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Environmental Guideline for Small and Medium Enterprise (SME) of BRAC Bank Limited

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ABSTRACT

An environmental guideline was prepared for small and medium enterprises (SME) of BRAC Bank following a standard format. Objectives of the guideline include i) to prevent any adverse environmental impact raised from the activities of SMEs, ii) to protect the health and safety of those directly involved in the activities of SMEs, and iii) to make SMEs environment-friendly. This guideline focused on habitat and wildlife, natural resource use, chemical use, waste management, and health and safety. Guideline also categorized all SMEs in "green", "yellow" and "red" category following the government environmental regulation. This guideline would be able to make BRAC Bank SMEs socially and environmentally responsive.

INTRODUCTION

Small and Medium Enterprises (SME) in Bangladesh are playing a vital role to stimulate economic development including alleviation of poverty through employment generation. Small and medium enterprises cover a wide range of business activities some of which have negative environmental impacts (ROPME/GC- 1992). With the rapid expansion of micro-finance and its anticipated future growth, there is an increasing threat to local environment. Moreover, the workers of the enterprises are also exposed to various health and safety risks. There are a number of areas where SMEs affect the local environment. Many of the businesses create hazardous waste and discarded in an indiscriminate fashion since there are inadequate disposing facilities and lack of regulation or enforcement. The location of enterprises is a major concern, which can impact on natural resources especially if enterprises are located near park, hospital, educational institution, residential area or waterway. Business location affects habitats' quality of life, aesthetics of natural resources, and infrastructure of both urban and rural area. The scope of impacts varies in urban and rural settings and is caused by many factors. These factors can be intrinsic to the enterprise itself (waste generation, pollution, land/resource degradation). It should be noted that most informal sector activity does not cause significant harm to the environment and in some cases can be very beneficial – as with waste collectors and recycling businesses (Pallen 1997). It is also important to note that many of the harmful effects can be mitigated or reduced without threatening the viability and growth of the business. In many cases increased material/production efficiency which is a key element of conservation is mutually beneficial since it saves business money and increases profits. However, the business impacts on environment (air, water, land, animal, plants and habitats) is of greater importance especially if economic activities play a part in threatening rare or endangered species of plants and animals, polluting air, water, land and destruction of habitats.

Environmental management guideline ensures the sustainable mitigation of the harmful environmental effects of SMEs. This is the guideline for SME division of BRAC Bank towards environment-friendly enterprise development. It should be noted that the guideline must not impose any unnecessary obstacles for sustainable growth of micro enterprises. Rather, the guideline would help in raising the awareness level of the entrepreneurs and workers including staff of the BRAC Bank.

OBJECTIVES

The environmental guideline for SME division of BRAC Bank is prepared with the following objectives:

- i. To prevent any adverse environmental impact raised from the activities of SMEs,
- ii. To protect the health and safety of those directly involved in the activities of SMEs, and
- iii. To make SMEs environment-friendly under SME division of BRAC Bank.

FOCUS OF THE GUIDELINE

The guidelines provided here are organized into five categories of environmental management principles to consider when processing loan for SMEs under BRAC Bank. These are as follows:

A. Habitat and wildlife

- i. Landscape
- ii. Drainage
- iii. Rare/Endangered species
- iv. Native species

B. Natural resource use

- i. Minimal inputs
- ii. Alternative energy sources
- iii. Re-use and recycling
- iv. Groundwater

C. Chemical use

- i. Natural alternatives
- ii. Minimal use
- iii. Least harmful
- iv. Storage/Transport
- v. Quality standards

D. Waste management

- i. Minimal wastes
- ii. Alternative uses
- iii. Treatment
- iv. Disposal
- v. Storage

E. Health and safety parameters

- i. Ambient environment (Air, light, density, sanitation, fire service, safe water)
- ii. Workers' health

It should be noted that this guideline has been developed for application specifically to small and medium type enterprises. However, there is still scope for tailoring these general environmental guidelines to larger-scale or industrial initiatives.

