

DRAFT FINAL

**Private Sector Development Support Project
(PSDSP)**

**ENVIRONMENTAL MANAGEMENT
FRAMEWORK**

**EMF
FOR
PSDSP**

MARCH, 2010

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ABBREVIATIONS

BCC	Bangladesh Computer Council
BECA	Bangladesh Environment Conservation Act
BEPZA	Bangladesh Export Processing Zones Authority
BoI	Board of Investments
CETP	Common Effluent Treatment Plant
DoE	Department of Environment
EA	Environmental Assessment
ECA	Environment Conservation Act, 1995
ECC	Environmental Clearance Certificate
ECR	Environment Conservation Rules, 1997
EIA	Environmental Impact Assessment
EMC	Environment Management Cell
EMP	Environmental Management Plan
EMU	Environment Management Unit
EPZ	Export Processing Zone
EMF	Environmental Management Framework
EZ	Economic Zone
GoB	Government of Bangladesh
ICA	Investment Climate Assessment
ICT	Information and Communication Technology
IEE	Initial Environmental Examination
MoEF	Ministry of Environment & Forest
MoSICT	Ministry of Science, Information and Communication Technology
NEMAP	National Environmental Management Action plan
OP	Operational Policies
PAD	Project Appraisal Document
PEC	Project Environment Cell
PIU	Project Implementation Unit
PMO	Prime Minister's Office
PMU	Project Management Unit
RMG	Ready Made Garments
SCC	Site Clearance Certificate
SIA	Social Impact Assessment
SME	Small and Medium Enterprises
WARPO	Water Resources Planning Organization
WB	World Bank

1 THE EMF DOCUMENT

1.1 OVERVIEW OF EMF

1. Private Sector Development Support Project (PSDSP) involves facilitating the development of Export Processing Zones (EPZ) in Bangladesh, through financial assistance from The World Bank. Depending on the nature and type of EPZs, the sub-projects can lead to environmental impacts during project development and operation phases by way of use of construction materials for building infrastructure and related earth moving activities; generation of industrial and domestic wastewater, and solid waste from operations and other industrial emissions. Compliance with the national and World Bank safeguard policies and conducting EA of the PSDSP will help ensure implementation of environmental mitigation measures that can eliminate or reduce adverse impacts of the development activities and industrial operations to a minimum level. Furthermore, cleaner production and pollution prevention knowledge and technologies can be used at various stages of the project to reduce the environmental risks of PSDSP.
2. The Environmental Management Framework (EMF) provides the systems and procedures to be followed in ensuring the institutional arrangements for implementing the same.

1.2 STRUCTURE OF THE DOCUMENT

3. The EMF has been organized in the following six chapters.
 - Chapter One, provides an overview of EMF including its purpose, users and the environmental assessment process;
 - Chapter Two presents a brief background of the PSDSP including its objective, nature, components and the project cycle;
 - Chapter three provides the legal and institutional basis for establishing the EMF for PSDSP. The chapter also includes a comparison of World Bank safeguard policies and the regulations of Government of Bangladesh (GoB);
 - Chapter Four details out environmental management procedures for PSDSP;
 - Chapter Five provides the monitoring and reporting framework for EMF, including responsibilities, institutional arrangements; and
 - Chapter Six discusses the capacity building and training requirements for implementing the EMF.

1.3 METHODOLOGY

4. The following steps were followed for preparation of the EMF for PSDSP.
 - Review of environmental policies of GoB and WB;
 - Review of environmental issues associated with EPZs in Bangladesh;
 - Analysis of environmental framework in similar projects such as BICF, IPFF;
 - Review relevant literature;
 - Preparation of Draft Final Report;
 - Preparation of the Final Report incorporating the comments of concerned agencies on Draft Final Report.

These steps are detailed out in figure 1 below.

1.4 PURPOSE OF EMF

5. The Environment Management Framework (EMF) details out the agreed policies, guidelines, and procedures to be integrated into the implementation of PSDSP. The main purpose of the ESMF is to:
 - Understand the process of addressing environmental concerns in PSDSP projects, which are a combination of Public and Private financed projects;
 - To establish clear procedures and methodologies for the environmental assessment, review, approval and implementation of investments to be financed under the project;
 - To specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental concerns related to project investments;
 - To determine the training, capacity building and technical assistance needed to successfully implement the provisions of the EMF;
 - To provide practical information, and resources for implementing the EMF.

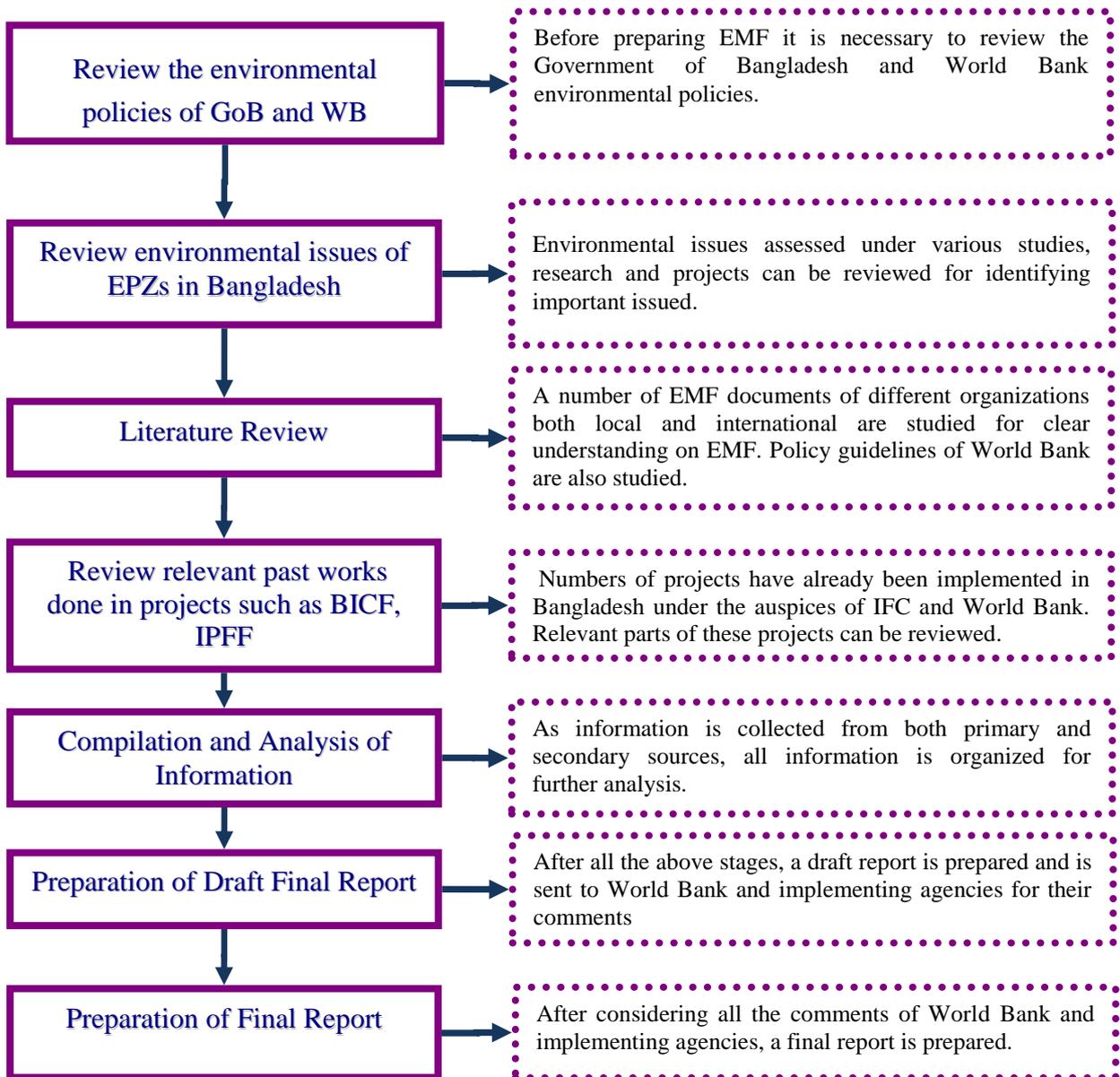


Figure 1: Methodology of Preparing ESMF for PSDSP

- As a detailed guide on principles and procedures for incorporating environmental issues into project preparation, the EMF is a useful reference to project implementing agencies, private developers and the industrial units expected to be participated in PSDSP.

1.5 USERS OF ESMF

- As a core policy and procedural document for the PSDSP projects, the EMF is designed for use by the following agencies:
 - PSDSP Project Staff at the Project Management Unit:** As a document

enshrining operating principles and guidelines to ensure that projects are adequately assessed to ensure compliance with environmental standards.

