with IP communities to ensure that there is no negative impact. IDCOL follows a detailed checklist to ensure that IPs are benefitted by the Project. Moreover, IDCOL has financed about 35 solar irrigation projects. In IP inhabited areas, IP women engage in agriculture. The mini-irrigation projects will help IP men and women to ease the irrigation of their field.

As no negative impacts on IPs are expected and no negative impacts on livelihoods or land taking is permissible under the project, the Tribal Peoples Framework and subsequent Plans will be focused on inclusion, consultation and communication. A consultation and communication plan will need to be prepared and implemented to clearly disseminate project information and gather feedback regarding the needs and priorities of IPs so that awareness raising, training etc. can be properly adapted.

As per the Screening Format, if any sub-project area identifies IP populations living within it, the relevant PO will immediately engage a communication person from within its organization who is from the local area (an IP person is preferred) who is conversant in the local language and is aware of the norms, customs and lifestyle of the IP populations and prepare a TPP consisting of an inclusion and communication strategy. The consultation and communication strategy will focus on:

- Identifying how the services offered by the PO can enhance the lives of the IPs given their understanding of their lifestyles, market conditions, livelihood trends
- Identifying methods to best reach the IPs and disseminate information in a culturally appropriate and gender sensitized manner
- Ensure that women are reached and fully understandthe benefits of the products, but also understand all safety implications of the products (especially for the cook-stoves).
- Ensuring that correct and full information is disclosed regarding the project, the particular services being offered by the PO, with especial attention to the details of the terms and conditions of the transaction
- Ensuring complete clarity on messaging regarding not only the benefits of the service/product, but how to properly and safely use and maintain it with full disclosure on maintenance costs associated with the service/product and where to go if the product/service malfunctions or is disrupted in any way
- Maintaining a link with the IP customers to garner their feedback and help address their complaints if any
- Assist in registering complaints if any via the established Grievance Redress Mechanism or more informally with the POs if possible

Communication, documentation and dissemination of information: The communication process must be carefully documented by the project proponents, including keeping photographs and participant's lists. All sessions and communications modes must be in local languages and follow the customs and norms of local communities. The third party monitoring mechanism will assess the safeguards compliance on a yearly basis.

It is expected that the components under the REREDP interventions yield positive social and environmental impacts. No negative impacts on IPs in terms of land acquisition or livelihoods or maintaining their cultural way of life is permissible under the project. Any sub-project seen to be triggering the above via the social screening will not be considered under the project.

In order to ensure no negative impacts accrue, the project will:

- Strengthen IDCOL's capacity for environmental and social safeguard management;
- Ensure proper awareness and arrangement to mitigate the environmental and health hazard due to improper management and disposal of CFL bulbs;
- Disclose the updated ESMF in the website of IDCOL as well as all relevant stakeholders;
- Disclose the summary of the updated ESMF in Bengali in IDCOL website.
- Disclosure of the IPPF in the IDCOL website.

Grievance Redress Mechanism

IDCOL has adopted a method for addressing grievances in this project. All customers relevant to all sub-projects are given the contact numbers for IDCOL Customer Care Center which is staffed by male and female members. All complaints are recorded and a computerized documentation process shows exactly which complaints have been resolved and which require follow-up. Complaints are then registered at the relevant branch offices where they are resolved. If the complaint is not resolved at this stage the complainant is directed to the head of the project proponent agency at the monthly Operational Committee Meetings where all senior officials of all project proponent agencies are required to be present. In the rare event that complaints are not resolved at this stage also, the customer is free to go for legal action. Same procedure is suggested to be followed in the areas of IP population.

IDCOL has established an independent Environment and Social Safeguards Management Unit (ESMU) to institutionalize the environmental and social management in its operation.

Institutional Arrangements

The social screening will be conducted by the POs and findings submitted to IDCOL before permission/license is given to the POs to go ahead and market or sell the services/products. Once IDCOL checks the screening and allows the POs to proceed; the latter will prepare a TPP consisting of an inclusion and communication strategy. The communication modality described above will be implemented by the POs. This has largely been covered in the previous phase of the project as well as part of the PO's marketing strategy but will now follow a more methodical and well-documented process covering the aspects mentioned above as well as any new issues which are found during the consultations. As part of their monitoring activities IDCOL will visit 25% of all POs annually, but will ensure that all POs dealing with IP populations are covered. IDCOL will check all relevant documentation including TPPs - communication materials used, photographs, participant's lists in listed consultations etc.

Access to Information: The IPPF will be made available in the website of IDCOL and other stakeholders. In addition, there will be IPPF written in Bengali language and available in the website.

ANNEX 21: REVIEW OF EXPERIENCE WITH IMPLEMENTATION OF THE ESMF

A. Environmental Category

Based on the activities, RERED AF 2 was classified as a Category 'B' which is appropriate and consistent with the provisions of OP/BP 4.01, and as the project objectives, designs and expected impacts remain unchanged, the safeguard category B will also remain unchanged for the proposed additional financing. As the project does not include any land acquisition, OP/BP 4.12 is not likely to be triggered in this project. As tribal people may live in many off-grid areas where different components of the project will be implemented, since transactions will be of commercial nature with willing buyer-willing seller basis, the Tribal Peoples Policy (OP/BP 4.10) was not triggered in the original RERED AF 2. The relevant national policies of Bangladesh like, the Environmental Conservation Act 1995 (ECA'95) and the Environmental Conservation Rules 1997 (ECR'97), Renewable Energy Policy of Bangladesh (2008), Bangladesh Labor Law (2006), etc. will be obliged for the project.

B. Methodology of Safeguards Compliance Followed In RERED AF 2 Project

To ensure the compliance of required environmental and social safeguards in a satisfactory manner, a comprehensive environmental and social management framework (ESMF) was adopted in June 2012. The ESMF, along with the Bangla version, was disclosed in websites of the implementing agencies (http: //www.idcol.org. and http://www.reb.gov.bd) in July 2012 and in the World Bank's InfoShop on the same date. Hard copies of the document were made available in IDCOL, REB, Power Cell and at the offices of the partner organizations of IDCOL. The Frameworks separately assessed the environment and social impacts of project components and serve as a set of guidelines to be used for projects where the precise nature and scale of sub-projects are not known in advance. These guidelines serve as a tool to select the optimal project intervention from social and environmental perspectives, to prepare preliminary designs, and to ensure complete integration of social and environmental concerns and mitigation measures in the design for the activities to be undertaken by project implementing agencies.

In general, the ESMF provides a set of policies, acts, rules, procedures, programs, and institutions that collectively work towards protecting and enhancing the attributes of the environment and persons that may be impacted by the activities undertaken in the Project. Various mitigation measures are outlined to minimize environmental impacts and fair compensation mechanisms should residual impact be unavoidable. Moreover, the ESMF provides screening, monitoring, and post-evaluation mechanisms so that any present or future impact can be identified and resolved quickly.

C. Summary Of Environmental Assessment of RERED II

The following are the major progress achieved under the ongoing RERED II project:

- There are 14 en-listed battery suppliers in IDCOL SHS program, who have fully completed the ISO 14001:2004 (Environmental Management Standard) and OHSAS 18001:2007 (Occupational Health Safety Standard) certification process. Out of these 14 battery suppliers, only 4 have their own recycling plants while the rest have entered into arrangements with the existing 4 recycling plants to use their facilities. Given the growth of the program, the existing recycling capacity will become inadequate in the near future; all the existing manufacturers need to have their own recycling plants.
- Safe disposal of expired batteries (5-year warranty period) has been ensured through enhanced incentives for returning the expired batteries to the approved recycling centers. The program has made it a requirement that all the battery manufacturers and the recycling centers in the country are to be compliant with ISO and OHSAS requirements to ensure safe recycling of batteries. As long as the batteries are returning to approved

recycling centers (and not to backyard smelters), the batteries are recycled in an environmentally safe manner because of the ISO and OHSAS requirements. A disposal mechanism is currently being worked out for the PV panels, which have 20-year warranty.

- Despite dropping the efficient lighting component from the project, the work on preparation national guideline for safe disposal and collection of CFLs throughout the country has commenced with the consultant appointed and the inception report has been submitted.
- The site specific environment and social screening/assessment along with the environmental and Social management plan (ESMP) has been carried out for all approved irrigation pump
- Audit Consultants was hired for undertaking an environment audit to assess the adequacy of the current mechanism for ensuring proper recycling of batteries.
- A consultant to be procured for preparing the guideline for safe disposal and recycling of PV panels.

D. Status of Battery Sector Before ESMF

Battery recyclers were found to recycle in neither environmentally compliant nor caring health safety aspects. Because there was lack of awareness on the importance of environment and health safety (EHS) aspects. There was no application of PPE, measures of controlling dust particle and thermal dispersion. Even there was no first aid box or minimum level of housekeeping. The collected expired batteries were broken manually. The residual electrolyte was discharged into the ground without adequate neutralization. Thereafter, the casing, separator and lead bars were separated without any use of PPE. They used to break casing manually by using hammer without adopting any health safety arrangement. The collected lead bar were melt into the rotary furnace and taken to kettle. The quality and efficiency of furnace and cattle were found inadequately efficient. The heat of rotary furnace was found to increase the temperature of ambient air resulting significant uncomfortable situation to workers.

E. Status of Compliance after ESMF

After incorporating the ISO 14001: 2004 and OHSAS 18001:2007 and ensuring regular monitoring, the environment and health safety condition of battery recycling plants have improved significantly and the recyclers follow a well-structured recycling. Due to the requirement ESMF, they have to either install new equipment and machineries or retrofit the existing set-up, which is also a significant positive outcome of ESMF. The battery plants are arranging training on basic EHS aspects for selected workers and officials and ensureing regular medical checkup facility for workers.

The expired batteries are broken with properly and the remaining electrolyte is poured in a tank containing water to neutralize the acid. The neutralize acid is let out through a drain/pipe to the nearby tertiary collector after proper treatment and being confirmed that the pH level has been adequately neutralized. The casing with lead bar and separator is taken to a special type of table, where lead bar are separated. Thereafter the casing is crushed for plastic chips as are required for manufacturing a new battery casing and the lead bar is taken to the well engineering melting section.

F. Environment Management of Various Activities of the Project

The potential environmental impacts of the project components under RERED II project and their corresponding mitigation measures as have been adopted by IDCOL are mentioned as follows:

Environmental impacts and corresponding mitigation measures adopted by IDCOL

Component	Impact	Mitigation measure

Component	Impact	Mitigation measure
SHS	**Operation Phase:** Improper management of expired batteries may lead to environmental pollution and health safety concern.	▪ IDOCL has prepared "Policy Guidelines on Disposal of Warranty Expired Battery". The customers, POs, and manufactures should comply with this Policy fully. ▪ IDCOL has introduced the tracking mechanism of proper disposal expired battery. ▪ IDCOL has deployed 12 solar inspectors spreading over in 12regional offices with coverage of the entire country to exclusively monitor the management of expired battery. ▪ There is a financial incentive for POs and recyclers for recycling the expired battery properly.
	Construction Phase: During manufacturing of lead-acid battery, there is significant risk of environmental and health safety hazards.	▪ IDOCL has required all battery suppliers and expired battery recyclers under SHS program to be ISO 14001:2004 and OHSAS 18001:2007 compliant in addition of the requirements of the DOE. At present there are 17 battery suppliers and 3 expired battery recyclers, who have complied with these requirements. ▪ IDCOL arranges quarterly EHS compliance meeting to raise awareness about EHS and assess the implementation of required EHs standards. ▪ Installation of effluent treatment plant (ETP) and air treatment plant (ATP) have been made mandatory for en-listed battery suppliers and expired battery recyclers.
Solar irrigation	**Construction Phase:** Adverse Impact on ecosystem will not occur in general circumstances. However, moderate change in land use including tree clearing may be required depending on project site.	▪ To mitigate the scope of environmental impacts due to solar irrigation, IDCOL has introduced a special screening template, which covers most of the relevant aspects.
	Operation Phase: Excessive water use may cause impact on hydrology.	▪ IDCOL has emphasized the project proponent to prepare a proper water pump-up and use plan reference from experience in the surrounding areas and results of hydrological surveys. ▪ In addition, IDCOL has conducted a survey by an Expert about the water availability in various potential areas.
Mini-grid	**Construction Phase:** As mini-grid requires a considerable piece of land, there is scope of disturbance to site specific ecosystem in the Project area.	▪ To address the possible adverse impacts, IDCOL has made mandatory to project sponsor to prepare a detail environmental impact assessment (EIA). In this regard, IDCOL has introduced a well structured ToR for EIA.
	Operation Phase: Due to operation of back-up generator, there could be temporal noise concern.	
	Operation Phase: Due to operation of diesel fueled back-up generator, there could be temporal concern due to SOx emission.	

Component	Impact	Mitigation measure
Gasification of Biomass	**Operation Phase:** Smoke from biomass gasification plant may cause air pollution. The smoke and dust may include hazardous substances and cause health disturbance to the workers.	▪ IDCOL has required a detail environmental impact assessment and the proper implementation of EMP.
	Construction Phase: Impact on ecosystem will not occur in ordinary circumstances. However, tree clearing may be required depending on project site.	
Biogas Power Generation	**Operation Phase:** Because waste water will be digested in the system, the environmental load will be reduced. However, improper slurry management may cause water pollution.	▪ IDCOL has required the project proponent to install sufficient facilities and conduct the proper maintenance.

G. **Social Management**

Among the project components, there is no specific land requirement for SHS because they can be installed at roof or any high place in the premise of customer. In addition, the requirement of land for ICS manufacturing plant will be localized which will be met by direct purchase of land from willing sellers. Similarly, land required for mini-grid, solar irrigation, biogas and biomass based project will be bought from the market. Thus, OP 4.12 will not be triggered in the additional financing phase. However, as the project will cover whole Bangladesh, tribal population may come in contact with the project. However, because the transactions with the IPs will be commercial in nature with willing-buyer willing-seller basis, OP4.10 was not triggered in the parent project. Consultations with the IPs are done in their local languages to be able to persuade them to buy the products/services that the project is supporting. IDCOL has adopted the following basic principles in regard of social safeguards as is provided below.

- A project requiring any type of land acquisition will not be financed
- No public lands will be used for the project
- Land whether made available via direct purchase or leasing will be screened to ensure that no physical displacement of communities/persons will take place

As a part of Social Management Plan, IDCOL has introduced a social compliance screening checklist as is provided below to adopt the mitigation measures in respect to the impacts.

Social safeguards compliance screening checklist

A. Involuntary Resettlement (IR) Aspect

- Does the project require any land acquisition?
- Type of land (public, private or lease)
- Is there any settlement present in the site?
- Is there any recorded litigation issue associate with the site?
- Is there any close relationship between the general livelihood pattern and the site in the project area
- Does the project require physical displacement of any person/household/community?

B. Indigenous People (IP) Aspect

- Is the project site located in indigenous people (IP) prone area?
- Is there any impact of the project on religious and cultural practice and belief of IP?
- Is there any impact of the project on livelihood pattern of IP?
- Is there any IP settlement recorded (present and near past) in the site?
- Is there any necessity of displacing (physically or economically) any IP person/household/community?
- What local language is used by the IP population?
- Is there any close relationship between the general livelihood pattern and the site in the project area
- Are the PO staffs conversant in these languages and is the information material relevant to the terms and conditions of purchasing the services and operation and maintenance of equipment available in local language?

H. Consultation and Participation

For SHS, the representatives of POs consult with potential customers and based on their response, they install SHS. The clients usually pay in installments by availing a micro credit from the POs. The same approach of consultation is applicable for ICS and biogas plant. Mini-grid, solar irrigation, biogas and biomass based power project require significant consultation as these projects will serve a wider community instead of individual households. Before financing these components, IDCOL assesses the local demand or customer's response on the components through exhaustive public consultation

I. Learning From The Assessment & Recommendation For AF For Further Improvement

Based on the aforesaid discussion, it can be concluded that the ESMF of REREDP II has adequately covered most of the environmental and social issues and IDCOL has shown competency to implement required measures. However, as enhancement is a continuous process, IDCOL plans to take the following measures.

Recommended measures for RERED II AF

Issue	Potential responsive measure	Proposed action in the ESMF of REREDP 2 AF
Pollution during PV panel manufacturing	▪ Ensuring proper EMS and OHS measures during manufacturing process	▪ ISO 14001:2004 and OHSAS 18001:2007 have been required for all PV panel suppliers.
Pollution with expired PV panel	▪ An Action Plan is required for proper disposal of PV panel	▪ An Action Plan to be formulated.
Proper management of expired battery	▪ Enforcing independent recycling facility for all battery suppliers	▪ It is planned to suggest a time line of installing recycling plant by all battery suppliers.
Satisfactory compliance of basic environmental, social and health safety aspects in regard of all project components	▪ All commercial biogas projects need to conduct detail environmental impact assessment (EIA). ▪ The respective official of IDCOL will regularly monitor the safeguards compliance of operational project ▪ The respective official of IDCOL will conduct site suitability assessment during the appraisal process .	▪ Commercial biogas and biomass based projects will conduct EIA. ▪ Environmental Specialist of IDCOL will initially assess and later on monitor the safeguards compliance status according to the schedule as has been provided as Annex-01.
Gender mainstreaming	▪ Adoption of Gender Action Framework	▪ Emphasis on Gender Development has been mainstreamed in the project.