IMPLEMENTATION OF THE GUIDELINE: PROCEDURES

The guideline will be introduced initially to both head office and field staff. Introduction to the decentralized field staff especially staff of the SME division at different corners in the country is more difficult and time consuming. The application of this guideline to existing and future SMEs under BRAC Bank will be done at two different levels: programmatic (Head office) and project (Field). The guideline presented here is to be applied primarily at the former level, and supported at the field level through project implementation. The guideline should be systematically integrated into decision-making and programme designing and planning. More specifically, the process for implementation of the guideline will specify the following for processing loan:

- All new SME investment proposals at both head office and field level must demonstrate the application of the guideline through documentation of the considerations and resulting steps taken. An environment group will be responsible for reviewing the proposals from time to time at head office level. Customer Relation Officer (CRO) at field level will ensure proper application of the guideline into the activities of SMEs.
- For existing SMEs, the application of guideline is to be retroactive as undertaken by the Environment Group. A plan of action to implement the recommendations into the existing SMEs will be prepared and implementation accordingly by the CRO in-charge of SME section at field level. Environment Group will follow-up the status of implementation of the recommendations.
- Monitoring and follow-up activities by the Environment Group will be developed enterprise-wise. In addition to Environment Group staff, there will be built up of capabilities for environmental monitoring within existing field staff as part of general and on-going project management. However, there are three key types of functions to be carried out by field staff of SME section of BRAC Bank which include the following:
 - i. Information, education and communication for awareness building among participating SME members
 - ii. Site specific considerations: local environmental conditions, location of the project, design specifications, etc.
 - iii. Monitoring and field inspections of SMEs to ensure compliance (chemical inputs, waste management, etc.).

The interaction between the head office and field level is crucial in ensuring the implementation of environmental measures. Environmental recommendations must be incorporated into any programme technical and training manuals (Moinul, BCAS) that will be used in providing training to both Bank personnel and SME members. However, an environment group in the SME Division of BRAC Bank Ltd. will assist to implement this environmental guideline effectively. The environment group will ensure follow-up and monitoring on regular basis towards successful implementation of the guideline. Environmental Research Unit of BRAC Research and Evaluation Division may assist in this regard from time to time.

GENERAL PRINCIPLE

- i. Waste is one of the main factors of polluting the environment. Industries contribute to the pollution of the environment, especially in the absence of regulations that force manufacturers to reduce their hazardous impact (Shomron 1991). Adverse environmental impact of SMEs should be minimized and controlled through waste minimization, recycling, and appropriate disposal.
- ii. Taking protective measures by the workers are highly needed during handling hazardous items/chemical in production process. SMEs must ensure safety and healthy working conditions through ensuring adequate air and lighting, fire protection devices, safe sanitation, safe water for drinking, safe way of entrance and departure, etc.
- iii. Enterprises having machineries with high-speed moving parts should be adequately protected for safety of the workers. The workers of such enterprises must be provided with special training to operate the machine effectively and efficiently. Some of high-speed moving parts include fly-wheels, presses, drilling machines, electric motors, etc.
- iv. Common space in the community should not be hampered by any of the activities of the enterprise. Common space is kept for the interest of all living in the community. Any attempt to use common space by the enterprise will affect on local environment adversely. The space, which is not owned, by any of the individuals in the community called common space.
- v. The business where any of the activities ignores the interest of future generations should not be accepted for providing loan.
- vi. Existence of child labour in the factory is one of the indications of breaching law and ignoring the child rights. Use of child labour must not be supported.
- vii. Provision of payment to the workers for overtime work should be maintained.
- viii. Energy must be used efficiently. Renewable energy should be preferred in running the production system.
- ix. Information and education building programme especially related to waste management, safety and security at working place, and other environmental considerations among SME members should be introduced, and maintained on regular basis.

ENVIRONMENTAL CONSIDERATIONS IN PROJECT PLANNING AND IMPLEMENTATION

There are four broad areas of the natural-human system for environmental considerations that should be considered in project planning and implementation (Emma 1998). The following provides an explanation as well as environmental considerations against these four categories.

Habitat and wildlife

Habitat is a general term that refers to the living biota of an area, including the soil and vegetation (tree, shrubs, grasses, riparian and wetland plants, etc.), as well as the rivers, lakes, ponds, wetland, upland areas, etc. that host the vegetation. Wildlife refers to the animals, including mammals, reptiles, amphibians, fish, birds, insects and microorganisms. The two are obviously intricately inter-linked and together form the foundation for a healthy and functioning ecosystem.

Most human activities result in a change in land use through habitat alteration or destruction, which invariably leads to a displacement or loss of wildlife, in turn changing the balance of the natural system.

Environmental considerations on habitat and wildlife

Activities of the project should require minimal physical alteration of the landscape, including building dike, soil removal or deposit, or vegetation removal. The natural features of the land should be incorporated into the physical design and layout of the project. If possible, building should not be constructed in a location adjacent or near to a permanent water body (including lakes, ponds, wetlands, streams, rivers) or in a location that would require the removal of trees or other significant vegetation. The natural drainage of the project area should remain unaltered and intact. Particularly, there should be no filling in or alteration of wetlands or rivers.