- ***Project Implementing Agencies (MOSICT/BCC/BEPZA/Private EPZ Cell):*** As a document that spells out requirements with respect to environmental issues that need to be met, under PSDSP.
- ***Potential Private Master Developers:*** As a document that explains the compliance requirements for environmental management for projects being developed under PSDSP.
- ***Potential Industrial Units / entrepreneurs of the EZs:*** As a document that details out the environmental management requirements for the industrial units in the EZs.
- Other relevant government agencies, including DOE

2 DESCRIPTION OF THE PROJECT

2.1 BACKGROUND OF PSDSP PROJECT

8. The economy of Bangladesh has been growing at a steady rate of around 5-6% for the past several years. However, given the prevalent scenario in terms of poverty, to have a significant and sustained impact on the poverty rates the country needs to i) significantly increase growth rates to 7-8%; and, ii) implement measures to ensure wider access to/ trickling down of economic benefits. In order to achieve the target growth rates, Bangladesh needs to develop a competitive private sector that can help in strengthening the trade relations of the country with the global market. In order to improve income equity and access to economic opportunities, Bangladesh needs to build on other regional and global examples and incentivize responsible business through better policy and regulation.
9. Export Processing Zones (EPZs) have been set up in the country to promote exports and these have been relatively successful especially in sectors such as textiles. However, the overall impact of EPZs has been limited in terms of cumulative socio-economic impact. The direct, indirect and spillover effects into the local economy are also felt to be limited. Further, these EPZs are developed solely by the public sector, whose resource limitations constrain further growth.
10. In order to tackle some of the above issues, the Private Sector Development Support Project (PSDSP) has been developed to support the development of a few pilot projects incorporating the new EZ model.
11. The proposed sector investment loan for the Government of Bangladesh is aimed at creating the infrastructure platform required to further enhance a manufacturing and services led transformation of Bangladesh's economy. The project is expected to generate firm level investment in manufacturing and services beyond the already established RMG sector. As a result the project will contribute to a sustainable increase in jobs and household income for an increasingly densely populated Bangladesh. The project will build on Bangladesh's experience in the application of export processing zones. It will leverage good practice while learning from experiences in other regions, address key constraints identified in the ICA and various consultations and support firm level innovation.
12. The proposed project supports the Government's Competitiveness's framework which consists of maintaining macroeconomic stability and relatively open markets to foreign investment and trade, aggressive efforts to reduce red tape, bureaucracy

and corruption, and strong efforts to provide serviced land with reliable infrastructure.

2.2 OBJECTIVES & AIMS OF PSDSP

13. The proposed project's objective is to increase firm level investment in the manufacturing and services export industry (preferably non RMG) through zone expansion. The objectives will be achieved by a) improving the efficacy of the institutional framework relating to zones in Bangladesh, b) extending the serviced land available for investors and c) building the capability of local firms to supply to exports and encouraging firms to fulfill environment and safety standards. The project will increase the serviced land area, improve access to serviced land (number of days to sign an industrial land lease), and increase private investment in serviced land, The project results will contribute to increase private investment in the non garment exporting sector, increase in the number of jobs, increase in export revenue and growth of non garment exports.

2.3 COMPONENTS OF PSDSP

14. ***Project Objective:*** The objective of the project is to develop environmentally sound zones using public private partnerships. The project consists of financing for public sector investment in infrastructure, the development of serviced land, improving the efficiency of existing zones and leveraging private financing for zone development where found feasible through private participation.

15. **Component 1**

Sub component 1.1: Master Planning, Design, EIAs and SIAs

The project will provide technical assistance to undertake the following:

- i) A full viability study, demand survey, including financial, economic, technical, legal, social and environmental assessments. This will also include some preliminary market testing and feedback;
- ii) Provide transaction advice to develop an Information Memorandum for potential investors and assist in the 'road show' and revise the project design based on feedback based on investor response;
- iii) To develop a full procurement plan including documentation for the master developer and to market the project to potential investors;
- iv) Develop the operational guidelines to monitor the performance of the master developer under the concession agreement, and ensure compliance with all other legal and regulatory requirements;

- v) Develop a dispute resolution mechanism to monitor disagreements, changes or other adverse circumstances that might threaten the concession.
16. Sub component 1.2: Improving the business environment
- The project will also provide technical assistance and capacity building to reduce the cost of doing business by facilitating major business transactions within zones. The project will include: a) business registration, b) import and export permits and c) customs clearances and assessments. The project will support the review of process and procedures and support the amendment of any rules and legislation required.
17. Sub component 1.3: Improving the capacity of Zones related institutions
- The project will provide technical assistance and capacity building crucial to zones related institutions. These will include the Prime Minister’s Office (PMO) for approving / adopting/ promulgating regulations related to environmental and social compliance, the Public Private Partnership (PPP) unit in Board of Investment (BoI), the Private EPZ Cell, the Ministry of Science Information and Communication Technology (MoSICT) for developing support policy, coordinating research (applied research with private investors within zones), the Bangladesh Computer Council (BCC) for supporting the development of ICT in Bangladesh, BOI for investment promotion, BEPZA for zones assessment, design performance and contract monitoring, and the DoE for environmental regulatory compliance. The project will support the establishment of a Zones Forum for all institutions to coordinate and share experiences.
18. **Component 2**
- The project will provide for investments in developing infrastructure that will not be funded by the private sector. The funding for these infrastructure investments will be provided under this component and referred to as the Public Investment Facility. Following, the “road show” to seek private participation, the “master developer” of the project will clarify the scope of investments that cannot be provided for by the private developer. In principle, the government should focus on investments outside the EZ, though clearly this may not always be the case. These investments may include land preparation costs, land resettlement costs, access to roads, rail connections, water and drainage systems, common user facilities, etc.
19. Preliminary assessment of the amount of funding required from the Public Investment Facility will be provided during the viability study, and will thereafter be refined until the bid process. The eligibility criteria for access to the public

investment facility will include: a) site survey and viability assessment, b) completion of a road show for private participation, (in the case of an expansion of an existing zone this will be waived as for the case in the Comilla EPZ), c) environmental and social assessment, etc. The project will start first with the proposed site at Kaliakoir which the Government wishes to launch as a Hi-Tech or IT park. The component will also provide for supporting private investment in Central Effluent Treatment Plant (CETP) in existing zones following same method.

20. The diagram below indicates the balance between public and private inputs. It shows the Public sector providing basic design for the EZ, providing the land and preparing that land, paying for the land, providing oversight of management and assistance during operation (for example utility access or permitting). However, its objective will be to maximize private investment and management and minimize the public's scarce resources. This is an example of how this balance might work best, but this assessment will need to be made on a project by project basis.

	Private	Public
Design		
Land prep/Build		
Finance		
Manage		
Operate		

21. **Component 3**

Sub component 3.1: The Training and Applied Research Scheme (TARS)

The TARS is aimed at developing the human resources available to Bangladesh. The main services developed under this scheme are likely to be technical training courses for individuals and private firms, although production assistance, quality certification, and product testing services may also be in demand. The project will provide a grant to registered training institutions for the training of individuals based on an agreed curriculum and time line with a group of firms. This includes technical university departments or research institutions for applied research conducted by private sector firms. Grants to these institutions will be based on; a) a

firm tendering process to provide a specific set of skills, b) agreed curriculum, number of graduates and time line c) access to machinery by the private sector and d) agreed tripartite grant agreement and a minimum cost contribution by the private sector. TARS is crucial to making institutions more independent, more responsive to enterprise needs, and more open to private sector participation in planning and services development. The TARS scheme contains strict provisions aimed at ensuring that only viable projects that will lead to real economic benefits through higher productivity by private firms are funded.

22. Sub component 3.2: Technical Assistance and Grants

This sub component will provide technical assistance and grants to SMEs as suppliers and micro enterprises supplying into the zones or affected by the zones for two main activities: a) technical assistance to firms on social and environmental standards; the project will provide technical assistance to assess firms providing goods and services to zone firms to establish a firm level baseline on social standards and emissions on a voluntary basis; b) to firms that are benchmarked and assessed to implement energy audits and improve social standards; SMEs will be encouraged to achieve prescribed standards or reduction of emissions. Eligibility criteria will be based on the level of standard or reduction in emission, the firm level contribution, the implementation time frame, etc.

2.4 SUB-PROJECTS OF PSDSP

23. The project will support the planning, project structuring, bid process management for appointing private master developers and public financing components of EPZs to be developed by BEPZA and/or other GoB agencies. Wherever the private developers are involved, designing, construction and commissioning of EPZs will also be supported under PSDSP. The typical projects that are expected to be supported through the project would hence include the following.

