

DRAFT
February 1997

Guide for Improving the Environmental Quality of
Lending Operations for Microenterprises

Inter-American Development Bank
February 1997

ABBREVIATIONS

CESI	Committee on Environment and Social Impact (in the IDB)
EPA	Environmental protection agency
ESIB	Environment and social impact brief
ESIR	Environment and social impact report
IFI	Intermediary financial institution (commercial banks)
NGO	Non-governmental organization
PCU	Program coordination unit (in the executing agency)
TSA	Technical support agency (NGO, credit union, university, environmental consultant, other specialized organizations)

TABLE OF CONTENTS

1.	INTRODUCTION	5
	1.1 Environmental evaluation of lending programs for microenterprises	6
	1.2 Objectives and scope of the guide	7
	1.3 Intended audience	8
	1.4 General contents of the guide	8
	PART A. ENVIRONMENTAL CONSIDERATIONS IN MICROENTERPRISES	10
	2.1 Environmental concerns in the sector	10
	2.2 Environmental classification	10
	2.3 Environmental impact of microentrepreneurial activities	11
	2.3.1 The complexity of environmental impact	11
	2.3.2 The importance of the location of microenterprises	12
	2.4 Need to monitor occupational safety, hygiene, and health	12
	2.5 Impact on the natural environment	13
	2.6 Impact on the built-up environment	13
	2.7 Positive impact of microenterprises	14
	PART B. ENVIRONMENTAL PROCEDURES IN PREPARING LENDING PROGRAMS FOR MICROENTERPRISES	19
	3.1 Role of the IDB in program design	19
	3.1.1 Program identification and preparation	20
	3.1.2 Environment and social impact brief	20
	3.1.3 Review of the ESIB by CESI	22
	3.1.4 The environment and social impact report	23
	3.1.5 Program analysis	24
	3.2 Inclusion of CESI recommendations in the project report	24
	3.3 Environmental evaluation of subprojects in lending programs for microenterprises	24
	3.4 Contractual clauses	25
	PART C. EXECUTION OF LENDING PROGRAMS FOR MICROENTERPRISES	27
	4.1 Coordination of the entities participating in a program	27
	4.1.1 Role of the executing agency	27
	4.1.2 Role of intermediary financial institutions	27
	4.1.3 Role of technical support agencies	28
	4.1.4 Participation by other entities	29
	4.2 Shared responsibilities in program implementation	29
	4.2.1 Responsibilities of the executing agency/program coordination unit	29
	4.2.2 Responsibilities of intermediary financial institutions	30
	4.2.3 Responsibilities of microenterprises	30
	4.3 Scope of the environmental variable in lending programs for microenterprises	30
	4.3.1 Programming of impact mitigation measures	31

4.4	Related activities	33
4.4.1	Technical assistance and training	33
4.4.2	Training for technical support agencies	33
4.4.3	Training for microentrepreneurs	34
4.4.4	Information booklets on microenterprises and the environment	34
4.5	Environmental procedures in implementing lending programs for microenterprises	36

Figures

1. Lending programs for microenterprises. Environmental procedures in the project cycle

Tables

1. Table 1. Management of raw materials in microenterprises
2. Table 2. Activities to improve the environment

Annexes

1. INTRODUCTION

This guide is concerned with the environmental aspects of the different microentrepreneurial activities financed by the Bank through its global credit programs for microenterprises. It is especially targeted to this sector because of its importance in Latin American and Caribbean economies. Microenterprises contribute significantly to gross domestic product and creates jobs for the low-income population, including substantial numbers of women, indigenous groups, and other minorities, permitting them to prevail over poverty through productive activities driven by market forces. Owing to the large numbers of people involved and the broad range of production, commercial, and service activities performed by microenterprises, they can have significant environmental impacts of different kinds that require study and quantification. Existing data suggest that large companies, particularly in the industrial sector, have more adverse environmental impact than microenterprises. Most microentrepreneurs engage in commerce, which has limited negative impact. However there are areas in which their activities can contribute to marked environmental deterioration and jeopardize occupational health. Accordingly, the IDB is concerned with controlling all types of environmental pollution, the unsustainable use of renewable resources, and risks to occupational health, and has established guidelines for itself and its regional counterparts.