There should be no destruction of wildlife or its habitat if the vicinity is known or suspected to contain rare or endangered plant or animal species. The project should not introduce any non-native plant or animal species into the natural environment. Native species should preferably be used over non-native species. Suitable non-native species should only be used based on the full understanding of the effects of their introduction, and only within a contained system.

Chemical use

The environment has a natural ability to absorb certain substances, but when chemical compounds that are not naturally part of the system are added, the natural balance is disturbed. These chemicals build-up in the air, water and soil, poisoning it and affecting the plants, wildlife, and humans. As an example, chemical dyes used to colour fabric are discharged directly to a pond adjacent to a printing and dyeing industry. The water and soil are not able to assimilate this loading and is then contaminated, killing the plants surrounding and in the pond, causing fish death or illness, creating health problems for the people using the water, and then affecting the nearby fields that are irrigated with this water. Chemical pollution of a water body would also have effects on surrounding water bodies, especially during the monsoon flooding.

Environmental considerations on chemical use

If possible, natural alternatives to chemicals should be used to minimize adverse environmental effect. Minimum use of the chemicals leads to minimum adverse effect on environment. So, the amount of chemicals used in the project activities should be kept to an absolute minimum.

If no natural alternative is known, the chemical use should be the one having the least negative environmental impacts. Banned substances should not be used under any circumstances. Chemicals should be stored, including during transport, in airtight containers to avoid any leakage or fume release. Storage should be in a well-ventilated room used specifically for storage only. The project should not be carried out in an area where there is known air, water, or soil quality problems. The project should not be undertaken if the resultant air, water, or soil quality standards (as outlined in the Bangladesh Gazette of August 28, 1997) of the area would be exceeded.

Natural resource use

The survival of the human population depends entirely on the continued use of the planet's natural resources. Natural resources for basic survival can be summarized quite simply as: water and energy. Water is used for drinking, cooking, washing, transportation and most industrial productions. Energy from organic matter (wood, vegetation, dung), fuel (natural gas,

petroleum), and other sources (solar energy, wind energy) also fulfills basic human survival needs. The earth, however, has a limited supply of energy for external use by humans without disrupting the natural balance. For the continued functioning of the natural energy cycles, human use must not outstrip the ability of the earth to replenish it. The transportation of these water and energy sources to use for different purposes creates pollution problems, such as water contamination from waste, air pollution due to fuel burning, deforestation from fuel wood collection, or organic depletion of the soil due to dung and forest litter collection. The minimized and wise use of these resources is required to meet the needs of the growing population.

Environmental considerations on natural resource use

The natural resource inputs into a project should be minimized as much as possible. This includes the use of water and energy sources such as wood, vegetation, dung, and fossil fuels. Alternative to these 'traditional' natural sources should be sought. Other material inputs, such as packaging and plastics, should also be minimized. Alternative energy sources should be used instead of the renewable and non-renewable sources wherever possible. These include solar, wind, and tidal power.

The project should be designed to incorporate water and energy-saving practices and devices. This includes 'closed-loop' processes, i.e. making the outputs of one process and the inputs for another. Use of groundwater in a project should not result in the lowering of the groundwater table due to cumulative extractions and the inability of the water table to regenerate.

Waste management

The use of both natural and human-made materials results in some waste materials being produced, such as dirty and contaminated water and solid wastes. These wastes often have their own serious impact on the environment and human health, particularly when disposed of. For example, solid waste disposed of next to a water body will decompose and leach chemicals or excess organic liquids into the water. This damage can be lessened in a number of ways, specifically by minimizing the amount of waste produced; re-use or recycling of waste materials, and proper treatment and /or disposal of the waste.

Environmental considerations on waste management

The energy and unused material outputs produced by the project activities should be minimized as much as possible. Alternative uses should be sought for the waste produced, either for the project activities or for external uses by other local activities. All necessary wastes should be treated before disposal if possible. These include liquid wastes, wastewater including heated water, and solid and airborne wastes. However, wastes should be disposed of in an ecologically acceptable way to avoid ecological damage, short and long-term. Any temporary storage of wastes should be maintained in such a way and location as to avoid leakage or contamination.