1. Complete EZ (RMG, IT or others) development by various project implementing agencies (MoSICT/BCC/BEPZA/Private EPZ Cell);
2. Site Development and various other EZ development activities
3. Public financed sub components of EZs such as rail / road links, etc.
4. Public financed common infrastructure in EZ offices, training centers, research centers and other facilities.
5. Public financed environmental infrastructure such as power generation, water supply and distribution, sewerage and drainage, industrial effluent

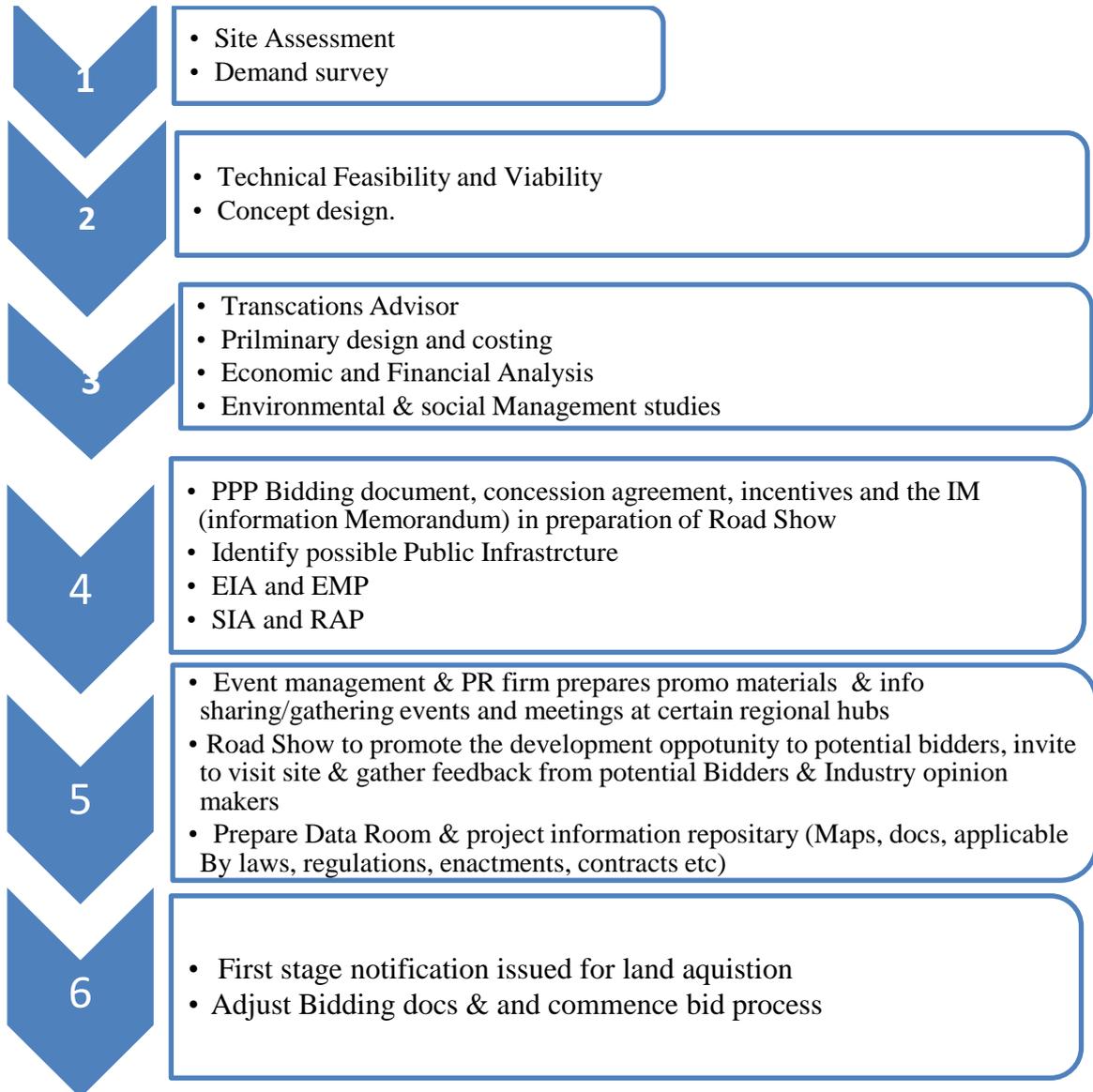
treatment, common effluent treatment, domestic / industrial / hazardous waste disposal facilities.

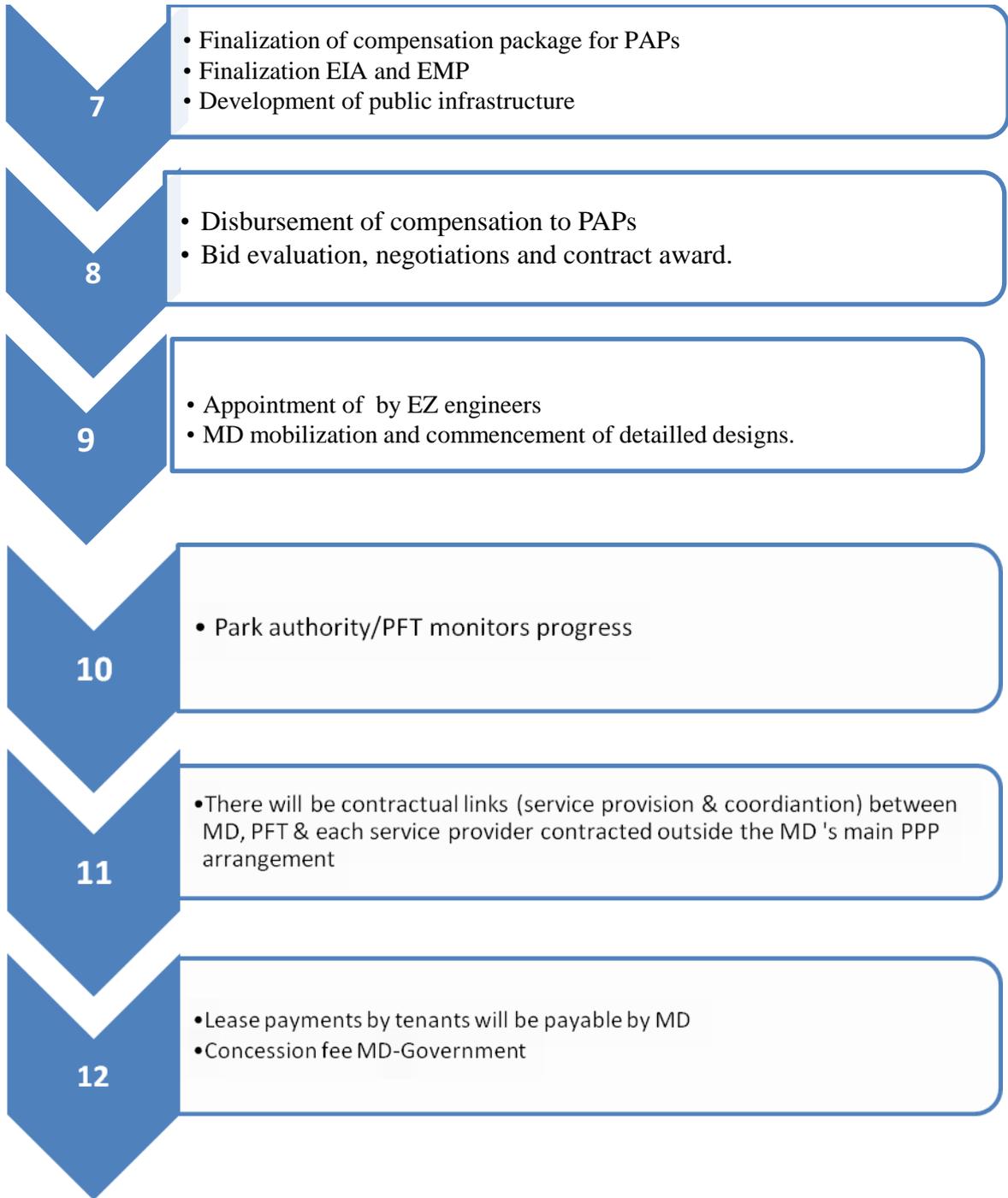
6. Other ancillary facilities to be developed publicly / privately for the EZs.

2.5 THE PSDSP PROJECT CYCLE

24. As indicated in the project development cycle below, the project involves twelve critical steps beginning with site assessment and demand surveys and resulting in finalization EZ operator and operation of the facility.

Figure 2 PSDSP Project Development Cycle





3. REGULATORY FRAMEWORK

3.1 OVERVIEW

25. The environmental legislations in Bangladesh provide the context within which the regulatory compliance of PSDSP projects is ensured. Similarly, the operational policies of The World Bank provide the context for environmental management in the project. It is hence, imperative that all the projects of PSDSP shall comply with the legal requirements of the GOB and the operational policies of the Bank.