Monitoring and reporting schedule

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
01	**Solar Home system**	Environmental and health safety (EHS) compliances of all IDCOL en-listed battery recycling plants with their effectiveness of ESMF implementation.	**Half-yearly**	**Half-**yearly Report	IDCOL website
		EHS compliances of all IDCOL en-listed battery suppliers with their effectiveness of ESMF implementation.	**Monthly** (manufacturing plant of two suppliers in each month)	**Quarterly** Report by comprising the observation of monthly monitoring	IDCOL website
		Basic EHS compliance of POs with emphasis on taking care of environmental and safety compliance during storage, collection and distribution of lead acid battery, PV panel and other accessories.	**Quarterly** (at the least two branch offices of three separate POs)	**Quarterly** (at the least two branch offices of three separate POs)	IDCOL website
		Expired battery collection and distribution of new battery	**Quarterly** (collect monthly report from POs and battery recyclers and compile it quarterly)	**Quarterly**	IDCOL website
		Quarterly EHS Compliance meeting at IDCOL for raising awareness of battery recyclers and manufacturers and assess their status of EHS implementation based on the submitted quarterly report	**Quarterly** (all battery recyclers and suppliers will attend the quarterly meeting, submit Compliance Report and share findings, IDCOL will arrange awareness raising presentation and so on.)	**Quarterly** (Outcome of the quarterly meeting based on the observation of the quarterly report submitted by the manufacturers and recyclers)	IDCOL website
02	**Solar irrigation**	Basic environmental, social and health safety compliance assessment of solar irrigation project under construction/operation.	**Half-yearly** (at least three operational projects in each six months)	**Half-yearly** (based on the observation of monitoring)	IDCOL website
		Assessment of suitability of project site in respect of basic environmental and social aspects for each new solar irrigation project as is to be installed.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
03	**Mini-Grid**	Basic environmental, social and health safety compliance assessment including implementation of EMP of solar mini-grid project under construction/operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly** (based on the observation of monitoring)	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new mini-grid project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
04	**ICS**	Basic environmental and health compliance of manufacturing, operation and maintenance of ICS.	**Half-yearly** (at the least three ICS manufacturing plant of three POs)	**Half-yearly**	IDCOL website

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
05	**Biogas project**	Basic environmental, social and health safety compliance assessment including implementation of EMP of commercial bio gas based project under construction/operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial biogas project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
06	**Biogas and biomass based power project**	Basic environmental, social and health safety compliance assessment including implementation of EMP of commercial bio gas/biomass based project under operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website
		Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial biogas project.	**Once** for each project during appraisal process	**Once** during appraisal process	e-mail to respective stakeholders
07		Describe the status of ESMF implementation over the annual scenario	**Annual Report**	**Annually**	IDCOL website

Annex 22: TOR FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR IDCOL'S COMMERCIAL (OFFICE) GREEN BUILDING PROJECT

A. INTRODUCTION

For more than two decades Infrastructure Development Company Ltd. (IDCOL), is helping to developing infrastructure and renewable energy projects in Bangladesh. IDCOL is the largest energy and infrastructure financing company in Bangladesh and involved in structuring and financing of many large infrastructure projects in sectors like power, telecom, toll roads, ports, ICT etc. Many of these projects were first of its kind in Bangladesh and vital for the national development.

IDCOL has recently been allocated a 0.164 Acre plot at Agargaon, Sher-E-Bangla Nagar, Dhaka by the Government of Bangladesh. This southeast facing land has a 60 feet wide road in its front and plots on three other sides. IDCOL is planning to establish a commercial green building in the plot for using as office spaces with the objective of achieving Leadership in Energy & Environmental Design (LEED) platinum certification.

Being duly responsive to statutory regulation as well as requirement of respective development partner in regard of environmental and social compliances, IDCOL is in the process to engage a competent Environmental Specialist to conduct detail Environmental and Social Impact Assessment.

B. LEGISLATIVE REQUIREMENTS

According to ECR, 1997, the proposed project is assumed to be of **Orange B Category** (reference: Project no. 8 of Orange B category Projects List). As the potential environmental and social impacts are expected to be mostly of site-specific, the project seems to be of **B Category** in respect of usual categorization of The World Bank and **Moderate Type** in respect of Environmental Social Framework, 2017 of the World Bank In addition, IDCOL has its own Environmental and Social Safeguard Framework (ESSF) under which all IDCOL financed projects are required to prepare an Environmental and Social Impact Assessment (ESIA) Report covering the potential environmental, occupational and social impacts as well as possible

mitigation measures, which also concludes the Project to be of a **Moderate Risk** Project. Accordingly, to meet the requirement, IDCOL is in the process to conduct an Environmental and Social Impact Assessment (ESIA) report in consistent with:

1. The guidelines of ECA 1995 (Amended in 2002), ECR 1997 (Amended in 2002), of Department of Environment, Bangladesh
2. National Land-Use policy, 2001
3. Bangladesh Labor Act, 2006 (Amended in 2019/18),
4. Bangladesh National Building Code, 2006
5. The Noise Pollution Control Rules, 2006
6. Respective Operational Policies of the World Bank including-
   - Environmental Assessment
   - Natural Habitats
   - Involuntary Resettlement
   - Indigenous People
7. EHS Guidelines of The World Bank

C. AIRSHED OF ESIA

This ESIA will mainly concentrate environmental and social impacts within 1/500 km radius air-shed from the project site.

D. OBJECTIVES OF THE ESIA

The objectives of the ESIA are to:

1. assess the baseline environmental and social conditions in the Project area;
2. identify the potential environmental, social and occupational impacts due to the Project;
3. propose appropriate mitigation and monitoring measures to minimize adverse environmental, occupational and social impacts as per the DoE, WB guidelines.

E. APPROACH AND METHODOLOGY

The ESIA should include, but not limited to, the following:

1. **Baseline Condition:** Information on baseline environmental and socio-economic condition in the project area.
2. **Literature Review:** Secondary data on weather, soil, water resources, wildlife, vegetation etc.
3. **Legislative Review:** Information on relevant legislation, regulations, guidelines, and standards.
4. **Project Description:** A generic description of the proposed activities relevant to the environmental and social assessments.
5. **Impact Assessment:** Potential environmental, occupational and social impacts due to soil source and construction and operation of the project.
6. **Mitigation measures:** Proposed mitigation measures including an environmental and social management plan for the anticipated environmental, occupational and social impacts.

F. STRUCTURE AND CONTENT OF ESIA REPORT

The ESIA report shall contain the following, but not limited to, elements:

I. Executive Summary

This section will describe the project activities, critical environmental and social issues, significant findings, and recommended actions.

II. Policy, Legal, and Administrative Framework

This section will cover the following aspects:

- The guidelines of ECA 1995 (Amended in 2002), ECR 1997 (Amended in 2002), of Department of Environment, Bangladesh
- National Land-Use policy, 2001
- Bangladesh Labor Act, 2006 (Amended in 2019/18),
- Bangladesh National Building Code
- Respective Operational Policies of the World Bank including-
    - Environmental Assessment
    - Natural Habitats
    - Involuntary Resettlement
    - Indigenous People
- EHS Guidelines of The World Bank

III. Project Description

This section will cover the following aspects of the project:

1. Rationale of the project
2. Please describe the suitability of the site with the advantage of accessibility.
3. Mention the amount and source of required power supply.
4. Mention the amount of required water supply.
5. Description of layout plan of the proposed project with the requirement of land for various facilities.
6. Please briefly describe the reliability of the proposed technology and technology providers.

7. Briefly describe the requirement of land development for the project.

IV. Baseline Environmental Condition

This section will cover the following aspects of the project area:

1. Existing land use of the project site and project area (an air shed of about 1000/500 m radius).
2. Description of local geology, topography and soil condition; and their implications to the project.
3. Description of natural drainage system and contour of the project area.
4. Location of major waterbodies like river, canals etc. and their approximate distance from project site.
5. Minimum and maximum temperature for last five years; and its implication with the project.
6. Monthly rainfall and humidity data of last five years; and its implication with the project.
7. Seismicity, cyclone and flood risk in the project area.
8. Hourly noise data : 8 hours day time and 8 hours night time
9. Amount of SOx, NO, CO, PM 10, PM 2.5 in the ambient air.
10. Amount of pH, TDS, BOD, COD & Fe in surface and ground water (from the nearest recognized source).
11. A list of aquatic flora, aquatic fauna as are available in the project area
12. A list of terrestrial flora, terrestrial fauna as are available in the project area.
13. Vulnerability of Project with respect to climate change impacts.

V. Baseline Socio-economic Condition

This section will cover the following social aspects:

1. Distribution of population in the project area in terms of religion, age, sex and occupation
2. Available physical and cultural resources.
3. Land acquisition process and involuntary resettlement issue (as are available).
4. Indigenous people issue (as are available).
5. Existing land use of the project site and the type and number of people as are dependent on this piece of land from economic perspective.

VI. Anticipated Environmental, Occupational Impacts and Mitigation Measures

This section will cover the following aspects of the Project:

1. Potential environmental and health safety impacts during various activities of construction phase of the project.
2. Suitable mitigation measures to minimize the environmental and occupational impacts during construction phase.
3. Potential environmental and health safety impacts during various activities of operation phase.
4. Suitable mitigation measures to minimize the environmental and occupational impacts during operation phase.
5. Please emphasize on whether the land-filling/land development of the proposed project will adversely affect the local drainage pattern resulting long-term/short term water logging. If there is any scope of adversely affecting natural drainage pattern, please mention how it would be resolved.

VII. Anticipated Social Impacts and Mitigation Measures

This section will cover the following aspects:

1. Impact on indigenous people and measure to mitigate the adversity of impact, if indigenous settlements are available at project area.
2. Involuntary resettlement issue due to land acquisition
3. What could be the alternative livelihood/income generating opportunity for the people as are dependent the proposed project site
4. Traffic impact to the adjacent community and available accessibility.

VIII. Analysis of Alternatives

This section will discuss about alternatives with regard to

- Proposed project site
- Technology, design, and operation

IX. Environmental, Occupational and Social Management Plan

This section deals with the set of mitigation and management measures to be taken to avoid, reduce, mitigate, or compensate for adverse environmental, occupational and social impacts. This section is also expected to reflect on institutional arrangement and potential budget of ESMP implementation.

X. Emergency Response/Disaster Management Plan

This section will cover a brief disaster management plan including possible causes, types and nature of disasters associated with suitable mitigation measures. As the project will involve use of significant coal as well as electricity, fire hazard could be really disastrous. So, this section is expected to provide an indicative project specific Disaster Management Plan (DMP) to address fire and relevant natural hazard.

XI. Grievance Redress Mechanism

This section will describe the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental, social and occupational performance. So, that no social issue can appear as detrimental for the project.

XII. Conclusion and Recommendation

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

Environmental and Social Management System (ESMS)

July 2018

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PREAMBLE

Infrastructure Development Company Limited (IDCOL) was established on 14 May 1997 by the Government of Bangladesh. The Company was licensed by the Bangladesh Bank as a non-bank financial institution (NBFI) on 5 January 1998. Since its inception, IDCOL is playing a major role in bridging the financing gap for developing medium to large-scale infrastructure and renewable energy projects in Bangladesh. The company now stands as the market leader in private sector energy and infrastructure financing in Bangladesh.

IDCOL recognizes Environmental and Social Risk Management as serious issues that require systems to monitor and control in line with legal requirements in the sector. IDCOL practices Environmental and Social Management System (ESSF) and Environmental and Social Management Framework (ESMF) to constitute IDCOL's Environmental & Social (E & S) Policy. ESSF is applicable for infrastructure projects and ESMF is applicable for renewable energy projects and programs. Currently, IDCOL is preparing the Environmental and Social Management System (ESMS) in order to improve the management of the environmental and social implications of its solar rooftop & grid-tied solar power projects. The IDCOL Environmental and Social Management System (ESMS) will provide a systematic procedure to assess whether these projects will lead to any potential adverse environmental and social impacts. As such, the ESMS aims to ensure that negative impacts are avoided or minimized or compensated to the extent possible while positive impacts are stimulated.

ABBREVIATIONS

IDCOL	Infrastructure Development Company Limited
NREP	National Renewable Energy Policy 2008
RE	Renewable Energy
SREDA	Sustainable and Renewable Energy Development Agency
MSW	Municipal Solid Waste
ESSF	Environmental and Social Safeguards Framework
FI	Financial Intermediaries
ESMS	Environmental and Social Management System
ESPP	Environmental and Social Policies and Procedures
WB	World Bank
REFF	Renewable Energy Financing Facility
ESIAs	Social Impact Assessments
ECA	Environmental Conservation Act
DoE	Department of Environment
ECC	Environmental Clearance Certificate
ECR	Environment Conservation Rules
EMP	Environmental Management Plan
RAPSS	Remote Area Power Supply Systems
BNBC	Bangladesh National Building Code
PAPs	Project Affected Persons
CHT	Chittagong Hill Tracts
DC	Deputy Commissioner
MoL	Ministry of Land
MoEF	Ministry of Environment and Forestry
PRSP	Poverty Reduction Strategic Paper
SESA	Strategic Environmental and Social Assessment
EMP	Environmental Management Plan
GIIP	Good International Industry Practice
EHS	Environmental, Health and Safety
ESIA	Environmental and Social Impact Assessment
FPIC	Free, Prior, and Informed Consent

CBD	Convention on Biological Diversity
NBSAPs	National Biodiversity Strategies and Action Plans
BMP	Biodiversity Management Plan
GFN	Good Faith Negotiation
ICP	Informed Consultation and Participation
GRC	Grievance Redress Committee
LAP	Land Acquisition Plan
DC	District Commissioner
GHG	Green House Gases
IPP	Independent Power Producer
ESMP	Environmental and Social Management Plan
ToR	Term of Reference
IUCN	International Union for Conservation of Nature
EQS	Environmental Quality Standards
GOB	Government of Bangladesh
R&R	Resettlement and Rehabilitation
RAP	Rehabilitation Action Plan
CAP	Corrective Action Plan
SCC	Site Clearance Certificate
IEE	Initial Environmental Examination
AIAO	American International Accreditation Organization
CSR	Corporate Social Responsibility
PPE	Personal Protective Equipment
VECs	Valued Environment Components

CHAPTER 01: INTRODUCTION

1. Infrastructure Development Company Limited (IDCOL) was established in 1997 by the Government of Bangladesh to encourage private sector investment in infrastructure and energy sector. It is mandated to finance renewable energy and infrastructure projects listed in Government's priority list and implemented by the private sector. Accordingly, the organization was equipped with appropriate policies, procedures, and manpower to develop capacity to identify investment opportunities and assess small, medium and large infrastructure as well as renewable energy projects.
2. The Vision of the company is to assist in ensuring economic development of the country and improve the living standard of the people through sustainable and eco-friendly investments. The mission of the company is to work as both a catalyst and an optimizer of private sector participation in promotion, development and financing of infrastructure as well as renewable energy. The organization has three core values: (1) the company is committed to delivering global standard services and competency to its clients; (2) the company maintains transparency and integrity in all its services; and finally, (3) it performs as a socially responsible development financing institution.
3. In case of renewable energy projects, IDCOL, apart from extending financial supports, closely monitors the market for compliance of renewable energy technologies and maintains the required technical standards to ensure the quality and sustainability of its programs and projects. At present, IDCOL is financing a diverse portfolio of renewable energy initiatives such as solar home system, solar irrigation, solar mini-grid, biogas plant and improved cook-stove. These renewable energy initiatives have transformed the lives of rural households with reliable and affordable source of energy. The energy poverty of the country has been successfully reduced as rural households have now replaced their inefficient, unhealthy and polluting kerosene lamps, cooking stoves and diesel run irrigation pumps with highly efficient and environment friendly technologies, hence, brought a radical change in their everyday life.
4. Making a positive difference in the community has been possible for IDCOL by choosing the best projects to help them achieve what they want for their community and this is done through an in-depth project appraisal. IDCOL follows a standard procedure and process to conduct project appraisal. During the appraisal phase, the financial, economic, technical, market, legal, environmental and social aspects of projects are

assessed as well as detail review on sponsors is conducted as part of project appraisal and due diligence requirements.

5. IDCOL has long and praiseworthy history of energy-based development financing. The Environmental and Social Management System (ESMS) is the system developed by IDCOL as an attempt to ensure continuity of its social and environmental commitments in the designing and implementation of all its projects and programs. The ESMS has been developed particularly for grid connected solar and rooftop solar projects in line with the environmental and social risks associated with those projects.
6. This document outlines the principles upon which the ESMS is based on, the law and policies to be followed, the organizational framework and capabilities of IDCOL, specific projects and their implementation procedures (where the solar rooftop and grid based solar power project has been discussed in details as it is the latest one to be designed and implemented) and lastly, the risk assessment and ways to mitigate them. All the sections stated above are discussed in each of the next five chapters.