MITIGATION MEASURES: ENTERPRISE-WISE

Some of the SMEs require general principals to apply for environment-friendly activities and some of the enterprises require standard environmental, health, and safety mitigation measures. Standard environment-friendly mitigation measures for a few of the enterprises based on study findings on SMEs of BRAC Bank and some other sources are suggested below:

Enterprise type: Category ECR, 7(2), 1997 - Annex B	Potential negative impacts	Mitigation measures
Plastic industry: *Orange-B, SL.14	<ul style="list-style-type: none"> i. During cutting plastic, plastic dust and particulates are mixed into the indoor air especially and conversion of plastic chips into plastic granular through heating, one kind of pungent smell is emitted which may adversely affect workers health ii. Improper disposal of waste both solid and liquid pollutes air, water, and land that affects animals including human health adversely 	<ul style="list-style-type: none"> - It is essential to use nose mask by the workers during production - Workers should be given knowledge on handling hazardous chemicals properly - Solid waste should be disposed in a fixed dumping sites and effluent must be discharged only after proper treatment.

* As per provisions of the Environment Conservation Act (ECA), 1995 and Environment Conservation Rules (ECR), 1997 all new and existing industrial units are obliged to apply for an Environmental Clearance Certificate (ECC) from the Department of Environment. For the purpose of granting ECC, industrial units are classified into four categories depending upon their environmental impact. These are Green, Orange- A, Orange- B, and Red.

Textile industry: Orange- A, SL. 04	<ul style="list-style-type: none"> i. If the electric wire is connected loosely into the motor and any types of faulty electrical connections may lead to short circuit related accidents ii. Workers including neighbors may face serious health problems due to high sound and vibration of the machineries iii. Liquid wastes disposed on land or solid wastes dumped on the surface or in unsatisfactory landfills are prone to weathering process and leaching by rain. Some of the toxic compounds in these wastes find their way to ground water, aquifers or to nearby surface waters contaminating both the water and the aquatic biota through contaminating their tissues, thus causing health hazards to nearby inhabitants. 	<ul style="list-style-type: none"> - A regular check on electrical connections should be maintained - Workers should be aware of accident may rise from faulty electrical connections - Well set up of the machineries, adequate height of the roof, and sound protection device should be maintained - Management of high standards treatment, and landfills should be ensured
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Leather processing unit: Red, SL. 01	<ul style="list-style-type: none"> i. Leather industry is more harmful to the environment than the textile, medicine, fertilizer and paper industries (NEMAP, 1995) ii. Worst smell raised from rotten meat during processing leather is created and it affects the neighbors including workers badly 	<ul style="list-style-type: none"> - Proper treatment for neutralization of the effluent before disposal should be ensured - Leather processing unit should be established outside the residential and commercial areas. Environment friendly chemical may be used to protect worst smell.
Hospital: Red, SL. 51	Upon disposal of hospital waste including toxic and hazardous waste without segregation properly may lead to increase the possibility of incidence of morbidity and mortality among the community people	<ul style="list-style-type: none"> - Hospital waste should be dispatched only based on proper segregation
Restaurant: Orange – A, SL. 10	<ul style="list-style-type: none"> i. Garbage of the restaurant if discharged in a unsystematic manner will lead to spreading-out of worst smell- a source of air pollution which may cause morbidity of the neighbors ii. Dirty kitchen, cooking unsafely, and presence of flies and other insects on the foods are the sources of health hazards iii. Workers having contagious or infections diseases will contaminate the food stuff 	<ul style="list-style-type: none"> - Garbage must be discharged into a permitted dumping site - Through recycling the garbage with proper segregation, quality organic fertilizer can be produced - Clean kitchen and safe cooking on regular basis will ensure hygienic food for good health - Regular health check-up of the workers should be ensured
Rice mill/Oil mill: Orange – B, SL. 53	<ul style="list-style-type: none"> i. During operation, high speed moving parts may cause accident if handled carelessly ii. Ash, dust, and other particulates affect neighbors' health especially workers' health 	<ul style="list-style-type: none"> - High speed moving parts (fly-wheels, electric motors) must be adequately protected - Workers in the rice mill must use nose mask during operation - Ash and dust must be dumped into the nearby fixed place
Bakery: Orange – A, SL. 24	<ul style="list-style-type: none"> i. Highly temperature in the furnace may make happen accident ii. Excessive emission of smoke from burning of fuel in the furnace iii. Contaminating the food stuff through flies and other insects 	<ul style="list-style-type: none"> - Temperature measuring scale may be used in controlling temperature - Adequate height of chimney should be ensured. - All of the produced foods (Biscuits, cake, bread etc.) must be adequately covered for all the time
Poultry firm: Orange – A, SL. 02	Worst smell from the poultry firm affects neighbors' health adversely	<ul style="list-style-type: none"> - Poultry firms should be located outside the residential area - Poultry waste (litre) should be well managed. In agriculture as fertilizer and fish culture, the poultry litre (waste) can be effectively used