3.2 ENVIRONMENT RELATED POLICIES IN BANGLADESH

26. The following section discusses the policies that regulate environmental management in Bangladesh and relevant to the sub-projects of PSDSP.
- National Environmental Policy, 1992
 - National Environmental Management Action Plan, 1995
 - National Conservation Strategy, 1992
 - National Water Policy, 2000
 - National Water Management Plan, 2001

3.2.1 National Environmental Policy, 1992

27. The Bangladesh National Environmental Policy sets out the basic framework for environmental action together with a set of broad sectoral action guidelines. Key elements of the policy are:
- Maintenance of the ecological balance and overall progress and development of the country through protection and improvement of the environment;
 - Protection of country's assets, properties and resources against natural disasters;
 - Identification & regulation of all activities which pollute and degrade environment;
 - Ensuring sustainable utilization of all natural resources;
 - Promoting active association with all environment related international initiatives.
28. The Environmental Policy requires the following specific actions with respect to the 'Industrial' sector:

- To phase in corrective measures in polluting industries;
 - To conduct Environmental Impact Assessment (EIAs) for all new public and private industrial developments;
 - To ban, or find environmentally sound alternatives for, the production of goods that cause environmental pollution; and
 - To minimize waste and ensure sustainable use of resources by industry.
29. Under the National Environmental Policy, Department of Environment is mandated to review and approve all Environmental Impact Assessments.

3.2.2 National Environmental Management Action Plan, 1995

30. The National Environmental Management Action plan (NEMAP) 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 and set out the framework within which the recommendations of the National Conservation Strategy are to be implemented. NEMAP has the following broad objectives:
- Identification of key environmental issues affecting Bangladesh;
 - Identification of actions to halt or reduce rate of environment degradation;
 - Improvement of the natural environment;
 - Conservation of habitats and bio-diversity;
 - Promotion of sustainable development; and
 - Improvement of the quality of life of the people.

3.2.3 National Conservation Strategy, 1992

31. The National conservation strategy provides recommendations for sustainable development in the industrial sector as follows:
- All industries shall be subject to EIA and adoption of pollution prevention/control technologies shall be enforced;
 - Hazardous or toxic materials/wastes shall not be imported as raw materials;
 - Import of appropriate and environmentally sound technology shall be ensured; and
 - Dependence on imported technology and machinery should gradually be reduced in favor of sustainable local skills and resources.

3.2.4 National Water Policy, 2000

32. The National water policy recognizes that continued development and management of the nation's water resources is essential and includes protection, restoration and preservation of the environment and biodiversity including wetlands, mangrove and other natural forests, endangered species and water quality. It also states objectives for all agencies and departments entrusted with water management in regards to their responsibilities for regulation, planning, construction, operation and maintenance. Pollution of surface and ground water around various industrial centers from untreated effluent discharge into water courses is a critical water management issue. The Policy of the Government in this regard is that:
- Zoning regulations will be established for location of new industries in consideration of safe water availability and suitable effluent discharge possibilities;
 - Effluent disposal will be monitored by relevant government agencies to prevent water pollution;
 - Standards of effluent disposal into common watercourses will be set by Water Resources Planning Organization (WARPO) of the Ministry of Water Resources in consultation with DoE;
 - Industrial polluters will be required by law to pay for remedial clean up of water bodies polluted by them.

3.2.5 National Water Management Plan, 2001

33. The National Water Management Plan addresses options for water quality, considerations behind measures to clean up industrial pollution, where effluent discharge monitoring and zoning regulations for new industries are emphasized.

3.3 RELEVANT LAWS AND REGULATIONS IN BANGLADESH

34. A large number of laws related to environmental issues, some dating back to the 19th century, exist in Bangladesh. The most important of these are the Environmental Conservation Act, 1995 (ECA 1995) and the Environmental Conservation Rules (under the ECA, 1995, ECR 1997). Many of the other laws are cross sectoral and are only partially related to environmental issues.
35. Table 3.1 presents an outline of the National legal instruments along with a list of key governmental institutions that have regulatory power over environmental aspects associated with the projects financed by PSDSP.

Table 3.1: Environment Related Laws and Regulations

	Laws/ Regulations	Enforcing Agencies - Ministry/ Authorities
1.	The Environment Conservation Act, 1995 and subsequent amendments in 2000 and 2002	Department of Environment, Ministry of Environment and Forest
	<i>Regulated/ Enforced Items</i> <ul style="list-style-type: none"> • Declaration of Ecologically Critical Areas (Annex 1); • Obtaining Environmental Clearance Certificate for various projects; • Regulation with respect to vehicles emitting smoke harmful for the environment; • Regulation of development activities from environmental perspective; • Promulgation of standards for quality of air, water, noise, and soils for different areas and for different purposes; • Promulgation of acceptable limits for discharging and emitting waste; • Formulation of environmental guidelines relating to control and mitigation of environmental pollution, conservation and improvement of environment. 	
2.	Environment Conservation Rules, 1997 and subsequent amendments in 2002 and 2003	Department of Environment, Ministry of Environment and Forest
	<i>Regulated/ Enforced Items</i> <ul style="list-style-type: none"> • Declaration of ecologically critical Area; • Requirement of Environmental Clearance Certificate for various categories of projects; • Requirement for IEE/EIA according to the category of the project; • Renewal of environment clearance certificate within 30 days of expiry; • Provision of standards for quality of air, water & sound and acceptable limits for emission/discharges from vehicles and other sources. 	
3.	Environment Court Act, 2000 and subsequent amendments in 2002	Judiciary and Ministry of Environment & Forest
	<i>Regulated/ Enforced Items</i> GOB has given highest priority to environment pollution and passed 'Environment Court Act, 2000' for completing environment related legal proceedings effectively.	
4.	The Vehicle Act, 1927 The Motor Vehicles Ordinance, 1983 The Bengal Motor Vehicle Rules, 1940	Bangladesh Road Transport Authority (BRTA)
	<i>Regulated/ Enforced Items</i> Exhaust emission; Vehicular air and noise; Road safety; Licensing.	

5.	The Brick Burning (Control) Act, 1989 The Brick Burning (Control) Amendment Act, 1992	Ministry of Environment & Forest
	<i>Regulated/ Enforced Items</i> Control of brick burning requires a license from the MoEF; Restricts brick burning with fuel wood.	
6.	The Removal of Wrecks and Obstructions in inland Navigable Water Ways Rules 1973	Bangladesh Inland Water Transport Authority
	<i>Regulated/ Enforced Items</i> Removal of wrecks and obstructions in inland Navigable Waterways.	
7.	Water Supply and Sanitation Act, 1996	Ministry of Local Government, Rural Development and Cooperatives
	<i>Regulated/ Enforced Items</i> Management and Control of water supply and sanitation in urban areas.	
8.	The Ground Water Management Ordinance 1985	Upazila Parishad
	<i>Regulated/ Enforced Items</i> Management of ground water resources; Tube well shall not be installed in any place without the license granted by Upazila Parishad.	
9.	The Forest Act, 1927 and subsequent amendments in 1982 and 1989	Ministry of Environment and Forest
	<i>Regulated/ Enforced Items</i> Reserve Forests; Protected Forests; Village Forests.	
10.	The Private Forests Ordinance Act, 1959	Regional Forest Officer, Forest Department
	<i>Regulated/ Enforced Items</i> Conservation of private forests and for the afforestation on wastelands.	
11.	Bangladesh Wild Life (Preservation) Act, 1974	Ministry of Environment and Forest Bangladesh Wild Life Advisory Board
	<i>Regulated/ Enforced Items</i> Preservation of Wildlife Sanctuaries, parks, reserves.	
12.	The Protection and Conservation of Fish Act 1950 subsequent amendments in 1982	Ministry of Fishery
	<i>Regulated/ Enforced Items</i> Protection and Conservation of fishes in Government owned water bodies.	
13.	Natural Water Bodies Protection Act 2000	RAJUK/Town Development Authority/Municipalities
	<i>Regulated/ Enforced Items</i> According to this Act, the character of water bodies i.e. rivers, canals, tanks, or floodplains identified as water bodies in the master plans or in the master plans formulated under the laws establishing municipalities in division and district towns shall not be changed without approval of concerned ministry.	
14.	The Embankment and Drainage Act 1952	Ministry of Water Resources and FCD

	<i>Regulated/ Enforced Items</i> An Act to consolidate the laws relating to embankment and drainage and to make better provision for the construction, maintenance, management, removal and control of embankments and water courses for the better drainage of lands and for their protection from floods, erosion and other damage by water.	
15	Antiquities Act 1968	Ministry of cultural Affairs
	<i>Regulated/ Enforced Items</i> Governs preservation of the national cultural heritage, protects and controls ancient monuments, regulates antiquities as well as the maintenance, conservation and restoration of protected sites and monuments, controls planning, exploration and excavation of archaeological sites.	
16	The Building Construction Act 1952 (with amendments)	Ministry of Works
	<i>Regulated/ Enforced Items</i> An Act to provide for the prevention of haphazard construction of building and excavation of tanks which are likely to interfere with the planning of certain areas in Bangladesh	
17	The Land Acquisition Act, 1894 and The Acquisition and Requisition of Immovable Property Ordinance 1982 and subsequent amendments in 1994, 1995, 2004	Revenue Department
	<i>Regulated/ Enforced Items</i> Current GoB Act & guidelines, relating to acquisition of land	
18	The Factories Act, 1965 Bangladesh Labor Law, 2006	Ministry of labor
	<i>Regulated/ Enforced Items</i> This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable work environment and reasonable working conditions.	