CHAPTER 02: ESMS PRINCIPLES

7. The ESMS is guided by five principles rooted in IDCOL policy statement that provides high-level governance and necessary directions for implementation of the operational framework of IDCOL projects. The statements are mentioned in the table below:

Table 1: ENVIRONMENTAL & SOCIAL POLICY STATEMENT OF IDCOL

Environmental and Social Policy Statement of IDCOL
IDCOL has a mandate of financing private sector for developing medium to large-scale infrastructure and renewable energy projects in Bangladesh. IDCOL recognizes the significance of environmental, health/ safety and social considerations in infrastructure development and believes in sustainable development In order to achieve the above, IDCOL is committed to: (a) Mainstream environmental, health / safety and social (E&S) considerations in appraising and financing infrastructure projects to avoid / minimize adverse impacts and risks to the environment and people that may be affected (b) Ensure compliance with all relevant E&S policy and legislative requirements and laws of the lands with which it engages and remain responsive to the E&S requirements of international best practices (c) Avoid / minimize land acquisition and resettlement through selection of appropriate locations and design of projects (d) Where land acquisition is unavoidable, compensatory replacement value of such acquired land/property will be paid before displacement or replace with land having equal value and quality together with other facilities such as housing and basic infrastructure facilities. (e) Ensure protection of vulnerable groups, such as the economically and socially disadvantaged, women, children, physically handicapped and ethnic communities and take appropriate measures to restore their livelihood as relevant

(Source: http://idcol.org/download/1d8514287c3e7cda76423b33a781f79c.pdf)

8. The role of the ESMS is to assess the adherence of the design of IDCOL projects to these principles. The principles also guide the implementation of ESMS activities such as the impact assessment processes. Several of the principles are: Environmental and Social Risks & Impacts Assessment and Management; Environmental Health & Safety; Biodiversity Conservation; Conservation of World Heritage; Resettlement; Gender Equality and Social Inclusion; Vulnerable and Ethnic Communities and Stakeholder Engagement. These are described in the sections below:

2.1. Principles on Environmental and Social Risks & Impacts Assessment and Management Procedures

9. Risks and impacts assessment and management is one of the prime principles of the ESMS. The principal entails:
   - To identify and evaluate environmental and social risks and impacts of the project;
   - To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and, where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities, and the environment;
   - To promote improved environmental and social performance of project sponsors through the effective use of management systems;
   - To ensure that grievances from affected communities and external communications from other stakeholders are responded to and managed appropriately;
   - To promote and provide means for adequate engagement with affected communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.

2.2. Principle on Environmental Health & Safety

10. Environmental health and safety is one of the most important principles of the ESMS. The organization highly emphasizes on maintaining compliance to the relevant environment laws and acts of the Peoples' Republic of Bangladesh and also rules set by the donors including the following:
    a) Any environmental degradation is to be avoided and/or (if not avoided) minimized to the minimal extent;
    b) The availability and use of personal protective equipment is to be ensured and be closely monitored continuously;
    c) Personal protective equipment is to be made readily available and all defective equipment is to be replaced promptly;
    d) Presence of safety equipment and training to the building users on fire safety plan is to be ensured;
    e) ISO 14001:2004 (Environmental Management Standard) and OHSAS 18001:2007 (Occupational Health Safety Standard) compliances for all battery & solar PV

panel suppliers (national and international level) and expired battery recyclers to be duly followed;

f) Environmental Health & Safety (EHS) compliance is to be monitored regularly;

g) Awareness raising programs and training for the staff of the projects are to be arranged.

2.3. Principle on Biodiversity Conservation

11. The ESMS is guided by the Convention on Biological Diversity (CBD) including the CBD's Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets.[1] As emphasized by the Biodiversity for Development Program of the CBD, biodiversity loss can result in critical reductions in the goods and services provided by the earth's ecosystems all of which contribute to economic prosperity and human development. This is especially relevant in developing countries with rich natural resource base like Bangladesh. National Biodiversity Strategies and Action Plans (NBSAPs) are the principal instruments for implementing the Convention at the national level. As of September 2016, a total of 185 out of 196 (94%) parties have developed NBSAPs whereas NBSAP was still in preparation for Bangladesh.[2]
12. Currently, about 3.41 % of the land area is protected in Bangladesh compared to about a tenth of the world's land surface globally. There are 47 wildlife sanctuaries in Bangladesh. Three of these protected areas are also Ramsar sites (i.e., the Sundarbans Reserve Forest (42-44), Hakaluki Haor (18) and Tanguar Haor (45)) which cover an area of 611,200 hectares. Ramsar Convention (Ramsar sites) is concerned with Wetlands of International Importance and covers fresh water, estuarine and coastal marine habitats. The convention was signed in Ramsar (Iran) in 1971 and came into force in December 1975. The convention came into force in Bangladesh on 21 September 1992.
13. The application of OP4.04 on biodiversity conservation and sustainable management of living natural resources of the World Bank is established during the social and environmental risks and impacts identification process and therefore, a detailed assessment of relevant risks and impacts must be included in the ESIA, including alternative options for project design and addressed through the ESMS. The key requirements that must be met during ESIA process are outlined in Table 1.

[1] https://www.cbd.int/sp/
[2] https://www.cbd.int/doc/meetings/mar/cbwsoi-seasi-01/other/cbwsoi-seasi-01-bangladesh-en.pdf

Table 2: Identification and Mitigation of Biodiversity-Related Risks and Impacts

Issue	Description
Scoping for biodiversity impacts	The risks and impacts identification process should include scoping of potential issues relating to biodiversity and ecosystem services. Scoping may take the form of an initial desktop analysis and literature review, including a review of regional studies and assessments, the use of global or regional screening tools, and field reconnaissance.
Scoping for impacts on ecosystem services	Scoping for ecosystem services may also take place through consultation with Affected Communities as part of stakeholder engagement.
Application of the mitigation hierarchy	As a matter of priority, impacts on biodiversity and ecosystem services should be avoided. When avoidance of impacts is not possible, measures to minimize impacts and restore biodiversity and ecosystem services should be implemented. For biodiversity, the mitigation hierarchy may include offsets.
Determination of habitat type	ESIA must clearly define habitat type of the subproject area and support it with adequate data and analysis. Habitat types may be natural/ modified and critical / non-critical.[3]
Legally protected and internationally recognized[4]areas[5]	In circumstances where a proposed project is located within a legally protected area or an internationally recognized area, requirements of OP4.04 for either natural or critical habitat must be fulfilled, as applicable[5]. In addition, the project sponsor will: - Demonstrate that the proposed development in such areas is legally permitted; - Act in a manner consistent with any government recognized management plans for such areas; - Consult protected area sponsors and managers, Affected Communities, tribal peoples and/ or small ethnic communities (if present), and other stakeholders on the proposed project, as appropriate; and - Implement additional programs, as appropriate, to promote and enhance the conservation aims and effective management of the area.
Biodiversity Offsets	When development of an offset is considered as part of subproject design, as included in the mitigation hierarchy, external experts with knowledge of offset design and implementation must be involved. Biodiversity offsets may be considered only after appropriate avoidance, minimization and restoration measures have been applied. The decision to undertake a biodiversity offset therefore would never be a substitute for the implementation of good management practices on the actual project site. Biodiversity offsets are only to be undertaken if significant residual impacts remain after all prior steps in the mitigation hierarchy have been fully assessed and implemented.
Biodiversity Action Plan (BAP)/ Biodiversity Management Plan (BMP)	For critical habitats, a Biodiversity Action Plan and/or Biodiversity Management Plan are required.

[3] Both natural and modified habitats can be, at the same, time, critical habitats should they meet the criteria of OP4.04.

[4]Exclusively defined as UNESCO Natural World Heritage Sites, UNESCO Man and the Biosphere Reserves, Key Biodiversity Areas, and wetlands designated under the Convention on Wetlands of International Importance (the Ramsar Convention).

[5]OP4.04 recognizes legally protected areas that meet the IUCN definition: "A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." For the purposes of OP4.04, this includes areas proposed by governments for such designation.

2.4. Principle on Conservation of World Heritage

14. Critical cultural heritage consists of (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes and (ii) legally protected cultural heritage areas including those proposed by host governments for such designation. Examples include world heritage sites and nationally protected areas. The following is the list of UNESCO World Heritage Sites in Bangladesh:

Table 3: UNESCO World Heritage Sites in Bangladesh[4]

Properties inscribed on the World Heritage List	Properties submitted on the Tentative List
A. Historic Mosque City of Bagerhat (1985) B. Ruins of the Buddhist Vihara at Paharpur (1985) C. The Sundarbans (1997)	A. Mahansthangarh and its Environs (1999) B. The Lalmai-Mainamati Group of monuments (1999) C. Lalbagh Fort (1999) D. Halud Vihara (1999) E. Jaggadala Vihara (1999)

15. In Bangladesh, impacts on cultural heritage are usually avoided when selecting project sites. Similarly, according to the applicable World Bank policies, the projects should not be designed in a way that would envision removal, significantly alter, or damage critical cultural heritage. In exceptional circumstances when impacts on critical cultural heritage are unavoidable, the project sponsors have to meet key requirements presented in Table 4. During environmental and social due diligence process, the project sponsors must be responsible for:

    (a) Verifying the conclusions of the ESIA on whether or not critical cultural heritage is present in the proposed project area and, if so, promptly notify IDCOL;

    (b) IDCOL will determine – in exceptional circumstances - that a project involving impacts on critical cultural heritage (based on IDCOL's internal E&S risk management capacity), ascertaining that adequate risk and impact management measures are included in project sponsors' action plans and incorporated in legal documentation for project financing;

    (c) Implementation monitoring of the projects will be done by IDCOL.

Table 4: Key Requirements for Critical Cultural Heritage

Issues	Description
Consultation	Project sponsor will use a process of informed consultation and participation of the Affected Communities, which uses a good faith negotiation process that results in a documented outcome.
External expertise	The project sponsor will retain external experts to assist in the assessment and protection of critical cultural heritage.
Legally protected areas	Legally protected cultural heritage areas are important for the protection and conservation of cultural heritage and additional measures are needed for any project that would be permitted under the applicable national law in these areas. In circumstances where a proposed project is located within a legally protected area or a legally defined buffer zone, the project sponsor, in addition to the requirements for critical cultural heritage cited above, will have to meet the following requirements: • Comply with defined national or local cultural heritage regulations or the protected area management plans; • Consult the protected area sponsors and managers, local communities and other key stakeholders on the proposed project; and • Implement additional programs, as appropriate, to promote and enhance the conservation aims of the protected area.

2.5. Principle on Resettlement

16. Principles on Resettlement aim to resettle and rehabilitate the affected persons on account of its projects in a manner that they do not suffer from adverse impacts and shall improve or at the minimum retain their previous standard of living, earning capacity and production levels. The resettlement issues shall minimize dependency and be sustainable socially, economically and institutionally. Special attention will be paid to the improvement of living standards of marginalized and vulnerable groups. The rules of the Resettlement and Rehabilitation which are to be followed, are given below:

a) All negative impacts including displacement should be avoided or minimized wherever feasible by exploring all viable alternative project designs;

b) Where negative impacts are unavoidable, efforts should be made either to improve the standard of living of the affected persons or at least assist them in restoring their previous standard of living at no cost to them;

c) All information related to resettlement preparation and implementation will be disclosed to all concerned and community participation will be ensured in planning and implementation;

d) The principles of mutual consent and negotiated settlement will also be used for land acquisition as required;

e) The persons affected by the project who do not own land or other properties but who have an economic interest or lost their livelihoods will be assisted;

f) Before taking possession of the acquired lands and properties, compensation and R&R assistance will be made to those who are available and willing to receive the entitlements;
g) There would be no/minimum adverse social, economic and environmental effects of displacement on the host communities but if needed specific measures would be provided;
h) Broad entitlement framework of different categories of project-affected people has been assessed and is given in the entitlement matrix. Provision will be kept in the budget. However, anyone moving into the project area after the cut-off date will not be entitled to assistance;
i) Grievance redress mechanism has been established at the project level to ensure speedy resolution of disputes;
j) All activities related to resettlement planning, implementation, and monitoring would ensure involvement of women. Efforts will also be made to ensure that vulnerable groups are included;
k) All consultations with projects affected persons (PAPs) shall be documented. Consultations will continue during the implementation of resettlement and rehabilitation works;
l) A Resettlement Action Plan will be prepared including a fully itemized budget and an implementation schedule;
m) Ensure people's participation during the course of the project cycle;
n) Effort should be made towards the enhancement of the positive impact of the projects.

2.6. Principle on Gender Equality & Social Inclusion

17. Mainstreaming gender equity and empowerment is always a focus area for IDCOL. In the activities related to livelihood and restoration, women's needs are to be especially addressed. Gender analysis is to be a part of the social assessment and the basis of the analysis will be findings from gender specific queries during the primary data collection process and available secondary data in the ESIA preparation. The quantitative and qualitative analysis are supposed to bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities as well as understanding whether there is potential for gender based inequitable risks, benefits and opportunities. Based on

the analysis, the specific interventions are to be designed and if required, gender action plan need to be prepared. The overall monitoring needs inclusion of sex disaggregated indicators and gender relevant indicators. The participation of beneficiaries and focus on poverty reduction are two other key determinants of the effectiveness and sustainability of any project. Any project must address the constraints on women's participation in project design, construction and monitoring and evaluation (M & E).

18. Three major tools are to be used to identify and deal with gender issues in the project cycle: gender analysis, project design, and policy dialogue. Gender analysis must be an integral part of the initial social assessment at the screening stage itself. The issues identified need to be scaled up during the feasibility and detailed analysis should be carried out during the project preparation stage. The project designs should be gender responsive based on the gender analysis and should be included in the ESIA. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action.

2.7. Principle on Ethnic Minorities Communities

19. In Bangladesh "ethnic communities" (may also be referred to as "tribal people" in this section) describe native ethnic minorities in south-eastern, north-western, north-central and north-eastern regions of the country. These regions include the Chittagong Hill Tracts, Sylhet Division, Rajshahi Division and Mymensingh District. The total population of ethnic minorities in Bangladesh was estimated to be over 2 million in 2010. A vast number of indigenous tribes of Bangladesh are Buddhists and Hindus by religion while the remaining few are Christians and animists. In general, some key ethnic communities are Khasi, Garos, Jaintia, Chakma, Marma, Santal, Manipuri, Tripuri, Tanchangya, Mro etc. The primary census report of 2011 gives the number of ethnic population groups of Bangladesh as 27. These tribal groups differ in their social organization, marriage customs, foods, birth and death and other social customs from the people of the rest of the country. They have somehow managed to resist centuries of colonization and in the process, they have retained their own customs, traditions and life.
20. Private sector projects can create opportunities for these groups to participate in and benefit from project-related activities that may help them fulfill their objective for economic and social development. Furthermore, these groups may play a role in

sustainable development by promoting and managing activities and enterprises as partners in development. Project sponsors have to meet key requirements presented in Table 5. During environment and social due diligence process:

(a) the project proponents will be responsible for verifying the conclusions of the ESIA on whether or not tribal peoples and/or small ethnic communities are present in the proposed project area;

(b) the project proponents will be responsible for promptly notifying IDCOL when these communities are present in the proposed project area;

(c) IDCOL will determine that a project involving impacts on tribal peoples and/or small ethnic communities can be financed (based on IDCOL's internal environmental and social risk management capacity), ascertaining that adequate risks and impacts management measures are included in project sponsors' Action Plans and incorporated in the legal documentation for project financing. More specifically:

    (i) Verifying broad community support of these groups to the project that should be the outcome of Good Faith Negotiations and Informed Consultation and Participation (ICP) as conducted by project sponsors and stakeholder engagement.

    (ii) In specific circumstances requiring Free, Prior and Informed Consent (FPIC), verifying the due process and adequate outcome, as conducted/ achieved by the project sponsor and stakeholder engagement.

    (iii) Monitoring implementation (with assistance/recommendation from IDCOL).

Table 5: Key Requirements for Managing Issues Related to Impacts on Small Ethnic Communities

Issue	Description
Identification of relevant groups in sub-project area	Project sponsors may be required to seek inputs from competent professionals to ascertain whether a particular group is considered small ethnic communities. In making this determination, the project sponsor may undertake a number of activities, including investigation of the applicable national laws and regulations (including laws reflecting the country's obligations under international law), archival research, ethnographic research (including documentation of culture, customs, institutions, customary laws, etc.), and participatory appraisal approaches
FPIC: Definition	There is no universally accepted definition of FPIC. FPIC builds on and expands the process of informed consultation and participation described in OP4.01 and will be established through good faith negotiation between the project sponsor and these communities. The project sponsor will document: (i) the mutually accepted process, and (ii) evidence of an agreement between the parties as the outcome of the negotiations. FPIC does not necessarily require unanimity and may be achieved even when individuals or groups within the community explicitly disagree.
Participation	The Project sponsor will undertake an engagement process with the Affected small ethnic communities as per the requirements for stakeholder engagement and grievance mechanisms described. This engagement process includes stakeholder analysis and engagement planning, disclosure of information, consultation, and participation, in a culturally appropriate manner.
Tribal people's plan	The project sponsor's proposed actions will be developed with the informed consultation and participation of the Affected Communities of small ethnic communities and contained in a time-bound plan, such as a Tribal Peoples Plan, or a broader community/stakeholder development plan with separate components for small ethnic communities.
Development benefits	The Project sponsor will ensure opportunities for culturally appropriate and sustainable development benefits. The determination, delivery, and distribution of compensation and other benefit sharing measures to the Affected Communities of small ethnic communities will take account of the laws, institutions, and customs of these communities as well as their level of interaction with mainstream society.
Private sector responsibilities where Government is responsible for managing tribal people's issues	Where the government has a defined role in the management of small ethnic communities' issues in relation to the project, the project sponsor will collaborate with the responsible government agency, to the extent feasible and permitted by the agency, to achieve outcomes that are consistent with the objectives of World Bank's policies. The project sponsors will prepare a plan that, together with the documents prepared by the responsible government agency, will address the relevant requirements of this policy. The project sponsor may need to include (i) the plan, implementation, and documentation of the process of informed consultation and engagement and FPIC where relevant; (ii) a description of the government-provided entitlements of affected Indigenous Peoples; (iii) the measures proposed to bridge any gaps between such entitlements, and the requirements; and (iv) the financial and implementation responsibilities of the government agency and/or the project sponsor.