Between 30% and 60% of Latin American and Caribbean microenterprises belong to women and are run by them. A considerable number of indigenous people are also active in the sector as small farmers, artisans, and merchants.

The IDB's lending programs for microenterprises are targeted to companies with not more than 10 employees, with total fixed assets and working capital of under US\$20,000, excluding companies in professional fields such as medical and legal practices. The sector is extremely varied with respect to size and make up, ranging from

Introduction

household operations on the subsistence level that depend exclusively on family labor with no clear separation between the workplace and the home to small firms that use more complex production technologies. For most microentrepreneurs, these activities are their sole source of income and family support.

1.1 Environmental evaluation of lending programs for microenterprises

Under favorable conditions, environmental evaluation is a useful tool for fostering changes in human behavior, improving the quality of life of microentrepreneurs and their employees, and protecting the environment. Environmental evaluation of the design and implementation of credit programs can produce a positive correlation between greater accountability for occupational health and environmental protection and business activities. Environmental evaluation of the design and implementation of such programs helps to identify, plan, and develop microentrepreneurial activities and environmental protection solutions on site, which contribute to the well-being of the general public and microentrepreneurs themselves. Environmental evaluation helps to identify and tap the positive aspects of microactivity. But this depends on the context. First, the cost of applying this tool can be high and beyond the reach of entrepreneurs operating with minimum resources and of agencies that provide them with technical support. If no practical measures are available to mitigate the problems identified, the tool may be useless. Accordingly, the staff of the IDB and counterpart agencies must have a good understanding of the situation to determine whether use of this instrument is warranted.

The purpose of this guide is to offer practical advice on managing aspects relating to occupational health and protection of the immediate environment of microenterprises.

1.2 Objectives and scope of the guide

Objective. The purpose of this guide is to help loan applicants and the designers of credit programs for microenterprises to understand the options for incorporating occupational health and environmental protection in their projects.

The specific objective is to support the Bank's project teams and borrowers in applying the Bank's environmental procedures in loans for microenterprises to increase the efficiency and transparency of the process in this sector, so that activities financed with loan proceeds will contribute to occupational health and environmental preservation.

Scope. The guide is intended to assist persons whose task is to design and implement lending programs for microenterprises, perform critical reviews of reports, and coordinate with other institutions and specialized environmental technical agencies. The guide offers some suggestions and tools for handling aspects relating to occupational health and safety and environmental protection in the immediate vicinity of subprojects forming part of credit programs for the sector. Project teams have the opportunity to adopt, adjust, and modify environmental procedures in the design and implementation stages with a view to sustainable development.

The general approach should be to promote education and voluntary compliance with environmental standards applicable to smaller companies and to require better observance of legislation or best industrial practices, depending on a company's size and economic capacity, the institutional capacity of the government in question, the legal framework, and environmental management capacity. When possible, stress should be placed on convincing microentrepreneurs that adoption of environmental standards can improve the efficiency of operations

Introduction

and bring higher returns. In credit programs, environmental protection is the responsibility of the pertinent public institutions.

1.3 Intended audience

This environmental guide is intended for: (i) the Bank's project teams; (ii) government officials in charge of sector planning and investment; (iii) officials in charge of implementing environmental policies and procedures; and (iv) the microentrepreneurial sector.

Part one is intended for the IDB's staff who prepare and supervise credit operations for microenterprises.

Part two is intended for: (i) government officials and executing agencies of global credit programs to support microenterprises; and (ii) the officials of technical support agencies (TSAs) and intermediary financial institutions (IFIs) with direct links to the subborrowers. The guide attempts to provide clear and concrete instructions to permit these officials to implement the procedures agreed upon in loan contracts with the IDB.