3.4 ENVIRONMENTAL GUIDELINES FOR PROJECTS IN BANGLADESH

36. As identified out earlier, the most important laws/rules in table 3.1 are the ECA 1995 and the ECR 1997. The ECA1995 is primarily an instrument for the Department of Environment (DoE) and for controlling industrial pollution. The ECR, 1997 was promulgated under ECA, 1995 to operationalize the enforcement of the Act. Depending on the extent of impact on the environment, the Department of Environment classifies all the projects in four categories. These are:

- i) Green;
- ii) Orange- A;
- iii) Orange- B; and
- iv) Red

3.4.1 Green Category

37. Projects/industries which do not have any negative impact on the environment belong to Green category (presented in Annex 3) projects. For this category of projects, no Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) is required. However, the project proponent will have to submit an application in a prescribed format to DOE for Site Clearance Certificate and Environmental Clearance Certificate.

Examples

- Bamboo and cane goods;
- Candle, watches etc. assembling and manufacturing; and
- Cork (excluding metallic item).

3.4.2 Orange A and B Category

38. Orange category includes those projects that produce such wastes that can produce moderate or significant impacts on environment but the impacts could be mitigated easily if proper action is undertaken (presented Annex 3). Depending on the nature and extent of impacts the projects under Orange category has been sub-divided into two sub-categories-Orange A and Orange B. The projects/industries likely to produce some wastes but are not believed to be significantly harmful to the surrounding environment and can be managed easily are categorized under “Orange A”.

Examples

- Small hotel/restaurant business;
 - Weaving factory;
 - Handloom industry;
39. The “Orange B” category projects/industries are those likely to produce some adverse environmental impacts but not considered to be overly significant and that the impacts can be mitigated with no residual adverse impacts.

Examples

- Mineral water, soft drink, etc., manufacturing and bottling;
- Processing of fish;
- Meat and other food items;

3.4.3 Red Category

40. This category includes projects/ industries that may have a significant impact on the surrounding environment and that these adverse impacts must be properly managed or controlled (presented in Annex 3). These project/industries must first require an IEE for the purpose of obtaining site clearance, and then EIA, for obtaining environmental clearance. In this case also an application has to be made in a prescribed format along with an IEE report, on the basis of which site clearance may be granted with suitable conditions or the project may be rejected, on grounds of unsuitable location. If the site clearance is granted the project proponent can go ahead with implementation of the project subject to the conditions as may be stipulated while granting the site clearance.

Examples

- Port development including container terminals, island container depot etc.;
 - Telecommunication systems, networks and services including Information and Communication Technology (ICT);
 - Power generation, transmission, distribution and services;
 - Garment dyeing operations;
 - Steel and other major industrial operations.
41. *As identified in section 2.4, PSDSP comprises six categories of sub-projects. While sub-project categories 1,2,3 and 5 will come under red category of ECR and sub-projects categories 4 and 6 will under orange category ECR, requiring ECC depending the exact nature of the proposed activities.*

3.5 PROTECTED AREAS

3.5.1 Ecologically Critical Area (ECA) in Bangladesh

42. The Environment Conservation Act, 1995 and the Environment Conservation Rules, 1997, refer to Ecologically Critical Areas Bangladesh. According to this legislation, environmental protection is deemed particularly relevant in Ecologically Critical Areas, which are defined by the Government as areas where degradation of the environment has reached or threatens to reach a 'critical' state. Specifically, under the Environment Conservation Act and Rules, the Government will take into special consideration areas such as human settlements, ancient monuments, archeological sites, forest sanctuaries, national parks, game reserves, wildlife habitats, wetlands, mangroves, forested areas, biodiversity areas, and other

similar areas. Department of Environment of Bangladesh has declared 12 areas, mostly wetlands, as ECA (presented in Annex 1), which include Hakaluki Haor, Sonadia Island, St Martin's Island, Teknaf Peninsula (including Cox's Bazar Sea Beach, but not their buffer zones), Tanguar Haor, Marjat baor (oxbow lake) and 10 km peripheral distance from the identified Sundarbans Reserved Forest, and entire four rivers (Buriganga River, Shitalakshya River, Turag River and Balu River) flowing within and surrounding Dhaka city.

3.5.2 Protected Areas

43. Article 23 of the Wildlife Order of GoB, has provisions for declaration of Protected Areas and also has regulations prohibiting activities in the Protected Areas. These protected Areas include Wildlife Sanctuary, National Park and Game Reserve. Their definitions in the Bangladesh Wildlife (Preservation) Order, 1973 (henceforth Wildlife Order) is as follows:
44. “Wildlife Sanctuary means an area closed to hunting, shooting or trapping of wild animals and declared as such under Article 23 by the government as undisturbed breeding ground primarily for the protection of wildlife inclusive of all natural resources such as vegetation soil and water” (paragraph (p) of Article 2).
45. “Game Reserve means areas declared by the government as such for the protection of wildlife and increase in the population of important species wherein capturing of wild animals shall be unlawful (paragraph (c) of Article 2)”.
46. Overall, the ‘Protected Area’ of Bangladesh covers an area of 243,435 hectare which accounts for 16% of the total area managed by the Forest Department and almost 2% of total area of Bangladesh. It includes 8 National Parks, 7 Wildlife Sanctuaries, 1 Game Reserve and 5 other conservation sites (The list of Protected Areas is presented in Annex 2). These five conservation sites are National Botanical Garden, Dhaka, Baldha Garden, Dhaka, Madhabkunda Eco-Park, Moulavibazar, Sitakunda Botanical Garden and Eco-Park, Chittagong and Dulahazara Safari Parks & Cox's Bazar.
47. *Projects sites, presently identified for PSDSP- EZ Development project s do not fall under the jurisdiction of any of the protected or ecologically sensitive areas in the Bangladesh .*

3.6 ENVIRONMENTAL INSTITUTIONS IN BANGLADESH

3.6.1 Department of Environment (DoE)

48. Department of Environment (DoE) on behalf of the Ministry of Environment and Forest (MoEF), GoB is the institution responsible for environmental management in Bangladesh. The Department was created in 1989 to ensure sustainable development and conserve and manage the environment of Bangladesh. The department is responsible for implementation of the following policies, acts&rules.
- Environment Policy, 1992;
 - Environmental Conservation Act,1995,including amendments in 2000&2002;
 - Environmental Conservation Rules,1997 including amendments in 2002&03;
 - Environment Court Act, 2000 and subsequent amendments in 2002
49. The principal activities of DoE are:
- Defining Environmental Impact Assessment (EIA) procedures and issuing environmental clearance permits - the latter being legal requirement before projects can proceed to implementation stage;
 - Providing advice or take direct action to prevent degradation of environment;
 - Pollution control, including the monitoring of effluent sources and ensuring mitigation of environmental pollution;
 - Setting the water quality standards for particular uses of water and for discharges to water bodies; and
 - Declaring Ecologically Critical Areas where the ecosystem has been degraded to a critical state.

3.6.2 Department of Forest

50. The Department of Forest is responsible for the protection of four types of legally protected areas-wildlife sanctuaries,game reserves,reserved forests&natural forests.

3.7 DOE CLEARANCE PROCEDURES

51. The DoE, clearance procedure for various projects identified under ECR would need to go through the following two stage process.
- a) Initial Stage: Site Clearance Certificate (SCC)
 - b) Advanced Stage: Environmental Clearance Certificate (ECC)

52. a) **Initial Stage**

The first step for the project proponent is to complete an application form that may be obtained from the appropriate DoE Divisional office. The application form (Annex 4), with a covering letter, is then addressed to the Director/Deputy Director of the respective divisional office of the Department of Environment as prescribed in Form-3 of the Environment Conservation Rules, 1997. The application should include a project feasibility study, the IEE/EIA report, No Objection Certificate of the local authority, mitigation plan for minimizing potential environmental impacts, and a Treasury 'Chalaan' of prescribed fee. The DoE reserves the right to request additional information, supporting documents or other additional materials for the proposed project. Initially, for obtaining the SCC, the following two documents need to be submitted to the DOE:

- An Initial Environmental Examination (IEE) Report and
- A TOR for Environmental Impact Assessment - with process flow diagram

53. Under the conditions specified in the Environment Conservation Rules-1997, the DoE Divisional Authority must issue environmental site clearance within 60 working days or the refusal letter with appropriate reason for such refusal. Without the SCC, the sponsor cannot apply for approval of the civil design of the project to the local authorities. After the SCC is obtained, the sponsor can proceed for land development and other primary civil works.