Engineering works: Orange – B, SL. 45	Improper handling of welding work and gas cylinder can lead to accident	- Proper training should be provided to the workers so that they can handle welding works effectively
Saw mill: Orange – A, SL. 06	i. During operation, saw may act as source of health hazard if handled carelessly ii. Unplanned supply of woods from immature forest cause deforestation which ultimately hampers total biodiversity in the country	- Protective measures (using hand gloves, standing at safe distance, alertness etc.) must be ensured during operation of saw mill by the workers - Supply of wood from matured forest in a proper way should be ensured.
Dairy firm: Orange – A, SL. 01	Worst smell raised from the dairy firm affects the neighbors adversely	- Dairy firm should be located outside the residential area - The house of the livestock including the premises should be clean on regular basis - Cow dung will be sent out in a safe way and better to use as fertilizer

Some mitigation measures against potential negative impacts of some other enterprises also included in the PKSf- Guideline might be useful here towards environment-friendly enterprise development. These are as follows:

**Project type: Welding
Red, SL. 19**

Potential negative impacts	Mitigation measures
i. Eye sight can be severely affected because of the brightness of welding arc	i. Welder should be equipped with adequate heat resistant eye protective welding masks and hand gloves.
ii. Faulty electrical connections can lead to short circuit related accidents.	ii. Electrical connection should be regularly checked and old wires and fittings must be replaced.
iii. Welding work carried out on roadside can be dangerous for the general public.	iii. The enterprise must have sufficient covered space with proper ventilation to carry out the welding work.

**Project type: Metal work
Orange – B, SL. 29**

Potential negative impacts	Mitigation measures
i. Generation of excessive amount of heat from the furnace is created during production	i. Adequate exhaust fan and cross ventilation can control of room temperature
ii. Emission of soot and flue gasses comprising of oxides of sulphur and Carbon Monoxide from the melting furnace	ii. Installation of chimney of minimum 15 feet height. Where gas connections exist, gas pressure gauge and air flow meters and efficient air damper should be installed with the furnace to ensure complete combustion.
iii. Water used for quenching is contaminated	iii. The contaminated quenching water must be neutralized before disposal.
iv. In metal work, the lathe machines, drilling machines may pose safety problem if precautionary measures are absent.	iv. Use of eye protective equipment is suggested
v. Solid waste from metal work is generated normally.	v. Maintain proper segregation and disposal of generated solid waste

**Project type: Vehicle repair
Orange – B, SL. 50**

Potential negative impacts	Mitigation measures
i. Waste lubricating oil, brake oil may be generated.	i. The lubricating and other oils generated should be given to lube oil-recycling industry.
ii. Solid metallic waste may be generated.	iii. The solid waste generated should be given to steel re-rolling mills for recycling.
iii. The operation will involve welding and use of high speed grinding and drilling machines.	iii. Welding mask and eye protection equipment should be used and adequate training is to be provided to workers using grinding and drilling machines. Use of hand gloves is recommended.

**Project type: Galvanizing
Orange – B, SL. 16**

Potential negative impacts	Mitigation measures
i. Hydrochloric acid medium is used for galvanizing process.	i. The spent hydrochloric acid should be separated and neutralized by adjusting pH to between 6-7 before discharge.
ii. There is formation of sludge	ii. The sludge should be neutralized by adding lime.

Project type: Food processing
Orange – B, SL. 69

Potential negative impacts	Mitigation measures
i. Emission of smoke from burning of fuel	i. A minimum of 10-15 feet height of chimney should be installed
ii. Waste water from processing will generate organic load	ii. The waste should be separated for composting or to be converted as animal/poultry feed and fishmeal.
iii. Limited solid waste generation	iii. Proper disposal to landfill
iv. Workers are likely to suffer from health hazards due to long hours of exposure to high ambient temperature specially during summer	iv. Provisions for temperature control through adequate ventilation
v. Employees/ workers having contagious or infections diseases will contaminate the food stuff	v. Regular health check-up of the employees/ workers should be ensured

Project type: Carpet making
Red, SL. 59

Potential negative impacts	Mitigation measures
There is potential of cotton, jute, synthetic fibers and dust floating in the work space	Use of nose mask and proper ventilation is suggested

Project type: Dyeing and finishing
Red, SL. 14

Potential negative impacts	Mitigation measures
Liquid waste generated has high pH, BOD and COD values. The effluents also have high heavy metal concentration.	The liquid effluent from dyeing and finishing units should first be adjusted. The liquid should be transferred to a second tank where flocculants like aluminium sulphate (Alum) or Poly Aluminum chloride (PAC) is to be added to precipitate as much solid contents as possible. The banned acid dyes, direct dyes, dispersed dyes and azo dyes must not be used.