1.4 General contents of the guide

The guide is divided into sections which correspond to the steps to be followed in incorporating environmental concerns into subloans to microenterprises under global credit operations.

The guide is divided into sections which correspond to the steps to be follow by institutions that participate in lending programs for microenterprises.

Introduction

Part A presents a brief summary of environmental concerns in the microentrepreneurial sector and discusses how to review and select an approach to environmental evaluation tailored to the type of activity in question.

Part B describes how the Bank works in conjunction with borrowers to include environmental aspects in the preparation and disbursement of global investment loans.

Part C presents guidelines for the borrower on key steps during the process. It stresses inter-institutional coordination for the inclusion of environmental concerns during program execution. It also provides guidance on monitoring and evaluating the efficiency of environmental impact mitigation procedures.

The guide presents alternatives that can be used by project teams and executing agencies of global credit programs for microenterprises.

The text and annexes include lists of microentrepreneurial activities classified into different environmental categories and other tools for managing environmental studies and programs (see the lists in the index). The annexes also contain environmental mitigation measures applicable to the microentrepreneurial activities that are most common in the region.

The guide presents a comprehensive view of the alternatives available to project teams and executing agencies of global credit programs for microenterprises to enable them to design and implement environmental procedures geared to the institutional and legal situation, the different microentrepreneurial sectors (commerce, service, production), and a country's geography.

PART A

ENVIRONMENTAL CONSIDERATIONS IN MICROENTERPRISES

2.1 Environmental concerns in the sector

Given the global nature of credit programs for microenterprises, potential environmental impact stems from the subprojects financed under a program. The subprojects are not restricted to certain branches of production or geographic areas, and therefore it is possible that some activities may have negative environmental impacts.

2.2 Environmental classification

In view of the consequences that microentrepreneurial activities can have for the natural environment, the vicinity, public services, and the occupational health of employees, it is recommended that they be classified into one of the following categories (see annex 1):

Category I Activities that favor the environment, including those that have no undesirable environmental or social impact.

Category II Activities with potentially negative environmental impact.

In some microentrepreneurial activities classified in group II (see annexes 2, 3, and 4) the risk of negative impact may be greater and steps may be required to mitigate it, apart from training and business decisions to introduce safer practices. The *nature* of the proposed activities, their *scale*, and the *environmental context* are considerations to be kept in mind when determining the magnitude, importance, and duration of impacts.

2.3 **Environmental impact of microentrepreneurial activities**

Most microenterprises are involved in commerce and services. With some exceptions, these activities do not normally have significant environmental impact. However problems may arise as a result of lack of hygiene or adequate services inside a company. Production operations generally entail greater potential for risks for human health and the immediate environment because of the inputs used and the waste created by their activities. The people most seriously affected may be the owners, their families, employees, and neighbors.

Some microentrepreneurs are totally unaware of the regulations applicable to them, and even of safety rules to protect themselves and their employees.

In most cases negative impact is caused by poor practices that are not corrected owing to the lack of technical information, which can lead to improper use of chemicals, inadequate treatment or disposal of solid and liquid waste, uncontrolled gaseous emissions, and production techniques that make intensive use of nonrenewable resources. This is compounded by lack of awareness of protective devices that are generally easy to obtain and inexpensive, and ignorance of industrial safety and environmental standards.

2.3.1 **The complexity of environmental impact**

To determine the environmental consequences of microentrepreneurial activities, the difference must be gauged between the physical magnitude of their impact and the social importance attached to them. The two do not always coincide, as in the case of small quantities of highly toxic substances whose improper handling can poison

an entire settlement. Therefore microentrepreneurs are called upon to take the necessary precautions and appropriate measures to manage occupational and environmental risks, and more information and training in this regard should be made available to them.

2.3.2 **The importance of the location of microenterprises**

The seriousness of environmental impacts largely depends on the location of a microenterprise and the features of the affected human and natural environments. Certain activities should be banned or restricted in sensitive environmental zones. Although the magnitude of the impact of individual microenterprises may be relatively small, concentration of companies performing the same activity in the same zone can multiply or magnify potential negative effects.