2.8. Principle on Stakeholder Engagement

21. Stakeholder engagement is a cross-cutting issue. In particular, it is required for project sponsors to identify and engage with the range of stakeholders from those directly affected by the actions to those having interest in projects and programs. The nature, frequency and level of effort of stakeholder engagement are to be commensurate with risks and impacts. Table 6 summarizes various levels of stakeholder engagement and responsibilities depending on project risks and impacts. The sponsor has to make a determination as to whether the process conducted and its outcomes are consistent with the requirements of IFC Performance Standard and/or World Bank's operational policies (OP) which may determine if any corrective actions are feasible to address the situation. If corrective actions are feasible, the sponsor should implement them as soon as possible. Such corrective actions may range from conducting additional engagement activities to facilitating access to and ensuring cultural appropriateness of relevant environmental and social information. Implementation of the principle must adhere to the following guidance:
    a) Information must be relevant to stakeholders and reveal not only general information about the project (e.g., purpose, duration, scale, proposed activities), but also potential risks for communities and planned mitigation measures.
    b) Disclosure of information must occur in a reasonable timeframe to allow stakeholders to process this information and – if applicable – raise concerns.
    c) The form of disclosure must be targeted to the audience (particularly to affected groups) in the appropriate language and channels of communication.
    d) Consultation must be carried out in a culturally appropriate, non-discriminatory and gender- sensitive manner, free of external manipulation, intimidation or coercion.

Table 6: Levels of Stakeholder Engagement and Responsibilities

Level of Risk/Impact		Stakeholders	Project Sponsor's Responsibilities*	PFIs Responsibilities	
Increasing Levels of Risk / Impact	High, Significant	Tribal peoples and/ or small ethnic communities under these circumstances: 1) Impact on Lands/Natural Resources; 2) Resettlement of IPs; 3) Impacts on critical cultural heritage, including commercial use of cultural heritage.	**Free, Prior and Informed Consent (FPIC).** Good Faith Negotiation whereby mutually accepted process and evidence of agreement are documented. Includes; disclosure; grievance mechanism; stakeholder Engagement Plan; ongoing reporting to communities on Action Plan.*	Verification	Ongoing Supervision of Community Engagement. Update of E&S Action Plan, as needed
		Impacts on critical cultural heritage, including use for commercial purposes involving Affected Communities (other than on tribal peoples and/ or small ethnic communities)	**ICP + Good Faith Negotiation (GFN)**: process that builds on ICP but also employs good faith negotiations resulting in a documented outcome. Includes: disclosure; grievance mechanism; stakeholder engagement plan; ongoing reporting to communities on Action Plan.*	Ascertain that communities broadly support the project**	
		1) Adversely affected on tribal peoples and/ or small ethnic communities; 2) Potentially significantly adversely affected communities.	**Informed Consultation and Participation (ICP)**: More in-depth process leading to incorporating views of affected communities into decision-making and documenting process. Includes: disclosure; two-way dialogue; grievance mechanism; stakeholder engagement plan; ongoing reporting to communities on Action Plan.*	Ascertain that communities broadly support the project**	
	Moderate	Adversely affected communities and stakeholders.	**Consultation**: Disclosure. Two-way dialogue. Grievance Mechanism. Stakeholder Engagement Plan. Ongoing reporting to communities on project Action Plan.*	Verification	
	All Investment Activities	General Public	**External communication:** Project sponsor implements and maintains procedure to receive, register, screen and address communications from the public, document responses, and adjust management program.	Verification	

Notes:
*It is expected that responsibilities regarding stakeholder engagement activities are additive at each stage from bottom to top.
**Even if some individuals or groups object to the project, the project still may be broadly supported.

2.9. Grievance Redress System

22. Grievance redress mechanism is an integral part of stakeholder engagement process. The projects must have a multi-level process for addressing grievances from project-affected communities.
23. It requires sponsors to establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the sponsor's environmental and social performance.[6] The grievance mechanism is to be scaled to risks and adverse impacts of the project, address concerns promptly, use an understandable and transparent process that is culturally appropriate and readily accessible to all segments of the affected communities and do so at no cost to communities and without retribution. The mechanism must not hamper access to judicial and administrative remedies. The sponsor will inform the affected communities about the mechanism in the course of its community engagement process.
24. Grievance mechanism is to respond to project needs better as they must be established early as a measure to pre-empt rather than react to the escalation of tensions. The project proponents must constitute a three-member Grievance Redress Committee (GRC) comprising of an officer representing the project proponent, not below the rank of the implementing officer, the elected member (local body) of the project area/location and one member of the public who is known to be a person of integrity, good judgment and commands respect among the community. The existence of the GRC should be disseminated to the affected persons through printed handouts providing details of the structure and process in redressing grievances.
25. The project proponents must document all complaints received, the actions taken on each of them and send a report of the same quarterly. The GRC is to address local public grievances regarding environmental impacts during construction and operation. The project proponents must address issues through GRC to receive and facilitate the resolution of affected persons' concerns and grievances about physical and economic displacement and other projects' impacts, paying particular attention to the impacts on vulnerable groups.

[6] Grievance mechanisms for workers are separate and are addressed under the requirements of The World Bank Policy.

CHAPTER 03: LAWS & POLICIES

26. Relevant laws, regulations and policies of Bangladesh Government as well as requirements of major development partners of IDCOL were reviewed during development of the ESMS guideline to ensure its consistency with requirements of both the Government and the development partners. This section summarizes such references.

3.1. The Bangladesh Environmental Conservation Act (ECA), 1995

27. The Environmental Conservation Act (ECA) of 1995 is the main legislative document related to environmental protection in Bangladesh. This umbrella Act includes laws for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. This Act justifies the establishment of the DoE and empowers its Director General to take necessary measures. The measures by the Director General (DG, the head of DoE) includes conducting inquiries, probable accidents, advising the Government, coordinating with other authorities or agencies and collecting & publishing information about environmental pollution. According to this act (Section 12), no industrial unit or project shall be established or undertaken without obtaining, in a manner prescribed by the accompanying Rules, an (ECC) from the Director General of the DOE.
28. The Act was amended in 2006 (SRO No. 175-Act/2006 dated August 29, 2006) on collection and recycling of used/non-functional batteries for the conservation of the environment, improving environmental standard and controlling and preventing environmental pollution. According to this amendment, no recycling of battery will be permitted without environmental clearance of DoE. This also restricts the improper disposal of used batteries or any parts of used battery in open place, water bodies, waste bins etc. All cast-off batteries must be sent to the DoE approved battery recycling industry at the earliest convenience and no financial transaction is allowed for used/non-functional batteries. However, the act has been amended on the same issue again in 2008 (SRO No. 29-Act/2008 dated February 11, 2008) to allow financial transaction on mutually agreed fixed cost.

3.2. Environment Conservation Rules (ECR), 1997

29. The Environment Conservation Rules, 1997 (details in Annex 1) were issued by the the Government in 1997 as an exercise of the power conferred under the Environment

Conservation Act (Section 20). Under these Rules, the following aspects, among others, are covered:

a) Declaration of ecologically critical areas;
b) Classification of industries and projects into four categories;
c) Procedures for issuing the Environmental Clearance Certificate.
d) Determination of environmental standards.

30. Rule 3 defines the factors to be considered in declaring an area 'ecologically critical I area' (ECA) as per Section 5 of ECA''-95. It empowers the Government to declare an area 'ECA' when the ecosystem of the area has reached or is threatened to reach a critical state or condition due to environmental degradation. The Government is also empowered to specify which of the operations or processes shall be carried out or shall not be initiated in the ecologically critical area. Under this mandate, MoEF has declared Sundarban, Cox's Bazar-Tekhnaf Sea Shore, Saint Martin Island, Sonadia Island, Hakaluki Haor, Tanguar Haor, Marzat Baor and Gulshan-Baridhara Lake as ecologically critical areas and prohibited certain activities in those areas.

31. ECR''-97 (Rule 7) classifies industrial units and projects into four categories depending on environmental impact and location for the purpose of issuance of ECC as are:

• Green	• Orange A	• Orange B	• Red

All existing and proposed industrial units and projects which are considered to be low polluting are categorized under "Green" and shall be granted Environmental Clearance. For proposed industrial units and projects falling in the Orange- A, Orange- B and Red Categories, issuance of site clearance certificate followed by environmental clearance certificate are required. A detailed description of those four categories of industries has been given in Schedule-1 of ECR'97.

32. There is no clear and specific guidance about the application of renewable energy technologies in both ECA'95 and ECR'97.

3.3. The Bangladesh Environmental Conservation ACT (Amendment 2010)

33. This amendment of the act introduces new rules and restrictions on:

a) Ensuring proper management of hazardous wastes to prevent environmental pollution and health risk;

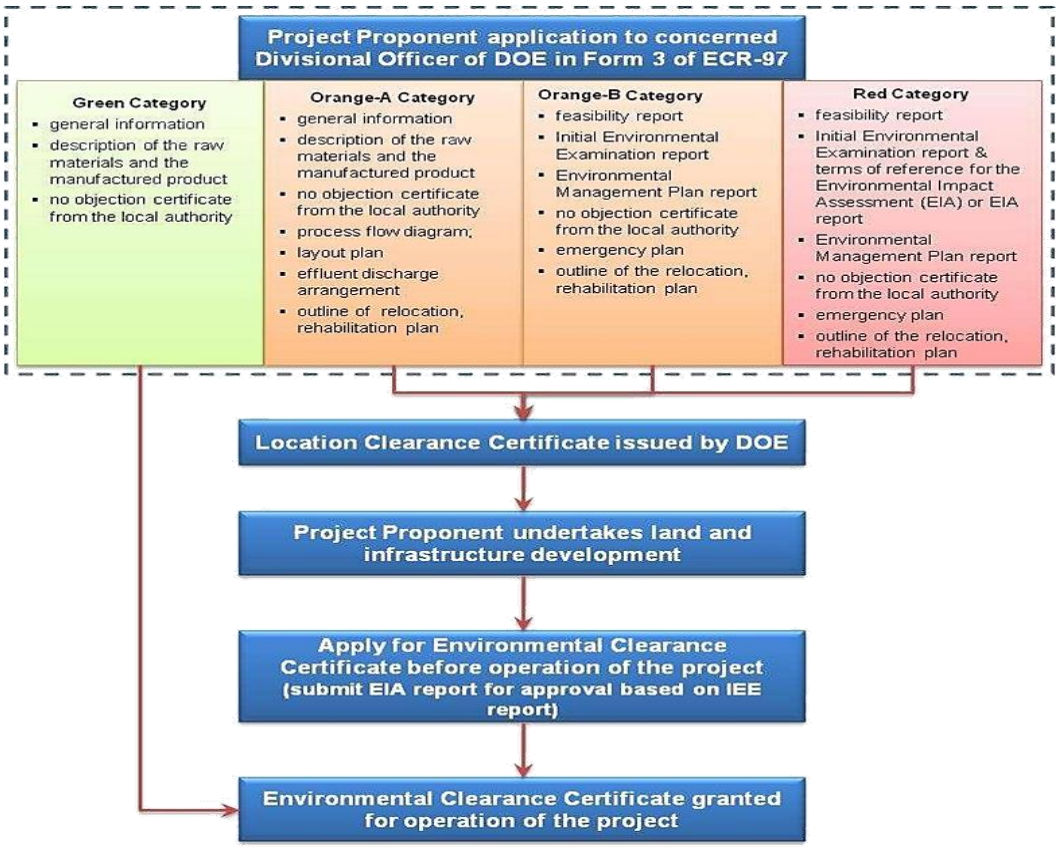
b) No remarked water body cannot be filled up/changed; in case of national interest; it can be done after getting clearance from the respective department; and

c) Emitter of any activities/incident will be bound to control emission of environmental pollutants that exceed the existing emission standards.

3.4. DoE Environmental Clearance Process

34. For the each category of industries, there are different sets of required documents to be provided at the time of seeking the Environmental Clearance Certificate (ECC) is mandatory for the existing industries as per clause 7(3) of the ECA'95 and the ECR'97 and for the proposed projects as per Rule 7 and Schedule 1 of ECR'97. All existing and proposed industrial units and projects which are considered to be low polluting are categorized under "Green" and shall be granted Environmental Clearance. For proposed industrial units and projects falling in Orange- A, Orange- B and Red Categories, issuance of site clearance certificate followed by environmental clearance certificate are required. However, the rules provide the Director General (DG, the head of DoE) a discretionary authority to grant 'Environmental Clearance' to an applicant, exempting the requirement of site/location clearance, provided that the DG considers it to be appropriate. More details on the DoE environmental clearance process is illustrated in Annex 1 and The GOB process for obtaining EC certificate from DOE is given in Figure 1.

Figure 1: GOB process for obtaining EC Certificate from DoE



3.5. Nationally Designated Ecologically Critical Areas

35. Ecologically Critical Areas can be defined as areas that may contain unique features, cultural or historical sites, maintain key natural processes, support endangered, endemic or threatened plant or animal species and their habitats, or provide important breeding areas for wildlife. If the Government is satisfied that the ecosystem of an area is in an environmentally critical situation or is threatened to be in such situation, the Government may, by notification in the official Gazette declare such area as an Ecologically Critical Area. Activities that may degrade the environment further are prohibited in the declared Ecologically Critical Areas by the Amendment of Environmental Conservation Act 1995 (5 October, 2010).

3.6. Renewable Energy Policy of Bangladesh, 2008

36. The renewable energy policy of Bangladesh approved on December 18, 2008 has the target of developing renewable energy resources. This Policy lays out the target of meeting 5 percent of total power demand from renewable energy sources by 2015 and 10 percent by 2020. The policy provides an overall guidance for institutional

arrangements, resource, technology and program development, investment and fiscal incentives and regulatory policy. The policy promotes the appropriate, efficient and environment-friendly use of renewable energy. It also suggests that for large biomass electricity projects (i.e., greater than 1 MW) the project developer must demonstrate that the biomass is being sustainably harvested and no adverse social impact will result from that development. It also restricts the larger scale production and use of biofuels which may jeopardize the existing crops.

3.7. Guidelines for the Implementation of Solar Power Development Program, 2013

37. As per section 3.8 of guidelines for the implementation of Solar Power Development Program (2013) that according to the Renewable Energy Policy, to establish solar mini grid projects with a capacity up to 250 MW, the entrepreneur will be exempted to get a waiver certificate. However, for Mini grid projects with a capacity more than 5 MW the entrepreneur will have to inform the Commission in writing through a letter. For implementation and operation of solar mini-grid projects, license for a period of minimum 20 years may be issued subject to yearly renewal.

3.8. Remote Area Power Supply Systems (RAPSS) Guideline, 2007

38. The Remote Area Power Supply Systems (RAPSS) guideline of 2007 allowed private sector participation in development, operation and maintenance of electricity generation system and distribution networks in remote rural areas including isolated islands to supplement Government’s efforts at achieving universal access by 2020. Bangladesh Government established Sustainable and Renewable Energy Development Authority (SREDA) as an autonomous body to lead its efforts in promoting renewable energy and energy efficiency in the country.

3.9. Bangladesh Labor Act, 2006

39. Labor relations in Bangladesh are governed according to Bangladesh Labor Act of 2006 (Amended in 2013) and Labor Rules of 2015. The amendments to the 2006 Labor Act made it more consistent with the International Labor Standards. The new labor law has 87 sections of amendments to strengthen workers' rights including better protections related to freedom of association (i.e. to form trade unions) and improving occupational health and safety conditions. The Bangladesh Labor Act and the Labor Rules of 2015

(made under the Act) are consistent with ILO's core conventions ratified by Bangladesh except ILO 138 (Minimum Age Convention). However, consistently with ILO 138, the Bangladesh Labor Act provides that the minimum age to work is 14 (although a special clause states that children between the ages of 12 and 14 may be employed to do "light work" that does not endanger their health, development, and education).[7]

40. The Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable work environment and reasonable working conditions. In chapter VI of this law safety precaution regarding explosive or inflammable dust/gas, protection of eyes, protection against fire, works with cranes and other lifting machinery, lifting of excessive weights are described whereas in the Chapter VIII provision safety measures like appliances of first aid, maintenance of safety record book, rooms for children, housing facilities, medical care, group insurance, etc. are illustrated.