Project type: Bidi manufacture
Red, SL. 53

Potential negative impacts	Mitigation measures
i. Workers are subjected to long exposures to tobacco and tobacco leaves	i. Use of masks by workers is suggested
ii. Lack of ventilation and adequate space may cause suffocation and related health hazard	ii. Adequate ventilation at work place is to be ensured
iii. Employment of females specially pregnant women may lead to complication	iii. Employment of females and child workers is not to be supported

**Project type: Wooden furniture
Orange – A, SL. 07**

Potential negative impacts	Mitigation measures
i. There will be generation of wood cuttings and saw dust	i. The solid waste generated may be used as fuel or dumped in a sanitary landfill.
ii. The operation is involved in use of polish, varnish and thinners.	ii. Nose mask use is suggested

ANNEX-A

Prohibited activities

Some of the activities/project must not be considered for providing loan that includes the following: (It should be noted that these activities/projects are also included in the Environmental Policy of BRAC Bank as prohibited activities which are being followed for financing at macro level).

- i. Production or activities involving harmful or exploitative forms of forced labour/ harmful child labour must not be financed. Forced labour means all work or service, not voluntarily performed that is extracted from an individual under threat of force or penalty. Harmful child labour 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.
- ii. Production or trade of any product or activity deemed illegal under host country laws or regulations or international conventions and agreements.
- iii. Production or trade of alcoholic beverages or trade in tobacco
- iv. Gambling, casinos and equivalent enterprises
- v. Trade of wildlife or wildlife products regulated under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- vi. Production or trade of radioactive materials. This does not apply to the purchase of medical equipment, quality control equipment, and any equipment where IFC considers the radioactive source to be trivial and/or adequately shielded.
- vii. Production or trade of products containing polychlorinated biphenyls (PCB) -a group of highly toxic chemicals. PCBs are likely to be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950-1985.
- viii. Production or trade of pharmaceuticals subject to international phase outs or bans. A list of pharmaceutical products subject to phase-outs or bans is available from the Environment Division of the government.
- ix. Production or trade of pesticides/herbicides subject to international phase outs or bans. A list of pesticides/herbicides subject to phase-outs or bans is available from the Environment Division.
- x. Production or trade of ozone depleting substances subject to international phase out. Ozone Depleting Substances (ODS) -a chemical compounds which reacts with and deplete stratospheric ozone, resulting in the widely publicized ‘ozone hole’. The Montreal Protocol lists ODSs and their target reduction and phase out dates.

ANNEX-B

As per provisions of the Environment Conservation Act (ECA), 1995 and Environment Conservation Rules (ECR), 1997 all new and existing industrial units are obliged to apply for an Environmental Clearance Certificate (ECC) from the Department of Environment. For the purpose of granting ECC, industrial units are classified into four categories depending upon their environmental impact. These are Green, Orange- A, Orange- B, and Red.

ECC shall be issued to all existing industrial units and projects and to all proposed industrial units and projects falling in the Green category.

For industrial units and projects falling in the Orange- A, Orange- B and Red categories, firstly a Location Clearance Certificate (LCC) and thereafter an ECC shall be issued:

Provided that the Director General of environment division may, without issuing a LCC at the first instance, directly issue ECC if he, on the application of an industrial unit or project, considers it appropriate to issue such certificate to the industrial unit or project.

Classification of industrial units or projects based on its location and impact on environment includes the following [ECR, 7(2)]:

(A) Green category

1. Assembling and manufacturing of TV, Radio, etc.
2. Assembling and manufacturing of clocks and watches
3. Assembling of telephones
4. Assembling and manufacturing of toys (plastic made items excluded)
5. Book-binding
6. Rope and mats (made of cotton, jute and artificial fibers)
7. Photography (movie and x-ray excluded)
8. Production of artificial leather goods
9. Assembling of motorcycles, bicycles and toy cycles
10. Assembling of scientific and mathematical instruments (excluding manufacturing)
11. Musical instruments
12. Sports goods (excluding plastic made items)
13. Tea packaging (excluding processing)
14. Re-packing of milk powder (excluding production)
15. Bamboo and cane goods
16. Artificial flower (excluding plastic made items)
17. Pen and ball-pen
18. Gold ornaments (excluding production) (shops only)
19. Candle
20. Medical and surgical instrument (excluding production)
21. Factory for production of cork items (excluding metallic items)
22. Laundry (excluding washing)

Footnotes:

- (a) Units of all kinds of cottage industries other than those listed in this schedule shall remain outside the purview of Environmental Clearance Certificate (Unit of cottage industry means all industrial units producing goods or services in which by full-time or part-time labour of family members are engaged and the capital investment of which does not exceed taka 5 (five) hundred thousand.)
- (b) No industrial unit listed in this category shall be located in any residential area
- (c) Industrial units shall preferably be located in areas declared as industrial zones or in areas where there is concentration of industries or in vacant areas.
- (d) Industrial units likely to produce sound, smoke, odor beyond permissible limit shall not be acceptable in commercial areas.