54. b) **Advanced Stage**

After receiving the SCC, land development may proceed but the entrepreneur/developer needs to proceed for the ECC before initiating operations. The procedures for obtaining the ECC for different categories of projects are provided in the ECR. Green category industries are to be granted an ECC within 15 days from the date of application. For other categories (Orange A & B and Red) of industries/projects, application for the ECC must include a 'Feasibility Report (FR)' and an 'Initial Environmental Examination (IEE)' report along with a 'Terms of Reference' for the EIA. For Orange A category projects, the IEE is sufficient for obtaining the ECC.

55. In the next step for Orange B and Red category projects, an EIA has to be submitted based on the approved ToR and is subject to DOE clearance. After the EIA approval, facility construction and machinery purchase/installation may begin, but the ECC must be obtained before commercial operations begin. The steps involved in securing ECC for a red category project is presented in Figure 3.

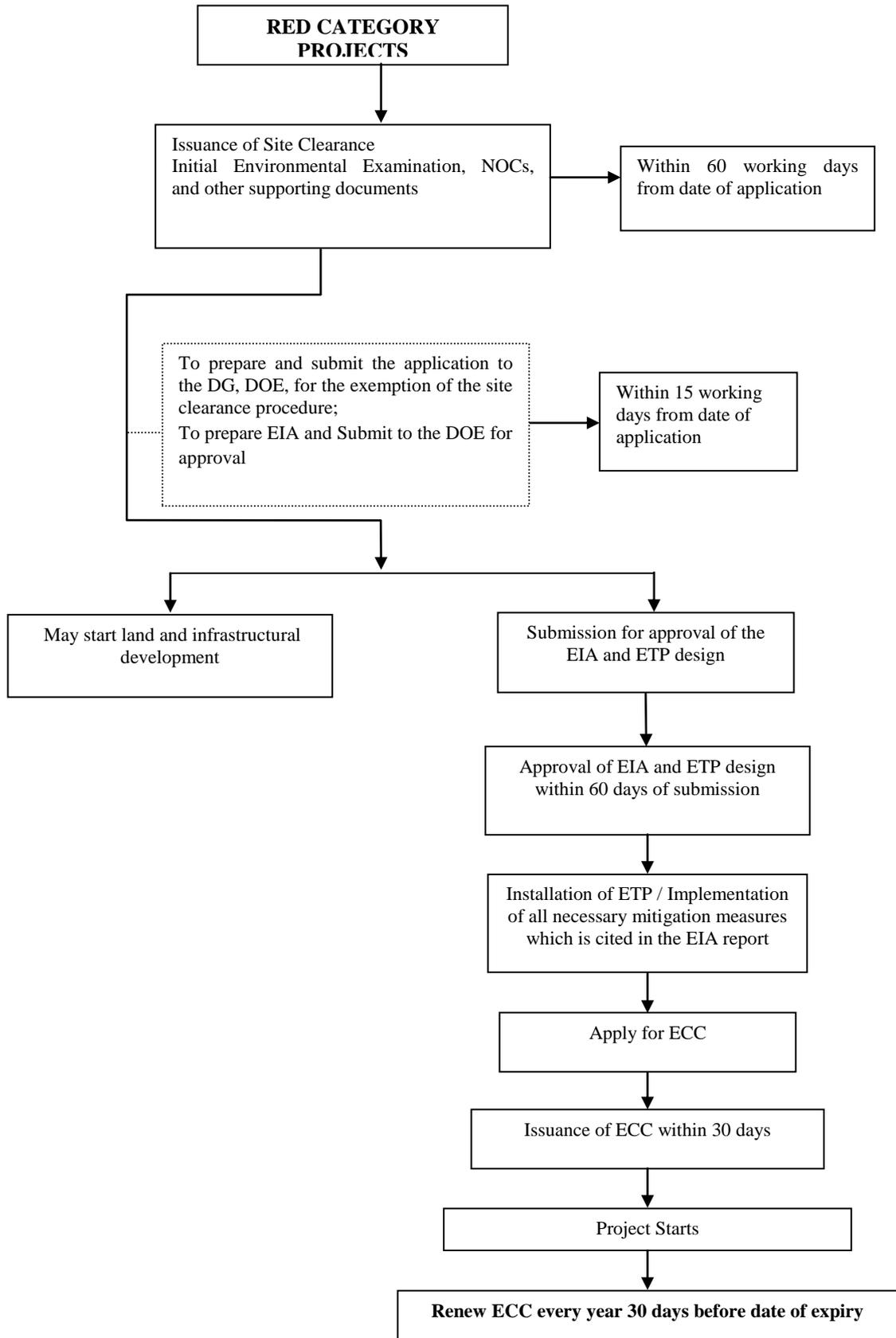


Figure 3: Various steps of Environmental Clearance Process of DOE

56. c) **Validity Period of Environmental Clearance Certificate**

Categories of Project	Validity	Renewal Period
Green	3 year	30 days before expiry of the validity period
Orange A & B	1 year	
Red	1 year	

57. *The EZ/EPZs proposed to be developed under PSDSP as per ECR will be considered a red category project/facility, and will have to secure ECC. The enterprises operating within the zone will be classified according to the nature of its operations/industry and shall comply with appropriate DOE regulations.*

3.8 APPLICABLE SAFEGUARD POLICIES OF THE WORLD BANK

58. Safeguard policies of The World Bank are aimed at avoiding and / mitigating environmental impacts associated with projects supported by the Bank. Safeguard policies of the Bank that could be triggered for PSDSP are summarized below.

Table 3.2: The Safeguard Policies of World Bank on Environmental Issues

S.No	World Bank Policy	Reasons of Applicability	Addressed by
1	Environmental Assessment OP 4.01	Project is likely to have impact on natural environment. Particularly, air, water land, human safety, natural habitats, forestry.	Carrying out an Environmental Assessment and preparing an environmental management plan to avoid/mitigate environmental impacts
2	Natural Habitats OP 4.04	Project passes through / impacts sensitive natural habitats	Preparation of environmental management plan to address impacts, on Natural Habitats
3	Forestry OP 4.36	Project passes through or is adjacent to major forest areas	Preparation of the environmental management plan to address impacts, if any, on forest areas

3.9 PROJECT CATEGORIES AS PER THE SAFEGUARD POLICIES OF THE WORLD BANK

59. Based on project type and scale, project location, sensitivity of issues, nature and magnitude of impacts, the OP 4.01 of the World Bank classifies the projects into three categories - Category A, Category B and Category C.

60. **Category A**

A project is classified as Category A, if it 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. Environmental Assessment for a 'Category A' project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. For a 'Category A' project, the borrower is responsible for preparing a report, normally an EA (or a suitably comprehensive regional or sectoral EA) and prepares an Environmental Management Plan to mitigate the negative impacts of the project.

61. **Category B**

A project is classified as 'Category B' if its potential adverse environmental impacts on human population or environmentally important areas, including wetlands, forests, grasslands, and 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 for Category A projects. The scope of EA for a 'Category B' project may vary from project to project, but it is narrower than that of Category A' project. Similar to 'Category A' project, the EA examines the potential negative and positive environmental impacts of the project and recommends an Environmental Management Plan to mitigate measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

62. **Category C**

A project is classified as Category C, if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no EA is required for Category C project.

3.9.1 COMPARISON BETWEEN GOB AND WB GUIDELINES

63. A comparison of environmental regulations of Bangladesh and the safeguard policies of the Bank (as presented in table 3.3) indicates that, the requirements of OP 4.01 of the Bank are more comprehensive than that of GoB. The key differences include the following.
- i) Categorization of projects based on industrial operations in Bangladesh as against the Bank' categorization of all projects based on the nature of impacts
 - ii) Absence specific requirements of EA outputs as against specific EA requirements in Bank policies
 - iii) Absence of public consultation and disclosure requirements in Bangladesh as against these being very critical for requirements of the Bank

Table 3.3 Comparison between GoB and World Bank Guidelines

S.No	Criteria	Requirements as per GoB	Requirements as per OP 4.01
1	Environmental Analysis	Project specific	Project specific, regional and sectoral
2	Basis for Categorization	Currently, screening criteria available only for industrial projects, where assessment is done based on: <ul style="list-style-type: none"> • Level of pollution emission • Type of project and location • Scale of project • Operational activities Non-industrial projects are reviewed on a case by case basis by DOE	Detailed screening criteria for all projects based on <ul style="list-style-type: none"> • Sensitivity • Nature and magnitude of potential impacts
3	EA Outputs	Since detailed rules and regulations for EA have not been prescribed, EA outputs are not specified. However, the industrial sector guidelines, the water sector guidelines and the road sector guidelines have specific EA output requirements, such as:	<ul style="list-style-type: none"> • EA Report • Analysis of alternatives • Environmental Management Plan

		<ul style="list-style-type: none"> • Baseline survey • IEE/EIA Report • Site clearance • Risk analysis and management • Analysis of alternatives 	
4	Public Consultation	No special mention is made for public consultation in BECA. Sectoral guidelines mentioned above have prescribed consultation.	Mandatory at the stage of <ul style="list-style-type: none"> • Preparation of EA • Project appraisal • Project design • Project implementation and monitoring
5	Disclosure of Information	BECA makes no reference to disclosure. The Sectoral guidelines prescribe some provisions for disclosure	Mandatory at <ul style="list-style-type: none"> • Summary of project description and potential adverse impact • Summary of EA report and conclusion • EA report

64. Based on the regulatory review, it is summarized that the PSDSP project will follow all the safeguard policies of the The World Bank and prepare the necessary management / mitigation plans to address the safeguard risks in the project. Further, all the applicable regulatory requirements of GoB will be fully complied both by the project implementing agencies, zone operators and the industries operating in the zone.