3.10. Bangladesh Factories Act, 1965

41. The Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable work environment and reasonable working conditions. This Act provides for inspection of factories and regulates matters related to hygiene, ventilation, overcrowding, night work, safety, dangerous machinery, leave, overtime, canteens and child care facilities. The Act prohibits employment of children under the age of 14 years in factories. Children over the age of 14 shall be registered and subject to provisions regarding hours of work. Factories Act 1965 (originally East Pakistan Factories Act 1965) was adopted by the then Government with the objective of regulating the appointment of workers, their wages and the working conditions in factories including health and hygiene, safety, welfare, working hours, leave and holidays and also punishments and penalties for both the owners and workers for non-compliance of the requirements. The Act has 11 chapters and 116 main sections. It incorporates the provisions for obtaining approval of factory plans, including the construction or extension, class or description of factories from the chief inspector. According to the Act, every factory is to be maintained clean and free from effluents arising from any drain, privy or other nuisance. Effective arrangements are to be made in every factory for the disposal of wastes and effluents, prevention of accumulation of

[7]One of the most effective methods of ensuring that children do not start working too young is to set the age at which children can legally be employed or otherwise work. The main principles of the ILO's Convention concerning the minimum age of admission to employment and work can be found here:http://www.ilo.org/ipec/facts/ILOconventionsonchildlabour/lang--en/index.htm

dust and fume, and proper ventilation and maintenance of room temperature. The Act requires that factory must ensure adequate fire safety measures, appropriate means of escaping in case of fire, and protection against dangerous and accident-prone parts of machinery, electric and mechanical devices, self-acting machines, etc. Workers are to be given proper training before they are employed on dangerous machines. Controlling appliances of cranes and other lifting machines, hoists and lifts must be of good construction, sound material, and adequate strength. Other sources of dangers, such as pits, sumps, openings in floors etc., should be securely covered or fenced and effective screens or suitable goggles should be provided to workers to protect their eyes. Every factory is to have adequate and suitable facilities for washing and bathing and provide first-aid medicines and appliances.

3.11. The Building Construction Act 1952

42. The Act provides regulations regarding setbacks, building heights etc in urban areas. The act also provides restrictions on haphazard construction of buildings and excavation of tanks which are likely to interfere with the planning of certain areas in Bangladesh and enables government (section 16) to make any substantial rules for carrying out the purposes of this Act.

A. Building Construction Rules, 2008:

43. These rules superseded the previous Building Construction (BC) rules of 1984. These rules seek to control development plot-by-plot and case-by-case. It controls development by imposing conditions on setbacks, site coverage, construction of garages, access to the plot, provisions of lift, land use of that particular plot and height of the building. Restricting the height of a building in BC Rules 1996 helps to control the density of an area and manage the growth of the city in some way. The Dhaka Metropolitan Building Construction Rules 2008 superseded the earlier set of rules issued in 1996 for the Dhaka Metropolitan Area and provided more authority to RAJUK in the following way:
    a) Clear-cut responsibility to monitor the development of the city;
    b) Spread out the responsibilities to various actors;
    c) Spelled out responsibilities of building designers, structural engineers, site supervisors and their penalties etc.;

B. Bangladesh National Building Code (BNBC) 2014:

44. Bangladesh National Building Code widely known as BNBC Code is the ultimate code that is followed in Bangladesh to build safe houses and buildings. Earthquakes and wind effect of different building systems are incorporated in this code. Moreover, this code is almost similar to ACI code which is recognized as one of the most practiced building code of the world. However, there are some differences in that as it incorporates modifications by keeping in view the biological, environmental and geological factors in Bangladesh. Moreover, socio-economic factors have also been taken into consideration while preparing this code.

3.12. The Acquisition and Requisition of Immovable Property Ordinance, 1982

45. In 1982, the Acquisition and Requisition of Immovable Property Ordinance came in force. This law is the major basis for all the present actions regarding acquisition, resettlement and rehabilitation issues. The relevant and salient features of the law include the matters to be considered in determining compensation: a) the market value of the property; b) damage to standing crops or trees due to the acquisition; c) damage due to severance of acquired property from other property at the time of the actual taking of permission by concerned authorities; d) damage to other properties or earnings; e) expenses for relocation of residence; and f) damage due to lowering of profit of the property to be acquired between the serving of acquisition notice and the actual acquisition.
46. The present laws, acts, regulations and rules are not very explicit regarding resettlement and rehabilitation of project-affected persons (PAPs). Here entitlement means the rights of the persons adversely affected by the project to receive certain benefits from the project authorities to compensate for their losses which may include land and other immovable property, income, standing crops, occupation etc. The compensation is often in terms of cash grants but also includes training and credit facilities and other necessary facilities for resettlement and rehabilitation.

3.13. Social Regulatory Framework in Bangladesh

47. Social regulatory frameworks in Bangladesh related to social safeguards are lined with several legislative enactments established in last several decades and some enactments are already amended according to the national interests.
48. Land Acquisition: Whenever it appears to the Government that any property in any locality is needed or is likely to be needed for any public purpose or in the public interest,

the property is acquired using eminent domain. Land acquisition by eminent domain for infrastructure projects is governed by the Government of Bangladesh's Acquisition and Requisition of Immovable Property Act (ARIPA) 2017. The Act supersedes earlier laws including the Land Acquisition Law of 1894 and the Acquisition and Requisition of Immovable Property Ordinance 1982. In addition to the Act, acquisition of any land or forest area in Chittagong Hill-Tracts (CHT) districts requires consent under the Chittagong Hill-Tracts (Land Acquisition) Regulation (1958), the CHT Regional Council Act 1998 and the Forest Act (1927). Forest reserves, natural water-bodies, archeological sites and historical places are not acquired for development projects. Under the Ordinance, the Deputy Commissioner (DC) is entrusted to acquire land for any public infrastructure project. The requiring body, after getting the approval of the administrative ministry, requests DC to undertake the acquisition of the required land as per its proposal.

49. The fundamental rights under the Constitution indicate the general guidelines for a policy on resettlement/rehabilitation of citizens adversely affected (whatever be the mechanism) due to any activity of the State. Article 40 of the constitution states categorically that every citizen has the right to practice any lawful occupation which implies anything that impedes the right (a) should not be done or (b) there should be supplementary measures to make good the losses incurred by the citizen. Resettlement and rehabilitation of adversely affected people due to infrastructure projects very clearly falls within this requirement for supplementary measures. However, as per Article 42, sub-clause 2, no law with the provision of compensation for acquisition of land can be challenged in a court on the ground that such compensation has been inadequate.

50. The Acquisition and Requisition of Immovable Property Ordinance II (1982) is the basic instrument governing land acquisition in Bangladesh. It is restricted to "legal" owners of the property as supported by records of ownership such as deeds, title or agreements to compensate for land as well as any business, structure, trees and crops on the land. The Ministry of Land (MoL) is authorized to deal with land acquisition. The MoL delegates some of its authority to the Commissioner at Divisional level and to the Deputy Commissioner at the District level. The Deputy Commissioners (DCs) are empowered by the MOL to process land acquisition under the Ordinance and pay compensation to the legal owners of the acquired property.

51. The East Bengal State Acquisition and Tenancy Act, 1950, revised in 1994, (Sections 86 & 87)also define the ownership and use right of alluvion (payosti or reformation in situ

or original site) and diluvion land (nadisikosti) in the country. In legal terms, eroded lands (sikosti) inside the alluvion-diluvion (AD) line (i.e. including submerged land or underwater land) are considered khas land once declared by demarcating the AD Line. However, the "original" owner(s) can claim the land if it reappears through the natural process within 30 years.

52. The Government has recently prepared a draft national policy on involuntary resettlement and rehabilitation in 2008 which is consistent with the general policy of the Government that the rights of those displaced by development projects, river erosion and bastee eviction, shall be fully respected and that those displaced shall be treated with dignity and assisted in such a manner that safeguards their welfare and livelihoods irrespective of title, gender, and ethnicity.

53. Laws and Policies on Small Ethnic Community: In the context of the People's Republic of Bangladesh, the Constitution of Bangladesh does not mention the existence of the cultural and ethnic minorities in Bangladesh. The only protective provision for the Small Ethnic Community that the policy makers often refer to in the context is Article 28 (4) which states that nothing shall prevent the state from making special provision in favor of women and children or for the advancement of any backward section of the citizens. The above provision is an ambiguous one and it does not define who or what constitutes 'backward'.

54. However, the Government recognizes the existence of 'tribal communities' and the need for special attention and in general, tribal people are essentially viewed as backward, poor and socio-economically & culturally inferior. Towards this end, a special program was initiated in 1996-97 by the Prime Minister's Secretariat aiming at improving the socio-economic situation of the indigenous people of Bangladesh, residents outside the Chittagong Hill Tracts.

55. The Chittagong Hill Tracts Regulation, 1900 (Regulation I of 1900) is the regulatory Framework for State sovereignty over the traditional rights of the adibasis living in the CHT region. They are governed through Revenue Circle Chiefs who are local revenue collectors vide an amalnama (authorization by the Government). The Deputy Commissioner and the Commissioner from the central government reserve the authority to settle land to the hill-men or non-hill residents or lease out land (non-transferable) for rubber plantation or establishing industries in the CHTs.

56. The Forest Act, 1927 (Act XVI of 1927) revised as of 2000 deals with reserved forest, village forest, protected forest, control over forests on lands not being the property of government.
57. On 24 May, 1998, The National Parliament of Bangladesh passed the Peace Accord 1997 as the Chittagong Hill Tracts Regional Council Act, 1998 (Act 12 of 1998). In addition to re-establishing peace, the Accord recognized the ethnic people's right to land, culture, language, and religion. The Accord set out detailed provisions for strengthening the system of self-governance in the CHT and redressing the most urgent land-related problems. A ministry on CHT Affairs was established by appointing a Minister from among the adibasis of hill districts. An Advisory Council from the CHT region assists this ministry. However, there is a demand for extending the scope of the CHT Affairs Ministry to include the adibasis in other areas of the country.
58. Small Ethnic Community rights in Poverty Reduction Strategic Paper (PRSP), 2005 includes strategic suggestions to preserve the cultural, social and economic identity and interests of the ethnic populations in and outside CHT.

3.14. The World Bank's Safeguards Policies

A. OP 4.01 Environmental Assessment (World Bank)

Objective

59. World Bank's Safeguard Policies, OP/BP 4.01 Environmental Assessment (EA) is considered as the umbrella Safeguard Policy. The objective of OP/BP 4.01 Environmental Assessment policy is to ensure that World Bank-financed projects are environmentally and socially sound and sustainable as well as the decision-making is improved.

Definition

60. EA is a tool to evaluate a project's potential environmental risks and impacts in its area of influence, examine project alternatives, identify ways of improving project selection, siting planning, design, and implementation by preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts and includes the process for mitigating and managing adverse environmental impacts throughout project implementation.

Scope

61. The scope of EA covers the natural environment (air, water [surface & ground water] and land), human health and safety, social aspects (involuntary resettlement, indigenous peoples, and physical cultural resource) as well as trans-boundary and global environmental aspects. EA also includes the findings of country environmental studies, national environmental action plans, the country's overall policies framework, national legislation and institutional capabilities related to the environment and social aspects and finally, obligations of the country, pertaining to project activities, under relevant international environmental treaties and agreements.

EA Instruments

62. Depending on the project, different instruments can be used to fulfill the World Bank's EA requirement including: EIA, regional or sectoral EA, strategic environmental and social assessment (SESA), environmental audit, risk assessment, environmental management plan (EMP) and environmental and social management framework (ESMF).

Environmental Screening

63. Environmental screening is used by the World Bank to determine the extent and type of EA. Depending on the type, location, sensitivity and scale of the project and the nature and magnitude of its potential environmental impacts, the Bank's project screening criteria classifies projects into four categories:

    I. *Category A:* Full Environmental Assessment – A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented.

    II. *Category B*: Partial Environmental Assessment – if proposed project has potential adverse environmental impacts on human populations or environmentally important areas including wetlands, forests, grasslands, and other habitats-that are less adverse that those of Category A projects. These impacts are site-specific, few if any of them are irreversible and in most cases, mitigation can be designed more readily than for Category A projects.

    III. *Category C*: Minimal or no adverse impacts - A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project.

IV. *Category F1*: A proposed project is classified as category F1 if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental aspects.

64. Following application of OP/BP 4.01, as indicated above, any potential impact on the Bank's other safeguard policies, would be carefully reviewed. Where a sub-project is likely to have impacts, the relevant policy provisions applies.

65. OP/BP 4.01, among its other provisions, stipulates the requirements for Bank-supported projects involving Financial Intermediaries (FIs) as follows:

(a) Develop and operate an Environmental & Social Management System(ESMS) that is commensurate with the level of social and environmental risks in its portfolio and prospective business activities; and

(b) Ensure that all subprojects supported by the Bank comply with applicable national and local laws and regulations.

66. OP 4.01 sets the circumstances under which the WB policies or principles may be applied and defines the roles and responsibilities of the private entity implementing the project and of the Bank in supporting environmental and social sustainability aspects of the project, which are given below:

I. To identify and evaluate environmental and social risks and impacts of the project;

II. To adopt a mitigation hierarchy to anticipate and avoid or minimize (where avoidance is not possible) and where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities and the environment;

III. To promote improved environmental and social activities of project sponsors through the effective use of management systems;

IV. To ensure that grievances from affected communities and external communications from other stakeholders are responded to and managed appropriately;

V. To promote and provide means for adequate engagement with affected communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.

VI. To promote the fair treatment, non-discrimination and equal opportunity of workers.

VII. To establish, maintain and improve the worker-management relationship.

VIII. To promote compliance with national employment and labor laws.

IX. To protect workers including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties and workers in the project sponsor's supply chain;

X. To promote safe and healthy working conditions and the health of workers and avoid the use of forced labor;

XI. To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities;

XII. To promote more sustainable use of resources including energy and water and reduce project-related GHG emissions;

XIII. To anticipate and avoid adverse impacts on the health and safety of the affected community during the project life from both routine and non-routine circumstances;

XIV. To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the affected communities;

XV. To avoid and when avoidance is not possible, minimize displacement by exploring alternative project designs;

XVI. To avoid forced eviction;

XVII. To anticipate and avoid /or minimize (where avoidance is not possible) adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost[8] and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation and the informed participation of those affected;

XVIII. To improve or restore the livelihoods and standards of living of displaced persons;

XIX. To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure[9] at resettlement sites;

XX. To protect and conserve biodiversity and maintain the benefits from ecosystem services;

[8]Replacement cost is defined as the market value of the assets plus transaction costs. In applying this method of valuation, depreciation of structures and assets should not be taken into account. Market value is defined as the value required to allow Affected Communities and persons to replace lost assets with assets of similar value. The valuation method for determining replacement cost should be documented and included in applicable Resettlement and/or Livelihood Restoration plans.

[9]Security of tenure means that resettled individuals or communities are resettled to a site that they can legally occupy and where they are protected from the risk of eviction.

XXI. To promote the sustainable management of living natural resources through the adoption of practices those integrate conservation needs and development priorities;

XXII. To ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture and natural resource-based livelihoods of Indigenous Peoples;

XXIII. To anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples and/or to minimize (when avoidance is not possible) and/or compensate for such impacts;

XXIV. To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner;

XXV. To establish and maintain an ongoing relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project throughout the project's life-cycle;

XXVI. To ensure the Free, Prior and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples when the circumstances described in this policies are present;

XXVII. To respect and preserve the culture, knowledge, and practices of Indigenous Peoples;

XXVIII. To protect cultural heritage from the adverse impacts of project activities and support its preservation;

XXIX. To promote the equitable sharing of benefits from the use of cultural heritage.

67. The applicability of these policies are established during the environmental and social risk and impact identification process. If any environmental or social risks and impacts are identified, the project sponsor is required to manage them through its conformance with ESMS.

B. OP 4.04 Natural Habitats

68. The Policy describes the conservation of natural habitats like other measures that protect and enhance the environment to be essential for long term sustainable development. Therefore, the Bank supports the protection, maintenance and rehabilitation of natural habitats and their functions in its economic and sector work, project financing and policy

dialogue. The Bank also supports and expects borrowers to apply a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. The Bank promotes and supports natural habitat conservation and improved land use by financing projects designed to integrate into national and regional development the conservation of natural habitats and the maintenance of ecological functions. Furthermore, the Bank promotes the rehabilitation of degraded natural habitats. The Bank does not support projects that involve the significant conversion or degradation of critical natural habitats.

69. When the activities under the proposed project could potentially alter the natural habitat, this policy is triggered. Habitat restoration and enhancement measures have been included in the project design to mitigate and/or compensate any adverse impacts on the natural habitat.

C. OP 4.10 Indigenous People

70. For purposes of this Policy, the term 'Indigenous Peoples' is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing the following characteristics in varying degrees:
    - Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
    - Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
    - Customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
    - An indigenous language, often different from the official language of the country or region.

71. The OP defines the process to be followed if the project affects the indigenous people. The social impact assessment of the project indicates that there are no indigenous communities residing in the project influence area and therefore, no impacts on them are expected under the project. This has been confirmed in the priority reach where investments will be carried out under the proposed project. Therefore this OP is not triggered for the priority reach.