(B) Orange – A category

1. Dairy farm, 10 (ten) cattle heads or below in urban areas and 25 cattle heads or below in rural areas
2. Poultry (up to 250 in urban areas and up to 1000 in rural areas)
3. Grinding/husking of wheat, rice, turmeric, pepper, pulses (up to 20 Horse Power)
4. Weaving and handloom
5. Production of shoes and leather goods (capital up to 5 hundred thousand taka)
6. Saw mill/ wood sawing
7. Furniture of wood/ iron, aluminum, etc., (capital up to 5 hundred thousand taka)
8. Printing Press
9. Plastic and rubber goods (excluding PVC)
10. Restaurant
11. Cartoon/box manufacturing/ printing packaging
12. Cinema Hall
13. Dry-cleaning
14. Production of artificial leather goods (capital up to 5 hundred thousand taka)
15. Sports goods
16. Production of salt (capital up to one million taka)
17. Agricultural machinery and equipment
18. Industrial machinery and equipment
19. Production of gold ornaments
20. Pin, U Pin
21. Frames of spectacles
22. Comb
23. Production of utensils and souvenirs of brass and bronze
24. Factory for production of biscuit and bread (capital up to 5 hundred thousand taka)
25. Factory for production of chocolate and lozenge (capital up to 5 hundred thousand taka)
26. Manufacturing of wooden water vessels

(C) Orange- B category

1. PVC items
2. Artificial fiber (raw material)
3. Glass factory
4. Life saving drug (applicable to formulation only)
5. Edible oil
6. Tar
7. Jute mill
8. Hotel, multi-storied commercial and apartment building
9. Casting
10. Aluminum products
11. Glue (excluding animal glue)
12. Bricks/ tiles
13. Lime
14. Plastic products
15. Processing and bottling of drinking water and carbonated drinks
16. Galvanizing
17. Perfumes, cosmetics
18. Flour (large)
19. Carbon rod
20. Stone grinding, cutting, polishing
21. Processing fish, meat, food
22. Printing and writing ink
23. Animal feed
24. Ice-cream
25. Clinic and pathological lab
26. Utensils made of clay and china clay/sanitary wares (ceramics)
27. Processing of prawns and shrimps

28. Water purification plant
29. Metal utensils/ spoons etc
30. Sodium silicate
31. Matches
32. Starch and glucose
33. Animal feed
34. Automatic rice mill
35. Assembling of motor vehicles
36. Manufacturing of wooden vessel
37. Photography (activities related to production of films for movie and x-ray)
38. Tea processing
39. Production of powder milk/condensed milk/dairy
40. Re-rolling
41. Wood treatment
42. Soap
43. Repairing of refrigerators
44. Repairing of metal vessel
45. Engineering works (up to a capital of one million taka)
46. Spinning mill
47. Electric cable
48. Cold storage
49. Tire re-trading
50. Motor vehicles repairing (up to a capital of one million taka)
51. Cattle farm: above 10 cattle in urban area, and above 25 in rural area
52. Poultry: Number of birds above 250 in urban area and above 1,000 in rural area
53. Grinding/husking wheat, rice, turmeric, chilly, pulses- machine above 20 Horse power
54. Production of shoes and leather goods, above 5 hundred thousand taka capital
55. Furniture of wood/iron, aluminum, etc., above 5 hundred thousand taka capital
56. Production of artificial leather goods, above 5 hundred thousand taka capital
57. Salt production, above a capital of one million taka
58. Biscuit and bread factory, above 5 hundred thousand taka capital
59. Factory for production of chocolate and lozenge, above 5 hundred thousand taka capital
60. Garments and sweater production
61. Fabric washing
62. Power loom
63. Construction, re-construction and extension of road (feeder road, local road)
64. Construction, re-construction and extension of bridge (length below 100 meters)
65. Public toilet
66. Ship-breaking
67. G. I. wire
68. Assembling batteries
69. Dairy and food

Footnotes:

- (a) No industrial unit included in this list shall be located in any residential area
- (b) Industrial units shall preferably be located in industrial zones or in areas where there is concentration of industries or in vacant areas.
- (c) Industrial units likely to produce sound, smoke, odor beyond permissible limit shall not be acceptable in commercial areas