The Bank requires executing agencies to examine the location of a subproject from the environmental standpoint prior to financing it, to ensure that microenterprises do not locate in contravention of urban zoning standards or in protected areas such as national parks, forest reserves, or indigenous reserves, unless the company has permission from the authorities in those areas to carry out its activities.

A number of inexpensive measures for mitigation and recommendations for the management of inputs, equipment, and installations that can improve the operations of microenterprises are readily available.

2.4 **Need to monitor occupational safety, hygiene, and health**

The majority of the negative environmental impacts caused by microenterprises are related to health, hygiene, and safety in industrial and agricultural enterprises. These impacts affect owners, their families, employees, and neighbors, and *to avoid them it is sufficient to apply basic industrial safety standards or simple hygienic practices*. The activities that are most detrimental to workers' health involve contact with toxic or corrosive substances such as heavy metals, acids, and organic solvents. The effects are often not immediately noticeable, and only become apparent in the medium or long terms.

2.5 **Impact on the natural environment**

Crop and livestock farming, fishing, logging, and other rural activities generally transform the natural environment.

Microenterprises may pollute or alter ecosystems by affecting the air, water, soil, plant, or wildlife in their vicinity. In some cases this impact may be felt by ecosystems that are farther away, carried by different agents including the users of a microenterprise's products.

The social impact of these activities depends on the magnitude and type of the changes they cause, and on the sensitivity of the ecosystem and its ecological significance.

Microenterprises can pollute the environment by introducing foreign substances into nature or increasing the amounts of substances normally present. The situation is aggravated when those substances are noxious and nonbiodegradable or slow to degrade and they can alter the environment permanently or for extensive periods.

2.6 Impact on the built-up environment

Microenterprises can have negative effects on the built-up and sociocultural environments. They can be felt when a company locates at a site where the infrastructure is not adequate and the minimum facilities it requires are absent. The main source of environmental contamination and destruction is production operations that dump untreated solid or liquid waste, which can often contain toxic elements, into the sewer system

2.7 Positive impact of microenterprises

Enterprises can be established to improve the environment and highlight the good sanitary and environmental practices of existing companies, while introducing new activities to benefit the habitat.

Table 1. Management of raw materials in microenterprises

Waste of raw materials, water, and energy, or poor management of them is one of the most relevant problems in diagnostic studies of microenterprises although, theoretically, given their shortage of capital, microentrepreneurs should be more prudent than more affluent entrepreneurs. There are four main reasons for this situation: (i) ignorance of the minimum amounts of inputs needed to make a product; (ii) lack of orderliness and organization in the storage and handling of inputs; (iii) low prices for inputs such as water, power, and wood, which may be underpriced or subsidized; and (iv) use of obsolete technologies.

Environmental considerations

Lack of information on the inputs required leads microentrepreneurs to spend their scarce capital unnecessarily. This is particularly prevalent in cases in which operators assume that large amounts of an input can help forestall the risk of product loss or poor quality, as in the case of farmers who use excessive fertilizers, pesticides, or water.

Absence of orderliness and cleanliness in small workshops leads to waste of raw materials owing to accidental spills or contamination by other substances. Lack of suitable storage areas increases losses owing to theft.

Subsidized water and power prices or the possibility of free use of raw materials such as wood lead to wastage owing to lack of cost controls with the result that these inputs are in shorter supply for the rest of the community. Impacts of this kind can be significant in settlements with scant financial resources, where housing is mixed with small workshops, or in the case of small sawmills located close to forests that are important from an ecological standpoint.

Obsolete technologies or equipment may be found in very simple cases such as wiring that contributes to power losses, or in more complex cases where small workshops, owing to lack of information or capital, are unable to benefit from using more efficient techniques designed especially for recycling inputs or reducing the quantities of dangerous or expensive substances needed.