D. OP 4.12 Involuntary Resettlement

72. The WB's experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. This policy includes safeguards to address and mitigate this impoverishment risks.
73. The overall objectives of the Policy are given below:
    - Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
    - Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits.
    - Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
    - Displaced persons should be supported in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
74. No land acquisition is required for this project and this OP is not triggered for the project.

3.15. The World Bank's (WB's) Environmental Health and Safety (EHS) Guidelines

75. The Environmental Health and Safety Guidelines (also known as "EHS Guidelines")[10] are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). These GIIP are considered to be achievable in new facilities at reasonable costs by existing technology. For existing facilities,

[10] http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines. In 2013, IFC launched a consultative process to revise the EHS Guidelines. This process is still ongoing as of the date of this document.

achieving these may involve establishment of site-specific targets with an appropriate timetable to achieve these.

76. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects will be required to achieve whatever is more stringent. If less stringent levels or measures than those provided in the EHS Guidelines are appropriate in view of specific project circumstances, a full and detailed justification must be provided for any proposed alternatives through the environmental and social risk and impact identification and assessment process.

77. The EHS Guidelines consist of guidelines for various industrial sectors as well as General Environmental, Health & Safety Guidelines which cover a wide range of issues and is applicable to all industrial and also the sector-specific guidelines. The General EHS Guidelines contain information on cross-cutting environmental, health and safety issues potentially applicable to all industry sectors. They are designed to be used together with the relevant industry sector guideline(s).

    a) Environmental (air emissions and ambient air quality, energy conservation, wastewater and ambient water quality, water conservation, hazardous materials management, waste management, noise and contaminated land);
    b) Occupational Health and Safety (general facility design & operation, communications & training, physical hazards, chemical hazards, biological hazards, radiological hazards, personal protective equipment, special hazard environments and monitoring etc.);
    c) Community Health and Safety (water quality and availability, structural safety of project's infrastructure, life and fire safety, traffic safety, transport of hazardous materials, disease prevention, emergency preparedness & response etc); and
    d) Construction and Decommissioning (environment, occupational health & safety, community health & safety).

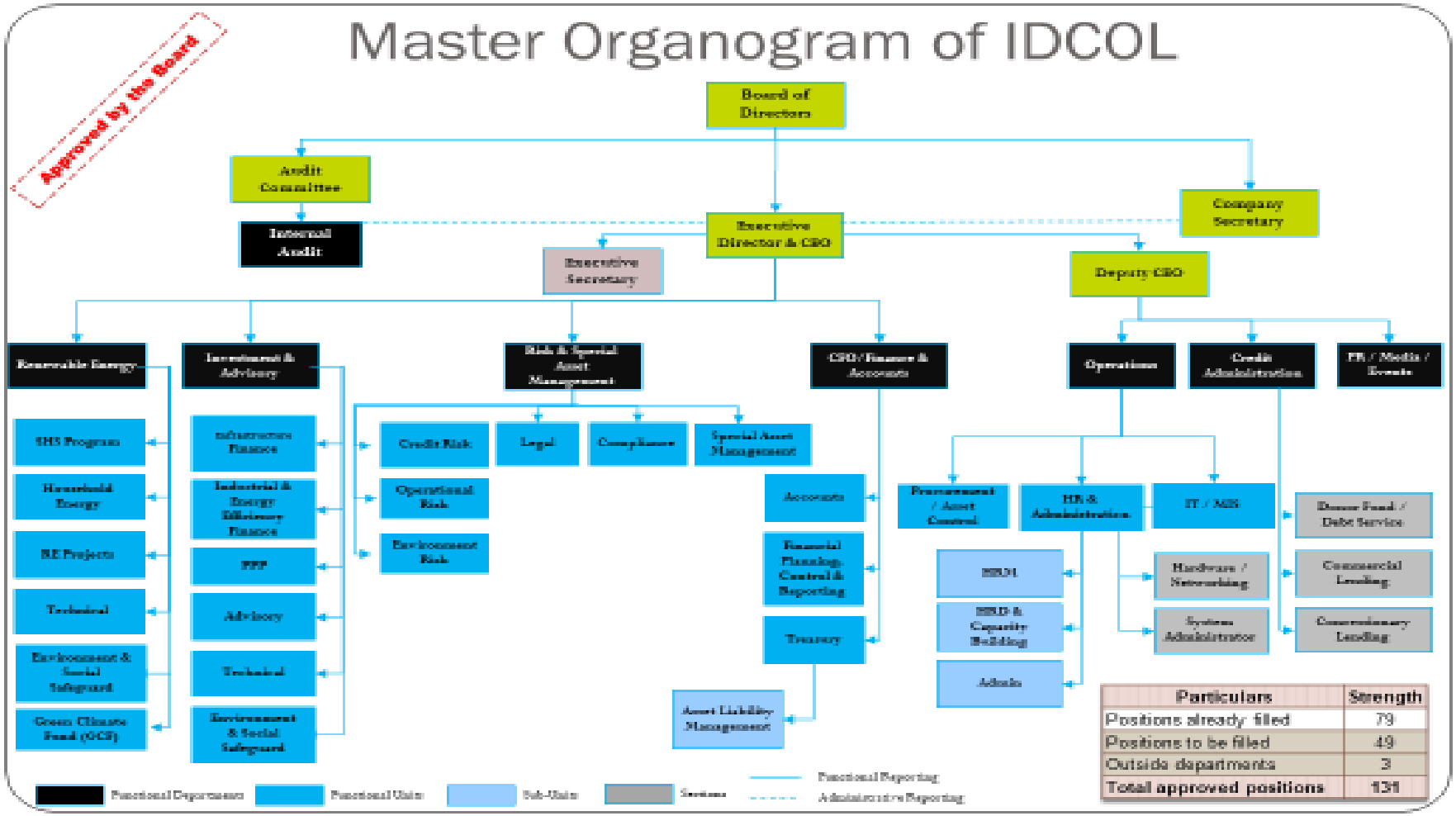
78. It should be noted that these Industry Sectors' EHS Guidelines and the General EHS Guideline are intended to identify recognized good practice, particularly in the absence of comparable national or local legislation. Moreover, they are designed to cover a wide range of topics, especially in the case of the General EHS Guideline, some or many of which specific topics may not be relevant or applicable to the project enterprise seeking a loan. The EHS Guidelines will be used by the financial institutions as useful tools in the screening and reviewing process to determine whether environmental and social risks associated with the project enterprise have been appropriately identified and managed.

79. The GoB and the World Bank have their own policies and guidelines which are triggered by the environmental and social issues of projects. The ESMS by IDCOL is assessed with these policies being considered as a benchmark.
80. Environmental and Social Exclusion List defines activities that cannot be financed under REFF. IDCOL will commit to applying the World Bank Group Exclusion List, to the extent it may be applicable to the subprojects. These exclusions are provided in **Annex 9.**

CHAPTER 04: ORGANIZATIONAL CAPACITY & COMPETENCY

81. IDCOL has carried out several programs and projects which complied with the laws and regulations of the country as well as with requirements of several development partners such as the World Bank, ADB, KfW, JAICA. Those experience helped IDCOL to generate adequate expertise to meet different safeguard requirements. IDCOL management is committed towards environmental and social safeguards. IDCOL has a well-defined organizational structure and system in place that ensures that the relevant environmental and social safeguard guidelines are duly complied with. IDCOL has an independent Environment and Social Safeguards Management Unit (ESSMU) to institutionalize the environmental and social management is in its operation.
82. This Chapter discusses the organizational capacity committed to ensure proper implementation of ESMS through ESMMU.
83. The unit works on three core principles, which are: (1) developing general awareness among the stakeholders about the ESMS, its goals and actions needed to implement the ESMS; (2) communicating importance of the ESMS at all levels of the company; and (3) establishing effective monitoring and review of the ESMS so that it remains up-to-date.

Figure 2: The organizational structure of IDCOL



Particulars	Strength
Positions already filled	79
Positions to be filled	49
Outside departments	3
Total approved positions	131

84. Major responsibilities of IDCOL's ESMS team are described in the table 7 below:

Table 7: Responsibilities of ESMS at different levels of IDCOL

Position/Designation	Responsibilities
Core Team Leader (ED & CEO)	a) Assigning a specific ESMS management representative with sufficient authority, awareness, competence and resources to oversee the ESMS responsibilities; b) Providing necessary resources for implementation and control of ESMS; and c) Monitoring implementation of special ESMS tasks from time to time.
Executive Management (Head of Department)	a) Providing a structured approach for the environmental and social considerations; b) Supporting and promoting improvement of ESMS; and c) Participating in ESMS review meetings.
ESMS management representative (Specialist)	a) Leading and implementing ESMS; b) Defining, documenting and communicating ESMS roles and responsibilities with the respective clients; c) Keeping management informed about the activities of ESMS implementation; and d) Ensuring actions of feedbacks.

85. Monitoring the EHS compliance of solar rooftop and grid tied solar power projects: IDCOL will quarterly monitor the implementation of Environmental & Social Management Plan (ESMP) and relevant environmental, health and social compliances of at least 2 (two) construction/operational solar rooftop and grid tied (including the transmission line) power projects.
86. In case of new project, IDCOL will visit the project site and assess the suitability of site considering basic environmental and social aspects during the project appraisal stage.
87. Monitoring of land purchase: IDCOL will regularly monitor the land purchasing processes and application of screening mechanisms to rule out any displacement. In this regard, the respective officials of IDCOL will visit the project site and conduct focus group discussions with both male and female groups, if needed. In addition, the officials will consult with the representatives of civil society, relevant

local government authority to ensure that there is no dispute on land procurement process, gender impact and displacement of tribal/ethnic communities.

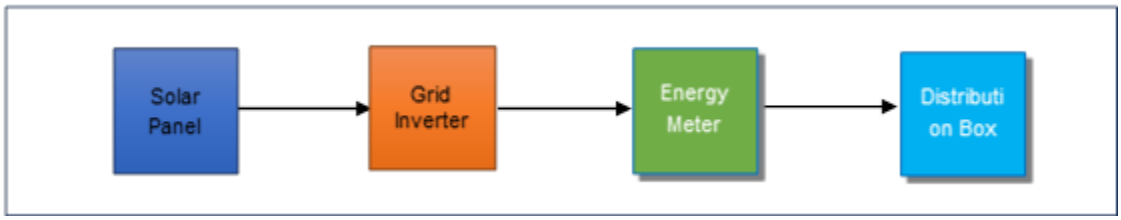
88. IDCOL's ESSMU-RE team may require further capacity development training or workshop to have better understanding of the World Bank ESMS compliance requirements.

CHAPTER 05: SPECIFIC PROJECTS & IMPLEMENTATION PROCEDURES

89. The solar rooftop and grid based solar power projects are discussed in detail in this chapter. The projects along with their ESMS implementation procedures are discussed in this chapter.

5.1. Solar Rooftop

90. Roof-top solar system is designed for captive consumption of industries to substitute electricity supplied by (bought from) the grid, in combination with (i) grid electricity supply as needed, i.e. during normal operation when solar PV generation serves a part of the electricity demand on site; (ii) combination of diesel/gas generator power with solar PV generation during the period when the grid electricity supply is not available; and (iii) export of surpluses into the grid, if this option is feasible (once the net metering policy is effective). The integration of the solar PV System with the grid and existing power backup set during grid outage shall be explored with due regard to the relevant grid code in Bangladesh.
91. The basic process flow diagram of the proposed solar mini-grid project is shown below:



92. Major equipment used in these projects are solar panels and inverters (No Battery will be used as part of the system). Solar panels will use sunlight to generate DC electricity. DC electricity produced from the solar panel will be converted to 440V 3-phase AC using the inverters. Then, the energy will be fed into the existing distribution box of the industry to reduce its energy consumption from the national grid and diesel generator.

5.1.1. Impact Identification Process and Methodology

93. The manufacturing of PV panel, more specifically, PV cell manufacturing process involves significant environmental and health safety impacts. Therefore, IDCOL will require ISO 14001:2004 and OHSAS 18001:2007 certifications for PV panel manufacturing plants. The detail of the PV panel supplier enlistment criteria has been provided in Annex 3 (A & B) and covers the requirements applicable to local and imported PV panel suppliers for the said enlistment.
94. The ESMS establishes a mechanism to determine, assess, mitigate and manage future potential environmental and social impacts from the activities of the proposed projects during implementation as well as operation. In this regard, IDCOL will follow the safeguards policies and disclosure policy as per the ESMS.
95. The solar roof-top project will not impact any building of heritage significance (for example, mosque, heritage sites or cultural sites) in Bangladesh or cause any loss to biodiversity or natural habitats. However, there may be situations where a neighboring property's tree (including protected species) may hinder the solar panel operation which needs to be cut down. Besides, these projects do not create any impact on the physical environment like air, water (surface & ground water) and noise.

5.1.2. Air Emissions

96. The solar roof-top project is a cleaner energy generation option than the diesel powered generators used for electricity production as a backup or during the load-shedding time in the industries.
97. Although solar roof-top projects will be emission free, it must be noted that some greenhouse gas (GHG) emissions are embodied in renewable technologies caused by the fossil fuel sources used in the production and manufacturing of equipment, waste disposal and recycling. However, these life-cycle emissions are significantly lower than those coming from diesel generated electricity and the project will have little control over the process as already manufactured materials imported will be used in the project.

5.1.3. Noise Emissions

98. Compared with wind and other forms of renewable energy, there will be no noise emissions from roof top solar PV. However, the construction stage may involve some noise and disturbances to surrounding project areas.

5.1.4. Chemicals

99. Apart from GHG emissions, mercury and cadmium emissions are associated with solar energy. These elements are used in making solar modules. However, there is no evidence that these elements get released from solar panels except during disposal at the end of their life or breakage.

5.1.5. Heat or Light Reflection

100. Neighboring properties may be affected due to sunlight reflection from the panels - if the panels are angled towards windows, doors or a balcony. If the reflection affects the neighbors for a prolonged period of the year, it may become a source of grievance.

5.1.6. Impacts on Bio-diversity

101. Roof top solar PV will generally not have any adverse impacts on terrestrial or marine bio-diversity. Furthermore, the proposed projects will be implemented in the industrial roof where there are very few, if any, recorded fauna. However, if the adjoining properties have trees that obstruct the use of solar panels on the target building, it may need to be cut down. There are also possible impacts on bio-diversity from improper disposal of PV materials unless appropriate national guidelines and processes are put in place for the safe disposal of PV material at the time of decommissioning.

5.1.7. Cultural Heritage

102. It will be important to ensure that the proposed projects do not have an effect on a place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical or social significance or other special value for present and future generations.

5.1.8. Employment

103. The roof top solar PV project is a source of temporary and permanent employment. Roof top solar PV will generate both technical and unskilled jobs.

Solar PV will generate jobs in design, installation, operations and maintenance, project development and marketing.

5.1.9. Social Resettlement/Tribal People

104. Under these projects, solar PV panels will be installed on the roof of the different industries. Therefore, there will be no land acquisition resulting in involuntary resettlement. As such, there will be no problems faced by the tribal people, if any, and thus, will not create any social conflicts.

5.1.10. Environmental Health and Safety Compliances

105. The availability and use of personal protective equipment would need to be closely monitored continuously during both the constructional and operational phases. In order to ensure that personal protective equipment is always readily available, all defective equipment will be promptly replaced. During the operational phase, risks such as fires are possible. Therefore, presence of safety equipment and training to the building users on fire safety plan is to be ensured.

106. Solar PV panels are one of the main hazardous components under these projects but the panels have twenty years life time, which need to be disposed properly after this specified timeline is over. According to the 'Study on the Impact of Photovoltaic Panels (PV panel)' by European Commission in 2011, PV Panels associated with Lead and Cadmium leaching have potential risk to contaminate soil and water. Moreover, there are also hazards associated with glass and aluminum. So, there is a dire need of a PV Panel Disposal Policy. This is because due to natural calamities like storm or cyclones; significant numbers of the panels are assumed to be affected and need immediate disposal in an environmentally friendly manner. Moreover, there is informal concern that quality of some of the PV panels may not be good enough to survive up to the anticipated warranty period. As a result, an Action Plan needs to be formulated to determine a course of action to ensure proper disposal of PV Panel.

5.1.11. Environmental & Social Screening and Measures

107. An initial environmental and social screening will be carried out in accordance with the provisions of the funding partners' safeguard policy and EHS Guidelines by using the Environmental and Social checklist enclosed in Annex 4.

108. Most of the projects will be implemented on different types of industrial roof-tops. Based on scale and intensity of the potential environmental impacts, the roof-top solar system is expected to be an 'Orange- A' type intervention according to ECR 1997 of DoE which is equivalent to WB's category B. Therefore, the project components require the Environmental Social Assessment (ESA). Terms of references (ToRs) will be prepared for the ESA reports based on the respective projects/ industrys category (DOE category; based on ECR 1997). A specific ToR (Annex 7) has been prepared based on the screening outputs highlighting environmental and social components that require an environmental assessment report.

109. The ESA report is expected to meet the requirement of WB's OP 4.01 and the project proponents will duly inform the DoE the nature of business associated with the concerned roof-top facility to DoE.