4. ENVIRONMENTAL MANAGEMENT PROCEDURES IN PSDSP

4.1 GENERAL

65. The Environmental Management Procedures developed for PSDSP are aimed at minimizing the environmental impacts of the project and ensures adequate integration of environmental aspects in the project planning, design, construction and operation phases. In addition to complying with the regulatory requirements of GoB and the safeguard policies of The World Bank, the procedures provide a framework to (i) identify, predict, and evaluate beneficial and adverse environmental impacts of project activities, (ii) designing enhancement measures for beneficial impacts, and (iii) suitable institutional arrangements to implement the environment management measures.
66. Sections below present the key environmental issues associated with sub-projects of PSDSP and the procedures set out in the project to address / avoid these issues.

4.2 ENVIRONMENTAL ISSUES IN EXPORT PROCESSING ZONES

67. The environmental impacts of EPZs proposed to be set up in PSDSP broadly depend on the nature and type EPZs and local environmental conditions of the area they are located. These impacts may be categorized as below.
- Impacts on water resources due to disposal of untreated industrial effluents;
 - Health impacts due to air emissions from stack & other industrial operations;
 - Impacts due to disposal of solid & hazardous wastes, including waste sludge;
 - Hazards due to storage, handling and use of chemicals/hazardous materials;
 - Impacts due to ground / surface water extraction;
 - Impacts due to disposal of untreated domestic wastewater;
 - Indirect impacts due to land use change, increased traffic & other developments
68. The initial assessment of potential sub-projects of PSDSP (Kaliakoir Hi-Tech Park and Expansion of Comilla EPZ), indicate that the EPZ's could also have the following site specific impacts.
- Interference to natural drainage paths due to the siting of EPZs;
 - Pollution of surface and ground water sources;
 - Impacts on environment during construction
 - Potential environmental liabilities of non-compliant industries;

4.3 PROJECT CATEGORIZATION

69. In order to address various environmental issues associated with the project and to formulate suitable strategies, the sub-projects of PSDSP are categorized as below.
- ‘Category A’ sub-projects that have potential to cause significant, adverse environmental impacts in the project influence area;
 - ‘Category B’ sub-projects that have potential to cause moderate and reversible environmental impacts in the project area;
 - ‘Category C’ sub-projects that have potential to cause minor and temporary environmental impacts, primarily during construction phase of the project.

Table 4.1 Environmental Categorization of PSDSP Sub-Projects

S.No	Sub-Project	Environmental Category
1	Complete EZ (RMG, IT or others) development by various project implementing agencies	A
2	Site development and various other EZ development activities	A
3	Public financed components of EZ such as rail/road link, etc.	A
4	Public financed common infrastructure in EZ offices, training centers, research centers and other facilities	B
5	Public financed environmental infrastructure such as power generation, water supply & distribution, sewerage & drainage, industrial effluent treatment, common effluent treatment, domestic/industrial/hazardous waste disposal facilities	
6	Other facilities to be developed publicly/privately for EZs	B

70. As presented in table 4.1, four of the six currently identified sub-projects are categorized as ‘Category A’ and the other two projects are categorized as ‘Category B’.
71. In addition to the above, should there be any new sub-projects identified in PSDSP, these new projects will be categorized based on the criteria defined above will be subjected to the environmental analysis set out in this EMF.

4.4 ENVIRONMENTAL ASSESSMENT OF SUB-PROJECTS

72. As summarized in section 3 on regulatory review, any new zone development would be required to perform an EIA and obtain an ECC from the GoB. Similarly, all ‘Category A and B’ projects would need to perform an EA to comply with the safeguard policies of The World Bank.
73. In line with both these requirements, all ‘Category A’ and ‘B’ sub-projects (identified as per the criteria established in section 4.3) will be subjected to an environmental assessment process, and will ensure that all key environmental issues are addressed in the project. This shall comprise the following steps.
- i) a screening exercise that identifies the project category and establishes the need for conducting an EA;
 - ii) an IEE that defines the scope of EA (for category A and B Projects) and generic EMP for Category C projects;
 - iii) Securing site clearance certificate and commencement of EA;
 - iv) Prepare EA and EMP and secure clearances (DoE and Bank);
 - v) Implement EMP and monitor its effectiveness.

These steps are detailed further in table 4.2, below and a guidance note on carrying out environmental assessment and preparation of environmental management plan is provided in Annex 15.

Table 4.2: Environmental Management Process in the Project Development Cycle

<i>A</i>	<i>Project Identification & Pre-Feasibility Studies (Pre-Construction) Phase</i>
	1. Environmental Screening : Categorization of the project (as identified in section 4.3) and establishment of the need for conducting EA
<i>B</i>	<i>Project Design Phase</i>
	2. Initial Environmental Examination (IEE) : Assess environmental impacts, determine scope of EA and key issues to be considered in project design. 3. Scoping: identify significant potential impacts and project alternatives, and propose terms of reference for the EIA. 4. Secure Site Clearance Certificate from DoE and Commence EA 5. Baseline Data Collection: identify current environmental conditions without the project and anticipate future impacts due to project interventions.

	<p>6. Public consultation with all stakeholders at various stages in the assessment process to ensure quality, comprehensiveness and effectiveness, and that stakeholder views are adequately addressed.</p> <p>7. Prepare EIA Report: summarize all information obtained, analyzed and interpreted in a report form; should contain a non-technical summary including methods used, results, interpretations and conclusions. The report should also include recommendations for mitigation of negative impacts, enhanced opportunities and relevant policy and regulatory actions. The report should be shared with stakeholders participating in the consultation process and affected by the recommendations and time for feedback should be allowed.</p> <p>8. Prepare Environmental Management Plans of the project to determine specific actions to be implemented during the designing of the project that includes plans for engineering design and construction stages to minimize or mitigate adverse environmental impacts.</p> <p>9. Design mitigation measures: to avoid, reduce and minimize adverse environmental impacts and enhance beneficial impacts.</p>
<i>C</i>	<i>Project Appraisal/ Approval (Financing) Phase</i>
	<p>10. Review and Approval of EIA Report: review report to assess if all issues have been adequately addressed and to facilitate the decision-making process; decide if project should proceed (ECC from DoE and review of report by The World Bank), or if further alternatives must be examined.</p>
<i>D</i>	<i>Construction Phase</i>
	<p>11. Implementation of Environmental Management Plan (EMP) to address adverse environmental impacts.</p> <p>12. Environmental Monitoring to determine compliance with EMP.</p> <p>13. Mid-term independent evaluation to assess the continued relevance of the mitigation plans and need for any alterations based on actual developments during the construction phase.</p>
<i>E</i>	<i>Post-Construction Phase</i>
	<p>14. Environmental Audit: As per the recommendations of EIA study.</p> <p>15. Regular monitoring arrangements to record and evaluate progress against initial plans and potential new challenges and opportunities.</p>

4.4.1 Environment Management Requirements for Individual Enterprises in EPZs

74. Good environmental management practices by the individual EZ/EPZ enterprises/tenants are very important to avoid impacts during operational phase of project. To ensure this, PSDSP mandates all tenants to connect to the following common facilities and comply with maintenance requirements (pre-treatment, maintenance charges, etc.).
- i) Common Effluent Treatment Plants, with tertiary treatment for reuse/recycling
 - ii) Common Hazardous Waste Disposal Facilities
 - iii) Common Solid Waste Disposal Facilities
 - iv) Common Wastewater Treatment Plant with reuse /recycling facilities
 - v) Integrated rainwater harvesting and water supply facilities
 - vi) Adequate plantation (both in the EPZ and individual plot) to minimize air and noise impacts
75. In addition to the above, all the tenants shall fully comply with the GoB regulatory requirements such as the following.
- i) Conducting IEE and securing SCC prior to allotment of the plot in the EPZ
 - ii) Conducting EIA and securing ECC (as applicable) prior to the commencement of construction
 - iii) Implementation of EMP and ECC conditions during and operation phase
 - iv) Ensuring compliance to environmental regulation of GoB during operation
 - v) In addition to the above, the environmental management and monitoring tools developed by BEPZA, through the Bangladesh Investment Climate Fund (BICF) project, shall be adopted (as applicable) to improve environmental performance of the enterprises. These tools include Environmental Monitoring & Enforcement Plan Guidelines, Environmental Best Management Practice Manual, Environmental Audit of Enterprises, Environmental Enforcement Strategy, Environmental Inspection Forms & Modules, Evaluation & Rating Criteria for Enterprises
76. All these aspects will be incorporated in the tenant lease agreement of the EPZ and shall be monitored for its implementation by Environmental Cell of EPZ operator. A sample set of environmental specifications for Bid documents and tenant lease conditions of BEPZA on environmental requirements are provided in Annex 16 and 17 respectively. The same shall be appropriately modified and incorporated in the respective sub-projects documents.