(D) RED category

1. Tannery
2. Formaldehyde
3. Urea fertilizer
4. T.S.P. fertilizer
5. Chemical dyes, polish, varnish, enamel
6. Power plant
7. All mining project (coal, limestone, hard rock, natural gas, mineral oil, etc.)
8. Cement
9. Fuel oil refinery
10. Artificial rubber
11. Paper and pulp
12. Sugar
13. Distillery
14. Fabric dyeing and chemical processing
15. Caustic soda, potash
16. Other alkalis
17. Production of iron and steel
18. Raw materials of medicines and basic drugs
19. Electroplating
20. Photo films, photo papers and photo chemicals
21. Various products made from petroleum and coal
22. Explosives
23. Acids and their salts (organic or inorganic)
24. Nitrogen compounds (Cyanide, Cyanamid etc.)
25. Production of plastic raw materials (PVC, PP/ Iron, Polyester in etc.
26. Asbestos
27. Fiberglass
28. Pesticides, fungicides and herbicides
29. Phosphorous and its compounds/ derivatives
30. Chlorine, fluorine, bromine, iodine and their compounds/derivatives
31. Industry (excluding nitrogen, oxygen and carbon dioxide)
32. Waste incinerator
33. Other chemicals
34. Ordnance
35. Nuclear power
36. Wine
37. Non-metallic chemicals not listed elsewhere
38. Non-metals not listed elsewhere
39. Industrial estate
40. Basic industrial chemicals
41. Non-iron basic metals
42. Detergent
43. Land-filling by industrial, household and commercial wastes
44. Sewage treatment plant
45. Life savings drugs
46. Animal glue
47. Rodenticide
48. Refractories
49. Industrial gas (Oxygen, Nitrogen and Carbon-dioxide)
50. Battery
51. Hospital
52. Ship manufacturing
53. Tobacco (processing/cigarette/Bidi –making)
54. Metallic boat manufacturing
55. Wooden boat manufacturing
56. Refrigerator/air-conditioner/air-cooler manufacturing
57. Tyre and tube

58. Board mills
59. Carpets
60. Engineering works: capital above one million taka
61. Repairing of motor vehicles: capital above one million taka
62. Water treatment plant
63. Sewerage pipe-line laying/relaying/extension
64. Water, power and gas distribution line laying/relaying/extension
65. Exploration/extraction/ distribution of mineral resources
66. Construction/reconstruction/expansion of flood control embankment, polder, dike, etc.
67. Construction/reconstruction/expansion of road (regional, national and international)
68. Construction/reconstruction/expansion of bridge (length 100 meter and above)
69. Murate of potash (manufacturing)

Footnotes:

- (a) No industrial unit included in this list shall be allowed to be located in any residential area
- (b) Industrial units shall preferably be located in areas declared as industrial zones or in areas where there is concentration of industries or in vacant areas.
- (c) Industrial units likely to produce sound, smoke, odor beyond permissible limit shall not be acceptable in commercial areas
- (d) After obtaining location clearance on the basis of Initial Environment Examination (IEE) Report, the Environmental Impact Assessment (EIA) Report in accordance with the approved terms of reference along with design of effluent treatment plant (ETP) and its time schedule shall be submitted within approved time limit.

ANNEX-C

Environmental checklist (to be considered for processing loan)

Subject	Yes	No	Not applicable	Response to environment (Positive/Negative)
1. Does the project belong to the prohibited project/activities mentioned in Annex- A?				
2. Does the project use any natural resource, which may pose threat to environment?				
3. Category of the project (Based on Environment Conservation Rules, 7(2), 1997), Annex- B	Green Orange – A Orange – B Red None			
4. If the project falls into Green, or Orange – A, or Orange-B, or Red: Does the project has Environmental Clearance Certificate?				
5. If no, specify the reasons				
6. Does the project consider/maintain the following environmental health and safety considerations:				
i. Taking adequate measures to protect workers from dust, fumes, odors, or pollutants				
ii. Adequate indoor airing and lighting				
iii. Ensure safe drinking water to the workers				
iv. Ensure safe sanitation to both male and female workers separately				
v. Ban smoking				
vi. Appropriate length of work periods				
vii. Control excessive noise and vibration of machinery				
viii. Appropriate disposal of waste (a) Solid (b) Liquid (c) Gaseous				
ix. Appropriate knowledge of the workers for handling hazardous materials				
x. Appropriate knowledge and skill of the workers to handle machine efficiently and effectively				
xi. Practice of child labor				
xii. Do the products or services have standard certificate?				
Please specify the justification of the financing (if needed) against the project though it includes a number of negative responses to the environment.				

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