5.2. Grid Tied Solar Park

5.2.1. Description of the Project

110. As the ever-increasing demand for energy continues to squeeze fossil fuel reserves, Bangladesh is looking at fossil fuel-rich countries around the world. Consequently, Bangladesh has emerged as a major importer of energy and this has seriously sensitized the GoB to look for meeting the energy requirements by lowering the demand-supply gap and strategically developing energy security of the country, concerned over the erosion of fossil fuel reserves.

111. The GoB has set a target to ensure 10% of its electricity generation from renewable sources by 2021. The Government is now focused on the development of utility scale solar power generation and has targeted to award grid-tied solar power projects to the private sector with capacities of 2000 MW by 31 December 2018 under Speedy Supply of Power and Energy (Special Provision) Act 2010.

112. Therefore, grid-tied solar power projects having a capacity of 5 to 200 MW or above have been planned in Bangladesh. The Independent Power Producers (IPPs) will be eligible to enjoy incentives under Private Sector Power Generation Policy 1996. IDCOL targets to finance solar grid-tied projects with combined

capacities of 300 MW by 2021. Large chunks of land are required for solar park development. There are some developers/sponsors who are keen to individually take up very large projects in different places in Bangladesh where barren lands are available.

113. The Government is now following three models for investment in grid-tied solar power projects: Government's investment on government owned land; independent power producer (IPP) investment on government land; and private investment on private land. The Government recognizes that land has high value for agricultural use. Therefore, for all aforesaid cases, the Government has stipulated that grid-tied solar projects should only be developed on government-owned non-agricultural land or privately-owned uncultivable land. Before providing approval to projects to be implemented on private land, the project land is ascertained to be uncultivable land by the representative of the Government.

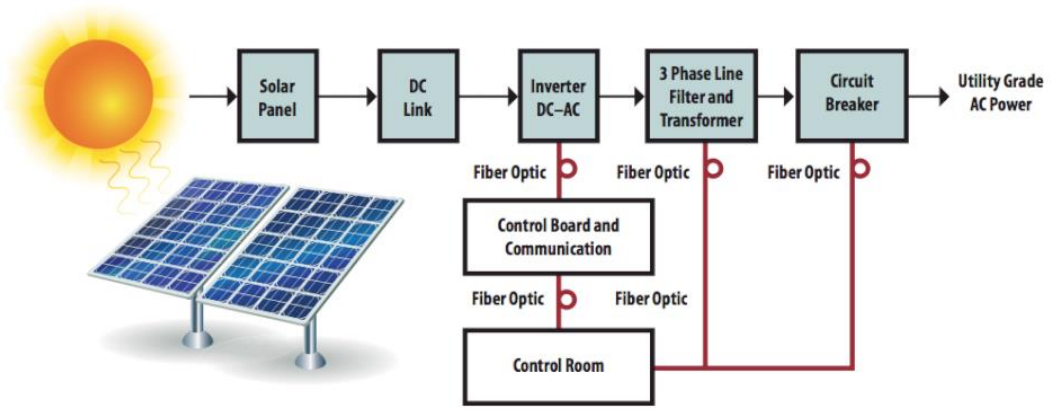
114. The grid-tied solar power project will provide a huge impetus to solar energy generation by acting as a flagship demonstration facility to encourage project developers/sponsors, prompting additional projects of similar nature, triggering economies of scale for cost reductions, technical improvements and achieving large scale reductions in GHG emissions.

5.2.2. Technical Details

115. Using solar PV modules, solar power generates in DC form which is converted into AC power and then using a power transformer, the generated and modified AC power will be fed to the grid.

116. No battery storage will be used under the project and the generated power will be sold to the grid through a transmission line.

Figure 3: Block diagram of a utility scale solar power plant

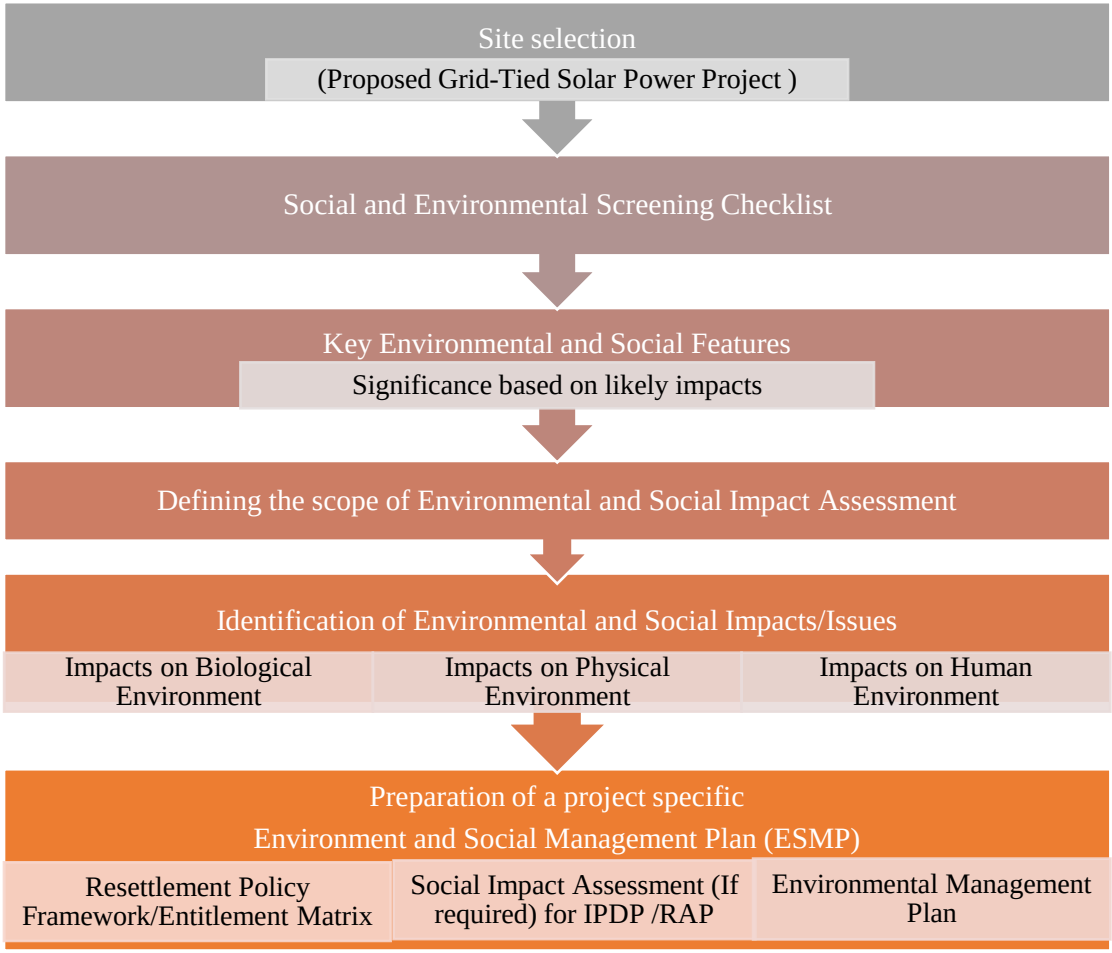


5.2.3. Impact Identification Process and Methodology

117. Grid-tied solar power projects shall be appraised based on a step-by-step process beginning with a primary environmental and social screening which will assess the impacts requiring appropriate mitigation measures (Annex 5). On the other hand, it will help to identify the significant environmental and social consequences and the environmental review process.

118. The project will use a structured approach to environmental and social management to allow the project development process, follow the hierarchy of avoidance, minimization, compensation/mitigation for negative impacts and enhancement of positive impacts that are practically feasible and advantageous. The overall process is illustrated in a flow chart below:

Figure 4: The ESMS Process



119. This grid-tied solar power project is a renewable energy-based electrification connected to the national grid in Bangladesh. Power generated from the grid-tied solar power project will be evacuated in the national grid through transmission line to the grid sub-station. An ESIA will be carried out after a project is identified and screened by IDCOL. The main purpose of this ESIA is to evaluate the impact of project location from the environmental and social point of view along with possible measures to be included in an ESMP to minimize the potential impacts resulting from project activities during the implementation and operation phase of the project. The ESIA is a part of the process of compliance with the guidelines and legal requirement of GoB and funding partner's guidelines in relation to grid-tied solar power project which illustrates environmental and social issues in connection with the planning, design and implementation of the project. The ESIA provides a road map to the environmental and social measures needed to prevent

and/or mitigate negative environmental and social effects associated with the project development. The ESIA also provides a detailed description of the direct and indirect environmental effects associated with the proposed project during different stages. In order to mitigate the potential impacts, appropriate measures have also been proposed in the ESMP (Annex 6). Extensive public consultations need to be undertaken as part of the ESIA development during the identification of the mitigation measures.

120. A sample Term of Reference (ToR) has been prepared (Annex 8), to conduct the ESIA, which will be carried out after a project is identified and screened by IDCOL. The ToR consists of the following features:

a) A review of the environmental and social legislative, regulatory and policy guidelines and considerations relating to the implementation of the project;
b) A general description of the project and existing physical, biological and socio-economic conditions;
c) Consultation with the locals/stakeholder involving concerned people in order to identify and act on any undocumented or perceived environmental issues;
d) Identification and assessment of the potential impacts on the natural, human and social environment in the project area of the construction of the grid-tied solar power project;
e) Identification of mitigation measures and monitoring actions in the form of an ESMP; and recommendations and conclusions in order to operate the project in an environmentally and socially safe and sound manner.

5.2.4. Screening Process

121. The project component and its different aspects in the surrounding areas related to environmental and social aspects will primarily be reviewed in the screening process. A checklist has been prepared and attached in Annex 5 which will help to identify the screening components that are needed to be investigated in detail during the preliminary stages of evaluation or to conclude the insignificant adverse impacts that are anticipated.

122. The checklist will help to identify issues which can be verified during the investigation and also provide a preliminary idea regarding the nature, extent and timing of environmental issues that would need to be handled during the subsequent stages. It will also help to identify opportunities for avoidance or minimization early in the project cycle so that the design process can be informed appropriately.

123. The checklist will help to identify the scope of the ESIA and timeframe required for obtaining the regulatory clearances (if any). The environmental and social safeguard screening will occur during the project preparation stage as soon as the project site is identified and selected.

5.2.5. Impact Identification

5.2.5.1 Environmental and Social Impacts

124. Environmental and social impact analysis of a project (or project options) consists of comparing the expected changes in the bio-physical and socio-economic environment with and without the project. For each potential environmental or social impact, the analysis should predict the nature and significance of the expected impacts or explain why no significant impact is anticipated. For the development of ESMS, key environmental issues/impacts identified would be duly investigated in detail during the ESIA stage.

5.2.5.2 Impacts on Biological Environment

125. The countries of South and Southeast Asia are recognized by the International Union for Conservation of Nature (IUCN) to be regions of high species diversity. A large number of native plants including 3,000-4,000 species of woody flora have been recorded from Bangladesh. The flood plains of Bangladesh have long been subject to cultivation, the most dominant land use within the project area, with only scattered patches of native trees, wetlands and associated fauna habitat remaining in isolated locations within the terrestrial environment (IUCN, 2002).

126. The projects would be completely fenced with controlled access and so, minimizes the risks of wild animals getting wounded. The ESIA shall establish the

wildlife species paths/habitat, if any, applicable in and around the proposed site. The ESIA shall establish the status of wildlife in the vicinity (approximately 1 km buffer zone) of the proposed site and adequate mitigation measures to ensure no conflicts/poaching occurs during the various stages of project development.

5.2.5.3 Impacts on Physical Environment (Air, Water & Noise)

127. Unlike the fossil fuels that still provide the bulk of the Bangladesh power supply, solar panels generate electricity with no air or carbon pollution, no ash or other waste products and no inputs other than sunlight. While the manufacturing of solar panels, like all other energy devices, involves emissions, PV electricity generation itself:

(a) Generates no carbon dioxide or other heat-trapping gases that contribute to climate change;

(b) Produces none of the other harmful emissions or wastes associated with coal power, such as mercury, sulfur dioxide, nitrogen oxides, lead, and arsenic;

(c) Creates none of the long-lasting waste or environmental risks associated with nuclear power; and

(d) Avoids the environmental risks associated with natural gas including potential water pollution during extraction.

128. Impact on Water: Excavation, run-off from stockpiled materials and chemical contamination from fuels and lubricants may result to silt-laden runoff during rainfall which may cause siltation and reduction in the quality of adjacent bodies of water. The impacts are negative but short term, site-specific within a relatively small area and reversible by mitigation measures.

129. Impact on Air: As with the development of any large-scale industrial facility, the construction of the project can pose hazards to air quality. Such threats include the release of soil-carried pathogens and results in an increase in air particulate matter which has the effect of contaminating water reservoirs.

130. Impact on Noise: During construction of the project, noise might be generated from construction work. Movement of construction materials, handling of equipment can cause significant noise which has an impact on the environment.

5.2.6. Environmental and Social Management Plan

131. An ESMP is the key document focused on implementation after the potential impacts have been identified. It ensures that the project impacts are reduced to an acceptable level during the implementation stage. Thus, ESMP becomes the document for ensuring that all the preceding analysis is used to preserve or improve overall environmental quality within the influence area of the proposed project.

132. The ESMP should be specific, clearly and concisely describing adverse impacts, selected management measures to bring it to an acceptable level and timelines for implementing these measures. The ESMP aims to ensure the compliance of all activities undertaken during the implementation and the operation of the proposed project with the environmental safeguard requirements of the WB and GoB. The structures of an ESMP are based on:

I. Potential adverse impacts identified and mitigation measures to be adopted, together with conditions within which one or other measure would apply and their integration with phases – pre-construction, construction/ implementation and operation;
II. Enhancement plans for positive impacts;
III. Monitoring Plan with indicators, mechanisms, frequency, locations;
IV. Budgetary allocations for all the above activities;
V. Institutional arrangements for each activity and mitigation measures;
VI. Implementation schedules for each activity and its integration with the sub-project implementation timelines; and
VII. Reporting procedures, including for redressing grievances related to environmental and social issues.

133. The generic ESMP is only a guideline document and would require to addressing the mitigation measure which will be considered as successful when it complies with the Environmental Quality Standards (EQS), policies, legal requirements set by the WB and DoE environmental guidelines and other relevant GoB legal requirements. In absence of DoE's own EQS, other relevant international or other recognized organization's quality standards will be applied.

5.2.7. Resettlement Policy Framework

134. A guideline is prepared for addressing the issues limited to the project for resettlement and rehabilitation of the project affected person's (PAPs). The project specific policy shall be developed based on the Right to Fair Compensation and transparency in land Acquisition, Rehabilitation and Resettlement, subject to subsequent supplements by GoB and the GB's guideline or policy on involuntary resettlement

135. Principles of the policy aims to resettle and rehabilitate the affected persons on account of the project in a manner that they do not suffer from adverse impacts and shall improve or at the minimum retain their previous standard of living, earning capacity and production levels. The resettlement issues shall minimize dependency and be sustainable socially, economically and institutionally. Special attention will be paid to the improvement of living standards of marginalized and vulnerable groups. Those are;

(a) All information related to resettlement preparation and implementation will be disclosed to all concerned, and community participation will be ensured in planning and implementation.

(b) The principles of mutual consent and negotiated settlement will also be used for land acquisition as required.

(c) The persons affected by the project who do not own land or other properties but who have an economic interest or lose their livelihoods will be assisted.

(d) Before taking possession of the acquired land and properties, compensation and Resettlement and Rehabilitation (R&R) assistance will be made to those who are available and willing to receive the entitlements.

(e) There would be no/minimum adverse social, economic and environmental effects of displacement on the host communities but if needed specific measures would be provided.

(f) Broad entitlement framework of different categories of project-affected people has been assessed and is given in the entitlement matrix. Provision will be kept in the budget. However, anyone moving into the project area after the cut-off date will not be entitled to assistance.

(g) Grievance redress mechanism has been established at the project level to ensure speedy resolution of disputes.

(h) All activities related to resettlement planning, implementation, and monitoring would ensure involvement of women. Efforts will also be made to ensure that vulnerable groups are included.

(i) All consultations with PAPs shall be documented. Consultations will continue during the implementation of resettlement and rehabilitation works.

(j) A Resettlement Action Plan (RAP) will be prepared including a fully itemized budget and an implementation schedule.

136. The principles of the Resettlement and Rehabilitation (R&R) policy are as given below;

(a) All negative impacts including displacement should be avoided or minimized wherever feasible by exploring all viable alternative project designs.

(b) Where negative impacts are unavoidable, efforts should be made either to improve the standard of living of the affected persons or at least assist them in restoring their previous standard of living at no cost to them.

(c) Ensure people's participation during the course of the project cycle.

(d) Effort should be made towards the enhancement of the positive impact of the projects.

137. The grid-tied solar power project will have three main impacts that require mitigation measures. These are:

(a) Loss of immovable assets, like; land, house and ponds etc.

(b) Loss of livelihood or income opportunities, like; for agriculture labors, helping hands in commercial establishments etc.

(c) Impact on the community in terms of loss of common property resources.