5. INSTITUTIONAL FRAMEWORK

5.1 OVERALL PROJECT IMPLEMENTATION ARRANGEMENTS

77. The overall management of PSDSP project will be carried out by the Project Management Unit (PMU) set up for the purpose and the sub-projects will be managed and implemented by the respective implementing agencies. Depending on the type of the sub-project, these agencies could be MOSICT, BCC, BEPZA, Private EPZ Cell, etc. Both the PMU and the PIUs will be adequately staffed to implement the projects.

5.2 INSTITUTIONAL SET UP FOR ENVIRONMENT MANAGEMENT

78. The institutional arrangements for the implementation of various aspects of EMF and environment management of PSDSP comprise the following.
- *Environment Management Cell (EMC) at PMU* to monitor all the aspects of environmental management of the project
 - *Project Environment Cell (PEC) at PIU* to ensure adequate integration of environment management measures in the design phase and supervise implementation of EMF and specific requirements of EMP
 - *Environment Management Unit (EMU) at EPZ* to implement EMP and other regulatory requirements during construction & operation phase of EPZ.

5.2.1 Environment Management Cell (EMC) at PMU

79. To coordinate and ensure the implementation of the EMF, an Environment Management Cell (EMC) will be set up at the PMU. The EMC will be headed by an 'Environmental Specialist' and will be supported by experienced 'Environmental Engineers'. The EMC will monitor the environment management aspects of PSDSP and will be responsible for the following.
- Ensure that all the sub-project proposed for implementation through PSDSP comply to the project categorization and other requirements of EMF;
 - Identify regulatory requirements of sub-projects and monitor their compliance at all stages of the project;
 - Identify and ensure integration of various aspects of environmental management in the respective contract documents / tenant lease agreements of Master Developer/ Operator /contractor and individual enterprises/ tenants;

- Co-ordinate with respective implementing agencies and contractors / operators and ensure that the environmental management measures are implemented as per the respective EMPs and ECC clearance conditions;
- Advise the environment staff at implementing agencies and the EPZ on various matters of environmental management;
- Prepare periodic progress reports on the implementation of the EMF and share with the Bank and other monitoring agencies.

5.2.2 Project Environment Cell (PEC) at PIU

80. The Project Implementation Unit (PIU) will establish a Project Environmental Cell (PEC) headed by a ‘Manager – Environment’ and supported by environmental engineers. The PEC will function to:

- Supervise implementation of EMF throughout project implementation period;
- Ensure integration of the EA and the EMP measures into the sub-project design and implementation plans such as contract documents, maintenance contracts, tenant lease agreements, etc;
- Supervise the implementation of the mitigation measures by the Master developers / Contractors;
- Assist the engineering staff and other PIU staff in addressing environmental issues during planning, design and implementation of the sub-projects;
- Prepare periodic progress reports on the implementation of the EMP throughout the project period.

5.2.3 Environment Management Unit (EMU) at EZ / EPZs

81. In order to implement various environmental management measures at EPZs, the master developer / contractor / operator will set up an Environment Management Unit (EMU) for each zone. The EMU will consist of environmental engineers with relevant experience on environmental issues associated with the type of EPZ being set up. The EMU will function all through construction and operation phase of the EPZ and perform the following functions.

- Identify regulatory requirements of the sub-project and initiate necessary actions / studies to ensure compliance to the same;
- Co-ordinate with DoE and PIU and ensure securing SCC and ECC as applicable for the project(s);

- Co-ordinate with the contractors / sub-contractors and all other agencies involved in the development and operation of EPZ and ensure that all the requirements of EMP are fully complied;
- Ensure that all the common environmental infrastructure in EPZ is operated and maintained in compliance with the regulatory requirements of GoB;
- Liaise with individual enterprise/tenants and ensure that all environmental management conditions of the tenant lease agreement are fully complied;
- Prepare regular reports on environment management and submit to PIU/GoB.

5.3 MONITORING AND REPORTING

82. The implementation of EMF and other agreed actions of environmental management during construction and operation phase of the sub-projects, will be monitored by EMC, a combination of regular visits to the sub-project locations and periodic reports from the PEC. While the EMC will carry out monthly visit to the site and submit quarterly progress reports to the Bank, the PEC will conduct fortnightly visits and submit monthly reports to PEC.

Table 5.1 Monitoring and Reporting Requirements of PSDSP

	Field Visit	Reports
1.Environment Management Cell (EMC) at PMU	Monthly	Quarterly to Bank
2.Project Environment Cell (PEC) of PIU	Fortnightly	Monthly to EMC
3.Environment Management Unit (EMU) of EPZ	Daily	Monthly to PEC

5.3.1 Annual Audit / Review of EMF Implementation

83. An annual review/audit of EMF implementation will be carried out by an independent agency or professional. The objectives of the audit will be to;
- Review the project's compliance with all regulatory and environmental management requirements of GoB and the Bank;
 - Assess compliance with EMF procedures, lessons learned and requirements for improving the EMF
 - Review the implementation of sub-project specific EMP and its effectiveness
- Based on the outcomes of annual audit, the EMF will be revised / updated appropriately.

6. CAPACITY BUILDING & TRAINING FOR ENVIRONMENTAL MANAGEMENT

6.1 CAPACITY BUILDING

84. The implementation of EMF and number of environmental management measures of PSDSP are dependent on the capacity of the implementing agencies in environmental management. In order to ensure this, a program of capacity building for MoSICT, BCC, BEPZA, Private EPZ Cell, Master Developers, contractors and the other stakeholders will be put in place to ensure that, the capacity to carry out environment management activities for industrial and EPZ projects is developed.
85. The capacity building program will enhance the subproject's EMF management by allowing real application of the critical practices such as the following:
- *Basic practices:* screening impacts, scoping assessments, planning mitigation options, public consultation to assess feasibility and acceptability options;
 - *Environment:* site selection and project design to minimize environmental impacts and social disruption; restoration of drainage patterns, land use etc; including mitigation measures in contracts; management of impacts during construction; monitoring of effectiveness of measures;
 - *Monitoring:* Monitoring environmental performance, reporting, supervision use of various formats during implementation and operation phase, documentation, complaint response, record keeping and other procedures;

6.2 TRAINING PROGRAMS

86. A comprehensive training plan will be designed, which aims at enhancing capacity of relevant stakeholder agencies and with the following objectives.
- identify,prepare,implement & manage environmental aspects of sub-projects;
 - ensure that the agencies have the capacity to assist in preparing sub-project proposals, mitigation plans; and
 - ensure that the implementing agencies have the capacity to appraise, approve and supervise the implementation of subprojects; and training plans will be prepared accordingly.
87. The key requirements of the above training program meeting the above objectives are summarized in table 6.1.

Table 6.1: Requirements of training for personnel involved in PSDSP

Officials	Training requirements
EMC and PEC	<ul style="list-style-type: none"> • Environmental awareness program; • Interpretation of operational policies of the Bank; • Rules and regulations concerning the procedures and methodology in EIA for PSDSP.
EMC, PEC, EMU and Project Managers / Construction Manager in implementing agency	<ul style="list-style-type: none"> • Environmental awareness program; • Rules and regulations concerning the procedures and methodology in EIA for PSDSP; • Preparation of environmental assessment reports; • Methodologies of EIA implementation; • Formulation of environmental remedial measures; • Public Consultation and participation; • Implementation of monitoring program; • Techniques of data management and development of databases;
Implementation agency staff associated with design, construction, supervision,	<ul style="list-style-type: none"> • Environmental awareness program; • Evaluation of environmental impacts; • Environment-related standards and guidelines for engineering design; • Formulation of environmental remedial measures; • Methodologies of EIA implementation; • Enforcement of environmental remedial measures; • Public Consultation and participation; • Methods of data collection and presentation; • Methodologies monitoring effectiveness of EMP implementation.

Officials	Training requirements
Site Engineers and construction supervisors	<ul style="list-style-type: none"> • Methods of interaction with stakeholders and the public; • Environmental awareness program; • Evaluation of environmental impacts; • Environment-related standards and guidelines for engineering design; • Formulation of environmental remedial measures; • Methods of information and data collection and presentation.

88. These training activities and capacity building program will be developed and implemented by professional agencies with adequate experience in imparting such training programs. The resources for implementing the program will be allocated from the respective component of PSDSP and will be co-ordinated by the Environment Management Cell (EMC) of the Project Management Unit.