138. The first two categories represent direct impacts on an identified population. The people likely to be affected will be surveyed and registered, and project monitoring and evaluation will compare long term impacts against baseline socio-economic data.

139. The third category represents a group impact, where gains and losses of a group-oriented nature are not quantifiable in terms of impact on the individual. Mitigation and support mechanism will be collectively-oriented, and the monitoring will focus on the impact on such groups.

140. The provisions of Rights to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act of GoB has specific policies for mutual consent and negotiated settlement, the provisions of such policy could be used subject to their adherence to the provisions are within the broad framework of the Act and the policies of the WB, as follows:

(a) Support will be extended under the broad principles of this policy to meet the replacement value of the assets and loss of livelihood.

(b) The policy further recognizes the extension of support to non-titleholders for the loss of livelihood and replacement value for assets other than land.

(c) The common property resources will be replaced as far as feasible and if not then assistance will be provided at replacement value to the group.

141. The grid-tied solar power projects would involve transportation of equipment during the installation phase and all efforts will be made during implementation to minimize any disturbance in the daily activities of the local people. Before taking possession of the acquired lands and properties, all compensation, resettlement, and rehabilitation would be made in accordance with the policy. In case of displacement, resettlement sites will be developed as part of the project. In such circumstances care should be taken so that there are no/or minimum adverse social, economic and environmental effects of displacement on the communities. Moreover, specific measures would be provided in the Resettlement and Rehabilitation Action Plan (RAP) to mitigate any such impacts so that the project will ensure that no civil works are initiated before compensation and assistance to affected population has been provided in accordance with this policy.

5.2.8. Gender equality and Social Inclusion

142. Mainstreaming gender equity and empowerment is already a focus area in the project. In the activities related to livelihood, restoration will address women's needs. A Gender Development Framework is being designed under the project as

part of ESMS which will help analyze gender issues during the preparation stage of sub project and design interventions. At the project component's level, gender analysis will be part of the social assessment and the analysis will be based on findings from gender specific queries during the primary data collection process and available secondary data in the ESIA preparation. The quantitative and qualitative analysis will bring out sex disaggregated data and issues related to gender disparity, needs, constraints, and priorities; as well as understanding whether there is a potential for gender based inequitable risks, benefits and opportunities. Based on the analysis, the specific interventions will be designed and if required gender action plan will be prepared. The overall monitoring framework of the project will include sex disaggregated indicator and gender relevant indicator.

143. The participation of beneficiaries and focus on poverty reduction are two other key determinants of the effectiveness and sustainability of any project. Furthermore, any project must address the constraints on women's participation in project design, construction, and monitoring and evaluation (M & E). Three major tools are used to identify and deal with gender issues in the project cycle: gender analysis, project design, and policy dialogue.

144. Gender analysis should be an integral part of the initial social assessment at the screening stage itself. The issues identified can be scaled up during the feasibility and detailed analysis can be carried out during the project preparation stage. The project designs should be gender responsive based on the gender analysis and should be included in the ESIA document. The findings and recommendations from the gender analysis during project planning and feedback from beneficiaries during implementation must be discussed thoroughly to determine the need for further action.

5.2.9. Tribal People/Small Ethnic Community

145. Private sector projects like grid-tied solar power can create opportunities for these groups to participate in and benefit from project-related activities that may help them fulfill their objective for economic and social development.

Furthermore, these groups may play a role in sustainable development by promoting and managing activities and enterprises as partners in development.

146. During E&S due diligence process, project proponent will be responsible for:

(a) Verifying the conclusions of the ESIA on whether or not tribal people and/ or small ethnic communities are present in the proposed project area;

(b) Promptly notifying IDCOL should these communities are present in the proposed project area;

(c) IDCOL should determine that a project involving impacts on tribal people and/ or small ethnic communities can be financed (based on IDCOL's internal E&S risk management capacity), ascertaining that adequate risks and impacts management measures are included in project sponsors' Action Plans and incorporated in the legal documentation for project financing.

(d) Verifying broad community support of these groups to the project that should be the outcome of Good Faith Negotiations and ICP as conducted by project sponsors and described on stakeholder engagement.

(e) In specific circumstances requiring FPIC, verifying the due process and adequate outcome, as conducted/ achieved by the project sponsor and described on stakeholder engagement.

(f) Monitoring implementation (with assistance / recommendation from IDCOL).

5.2.10. Consultation and Public Disclosure

147. Once the screening and documentation requirements are agreed by the project sponsor, the project proponent will develop detailed documents/ plans and impact mitigation measures as required by IDCOL's policy and procedures, and obtain the environmental clearances for each project before starting the construction. Sound environmental and social practices have to be incorporated into the project design and implementation and potential negative impacts will have to be mitigated to acceptable levels/standards of DoE.

5.2.11. Consultation Process

148. Consultation during Environmental Assessment: Public consultation is a mandatory requirement as per GoB environmental regulations and the WB;

New Projects **-** For a new project, public consultation shall be conducted at the scoping stage of the environmental assessment process to identify environmental impacts of the project as well as before appraisal after preparation of the draft ESIA before receipt of Location Clearance Certificate from DOE.

Refinance/Existing projects at an advanced stage- For grid-tied solar power projects that are sensitive, public consultations shall be carried out during the implementation of ESMP and the conclusions and recommendations should be incorporated into a revised ESMP.

Consultation for Involuntary Resettlement: For grid-tied solar power projects, the project proponent will conduct meaningful consultation with affected persons, their host communities, and civil society for the project and subproject identified as having resettlement impacts. In the process of consultation, the project proponent or specific consultants who are conducting the consultation process should follow qualitative methods (FGDs, KIIs, and observation) while carrying out other methods. Notably, meaningful consultation is a process that ensures the following

(a) Begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle;

(b) Provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people;

(c) Undertaken in an atmosphere free of intimidation or coercion;

(d) Gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and

(e) Enables the incorporation of all relevant views of affected people and other stakeholders into decision makings, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

149. The consultation will be carried out in a manner commensurate with the impacts on affected communities. The project proponent will pay particular attention to the need of disadvantaged or vulnerable groups, especially those below the poverty line, the landless, the elderly, female headed households, women and children and those without legal title to land.

150. Consultations with Tribal Peoples and/ or Small Ethnic Communities: The project proponent will prepare a Rehabilitation Action Plan (RAP) in the context of the ESIA and through meaningful consultation with the affected tribal communities. The RAP will set out the measures whereby the Project proponent will ensure;

(a). that affected tribal communities receive culturally appropriate social and economic benefits; and

(b). that when potential adverse impacts on tribal communities are identified, these will be avoided to the maximum extent possible. Where this avoidance is proven to be impossible, based on meaningful consultation with tribal communities, the RAP will outline measures to minimize, mitigate, and compensate for the adverse impacts.

151. In the process of consultation, the project proponent or specific consultants who are conducting the consultation process should follow qualitative methods (FGDs and observation) while carrying out other methods.

152. Public consultation may be combined if found relevant and more effective for environmental assessment as well as Tribal Communities, especially when there are inter linkages between E&S issues.

Information Disclosure

153. For new projects, the IDCOL environmental unit will submit the ESIA and RAP (if required) to funded partners for disclosure on their website and the same will be disclosed on IDCOL's website.

I. A draft ESIA including ESMP & RAP at least 120 days with additional time required for incorporating comments on the draft ESIA/ESMP prior to funded partners;

II. Updated ESIA or IEE and Corrective Action Plan (CAP) prepared during project implementation, if any; and

III. The environmental monitoring reports generated periodically (annually) during monitoring of project in implementation and operation phase of the project.

154. All relevant documents will be disclosed at a public place accessible to affected groups and other stakeholders prior to consultation to establish the basis for meaningful consultation and participation (ICP). Disclosure should be done in a culturally appropriate form and language. At a minimum, the ESIA document and RAP (if required) should be accessible in the Sponsor's and IDCOL's website. Disclosure and consultation mechanisms will be planned and detailed in the relevant documents.

5.2.12. Grievance Redress Mechanism

155. Grievance mechanisms will respond to the grid-tied solar power project needs better if they are established early as a measure to pre-empt rather than react to the escalation of tensions with surrounding communities. As with other pillars of stakeholder engagement, an adequate social and environmental impact assessment process for the project is essential to the success of a grievance mechanism, because it helps determine how project scale and impact, stakeholder composition, and other project factors will influence the design of the grievance mechanism and resources allocated for implementation.

156. The project proponent shall constitute a three-member Grievance Redress Committee (GRC) comprising of an officer representing the project proponent, not below the rank of the implementing officer, the elected member (local body) of the project area/location and one member of the public who is known to be a person of integrity, good judgment and commands respect among the community. The existence of the GRC will be disseminated to the affected persons through printed handouts providing details of the structure and process in redressing grievances.

157. The project proponent will document all complaints received, the action was taken on each of them and send a report of the same every quarter.

158. The GRC will address local public grievances regarding environmental impacts of the project during construction and operation. The project proponent will address issues through GRC to receive and facilitate the resolution of affected persons‟ concerns and grievances about physical and economic displacement and other project impacts, paying particular attention to the impacts on vulnerable groups. The GRC should be scaled to the risks and adverse impacts of the project.

5.2.13. Monitoring and Reporting

159. The objectives for monitoring are: (i) to alert project authorities by providing timely information about the success or otherwise of the ESIA process as outlined in the ESMS in such a manner that changes to the system can be timely made, if required; (ii) to make a final evaluation in order to determine whether the mitigation measures designed into the sub-projects have been restored, improved upon or are worse than before.

160. Environmental monitoring needs to be carried out during the construction as well as operation and maintenance of the grid-tied solar power project in order to measure the success of the mitigation measures implemented earlier. A number of indicators would be used. Indicators may include: how many people are employed than before; have the biophysical environmental conditions of the area improved?

161. It may be useful to institute monitoring milestones and provide resources, as necessary, in order to carry out the monitoring activities. Also, the proposed indicators may be further elaborated and validated to accommodate any significant site-specific needs.

Monitoring indicators

162. The following are some of the relevant parameters and indicators that can be used to measure ESMS process, mitigation plans and performance:

a) Have project resulted in better living standards for the community?
b) How has the adoption of the ESMS requirements improved the environmental health and biophysical state of the proposed area?
c) Has ESMS adoption resulted in sustainable use of energy and improved efficiency?

d) Are periodic monitoring reports being completed and sent to DoE & Funded Partners?
e) Are processes defined in the ESMS working well?
f) How many complain/grievances have been received regarding the project?
g) Based on the results of monitoring, what (if any) changes to the ESMS are needed? Should there be additional training/capacity building resources to increase performance?

CHAPTER 06: RISK AND IMPACT ASSESSMENT & STRATEGIES TO MITIGATE RISKS

163. The ESMS defines environmental or social risks of proposed projects as potential negative impacts on communities and peoples' rights, livelihoods and well-being and/or on the physical, natural, socioeconomic or cultural environment.

6.1. Scope of the Risk

164. Negative impacts may be caused directly by the activities of a proposed project or indirectly as knock-on effects or cumulative impacts that materialize through interaction with other developments. Further, the ESMS considers not only impacts occurring at the project site but also impacts exerted within the project's wider area of influence, including trans-boundary impacts and impacts that may be triggered after project implementation as a succession of effects.

6.2. Areas of Risk

165. The identification of potential impacts is guided by the ESMS principles. However, the thematic coverage of the ESMS is wider than the issues covered in the principles and includes other negative environmental and social impact and risk issues. Examples of social risks are the potential of project benefits leading to discrimination or marginalization of certain groups; increase in vulnerability due to economic losses of people's or community assets such as crops, livestock or infrastructure (i.e. through damages from wildlife); disturbances to patterns of social relations and social cohesion; child or forced labor; community health and safety issues including risks of diseases, injuries or death (i.e. through human-wildlife conflicts) and/or adverse impacts on public infrastructure essential for basic needs. The screening for risks also considers environmental risks not covered in the Standard on Biodiversity Conservation and Sustainable Use of Natural Resources such as pollution, hazardous waste and greenhouse gas emissions.

166. For example, in case of solar rooftop and grid-tied solar power project, PV Panels are one of the main hazardous components which need to be disposed of properly after the expiration of their lifetimes. According to the 'Study on the Impact of Photovoltaic Panels (PV panel)' by European Commission in 2011, PV

panels associated with Lead and Cadmium leaching having potential risk to contaminate soil and water. Moreover, there are also hazards associated with glass and aluminum. So, there is a dire need for a PV Panel Disposal Policy. Because due to natural calamities like storm or cyclones; significant numbers of the panel are assumed to be affected and need immediate disposal in an environmentally friendly manner. Moreover, there is informal concern that quality of some of the PV panels may not be good enough to survive up to the anticipated warranty period. As a result, an Action Plan needs to be formulated to determine the actual course of actions in case of proper disposal of PV Panel.

6.3. Risk Management

167. The ESMS risk management approach requires a pre-assessment of potential negative impacts (referred to as ESMS screening) at an early stage of project design. This is followed by a more in-depth Environmental and Social Impact Assessment (ESIA), if potential issues were identified. The pre-assessment assures that the scope and quality of the ESIA process is proportionate to the complexity of the project and the nature and scale of risks: the level of effort is highest for projects that are identified during screening as high-risk projects and lesser for projects classified as moderate-risk projects; for low-risk projects, development can precede without further assessments.

168. IDCOL has a long history of energy-based development financing. The company's high experience enables it to comply with its E&S commitments. Besides, the company follows avoid-minimize-compensate management strategy. Lack of adequate and efficient man power might cause some problem. However, proper trainings and consultancy can help solve the problem.

Figure 5: Basic Risk Management Strategy of IDCOL

CHAPTER 07: MONITORING, REPORTING AND SAFEGUARDS CAPACITY BUILDING FOR ESMS IMPLEMENTATION

169. IDCOL has gained experience in implementing environmental and social management framework by complying with the safeguards requirement of the WB, ADB and the Department of Environment (DOE). IDCOL has established an independent Environment and Social Safeguards Management Unit (ESSMU) to institutionalize the environmental and social management in its operation. It has already deployed a full-time Environmental Specialist to look after the renewable energy department.

170. Monitoring the EHS compliance of solar rooftop and grid tied solar power project: IDCOL will quarterly monitor the implementation of EMP and relevant environmental, health and social compliances of at least 2 (two) construction/operational solar rooftop and grid tied (including the transmission line) power projects. But in case of new project, IDCOL will visit the project site and assess the suitability of site in respect of basic environmental and social aspects, which is to be duly submitted to the relevant stakeholders with the attachment of ESA or ESIA report as is to be prepared by the project sponsor.

171. Monitoring of land purchase: IDCOL will regularly monitor the land purchase processes and application of screening mechanism to rule out any displacement. In this regard, the respective official of IDCOL will visit the project site in case of solar rooftop and grid tied solar power project and will have focus group discussion with male and female group, in case of necessity. In addition, s/he needs to have consultation with the representatives of civil society, relevant local government authority to ensure that here is no dispute with land, gender impact and valuation issue.

172. IDCOL will report to the development partners on the project progress on a routine basis. The reporting shall present the status of ESMS compliance associated with the disbursements under the respected project.

173. Reporting by IDCOL: The reporting and monitoring schedule with disclosure arrangement is provided in the following table.

Table 8: Monitoring and Reporting schedule of IDCOL under ESMS

Sl. no	Project component	Monitoring and Reporting Issue	Frequency of Monitoring	Reporting Schedule	Disclosure
01	**Solar Roof-Top**	Assessment of the suitability of project site in respect of basic environmental and social aspects for each new rooftop project.	**Once** for each project during appraisal process	**Once** during appraisal process	Email to respective stakeholders or during contract signing.
		Basic environmental, social and health safety compliance assessment including implementation of EMP of solar rooftop project under construction/operation	Half-yearly (At least two operational projects in each six months)	**Half-yearly** (based on the observation of monitoring)	IDCOL website
02	**Solar Grid Tied Power**	Assessment of the suitability of project site in respect of basic environmental and social aspects for each new commercial grid tied project.	**Once** for each project during appraisal process	**Once** during appraisal process	Email to respective stakeholders or during contract signing.
		Basic environmental, social and health safety compliance assessment including implementation of EMP of commercial solar grid tied power project under operation	**Half-yearly** (at least two operational projects in each six months)	**Half-yearly**	IDCOL website

174. Training activities will be developed to ensure IDCOL staff and other involved FIs for subprojects implementation can confidently and effectively screen projects, implement the ESMS and the Codes of Practice, monitor effectiveness of implementation, supervise consultants and contractors, identify risks and issues, and report on safeguards to donors.

175. The training and capacity building activities will take into consideration during their development, the integration and fulfillment of the requirements of the WB safeguards policies and guidelines, as well as those of the GoB Law on Environmental Protection (including relevant policies, regulations and guidelines). A series of training workshops on implementation of the ESMS will take place as part of the project launch workshop and during the initial year of implementation. The proposed training activities is presented in Table 9 below:

Table 9: Proposed Capacity-Building Activities

Activity
Environmental and social aspects of the ESMS and It's implementation process (Screening, reporting, monitoring EHS with handling procedures and rules & regulations) through the project cycle
ESIA procedures, Environmental Management policies & guidelines, WB and other developments partners safeguards, implementation and enforcement