Measures to correct or mitigate the impact of this situation include: training for microentrepreneurs in how to minimize the need for inputs in the technology they use; instruction in how to establish good order and cleanliness in handling and storing raw materials; use of clean and more efficient technologies geared to needs and

possibilities; recovery and recycling to facilitate and improve waste management; promotion of environmental service companies; and rationalization of the cost of inputs.

Table 2. Activities to improve the environment

Reforestation with native species

Microwatershed management

Monitoring of national parks and other protected ecological areas

Monitoring of water sources

Monitoring of pollution

Guides and assistants for ecological research and recreation

Researchers and taxonomists to identify and evaluate plant and wildlife diversity

Raising endangered species

Fish breeding to repopulate watercourses

Urban sanitation

Maintenance of parks and planting trees in urban areas

Recovery, reuse, and recycling of trash and waste

Protection of historical monuments

Protection of public spaces

Collection and distribution of genetic material for sale in nurseries, botanical gardens, etc.

Ecological recreation services

Medical and paramedical services

Environmental education and information services

Environmental considerations

Industrial safety services for other microenterprises

Industrial cleaning and hygiene services

Services to detect losses and identify inefficient processes

Botanical gardens

Nurseries

Veterinary services

The Bank supports initiatives such as reforestation, urban improvements, and waste management in small cities, where minimum investments can provide individuals and communities with new jobs and sources of income while simultaneously providing more effective environmental management, which was once the preserve of the public sector. Environmental microenterprises of this type have a broad gamut of possibilities, ranging from simple urban tree planting operations to more complex projects for raising endangered species, or small consulting companies to monitor water quality in rural zones.

Positive environmental effects can also be created by adopting new production techniques, procuring equipment that emits fewer gasses or uses fuel more efficiently, using recycled inputs, or improving environmental sanitation and occupational health for producers and their families. Efficient management of raw materials is one of the best ways of economizing on inputs (see table 1).

In the above context, companies can be classified in category I (i.e. environmentally beneficial) if their activities:

- Tend to reverse environmental deterioration or degradation through waste management and erosion control, offering their services to the government or the community.
- Reduce pollution by using environmentally sound technologies, offering their services to private parties or the government.

Environmental considerations

- Correct or eliminate inefficiencies in the use of water, energy, and raw materials as a service that can be contracted by the private sector.
- Make sustainable use of the productivity of ecosystems.

Some activities carried out by microenterprises, such as trash collection, recycling, and use of renewable natural resources have a positive impact on the environment.

- Produce nonpolluting goods for "green markets" through clean processes.
- Raise awareness and understanding of environmental problems and find solutions to them.

Some examples of activities that benefit the environment are given in table 2.

PART B

ENVIRONMENTAL PROCEDURES IN PREPARING LENDING PROGRAMS FOR MICROENTERPRISES

This section describes the sequence of environmental procedures during the identification and design of lending operations for microenterprises. Given the broad range of activities engaged in by the sector, execution of these loans has special features which are described in the following section.

3.1 Role of the IDB in program design

During loan preparation, Bank staff at Headquarters with support from environmental specialists will assist agencies requesting loans in including environmental considerations in their on-lending programs for microenterprises. Figure 1 shows the main steps taken by the IDB in processing a loan.

Under the Bank's environmental procedures the potential impact of each operation subject to financing should be analyzed in each stage of a project in order to grasp opportunities to improve the environment and include measures to prevent, mitigate, and/or compensate for negative impact. The Bank includes environmental requirements as conditions in loan contracts for global credit programs for microenterprises with borrowing governments. Owing to the global nature of these loans, the programs include measures to ensure application of Bank procedures tailored to a country's institutional situation and environmental legislation when considering each microentrepreneurial subproject or activity that might be financed. In this context the Bank promotes the establishment of solid financial institutions and the formalization of microenterprises, facilitating access to credit for low-income borrowers in general, except in situations where the negative environmental impact of their activities is clear and serious.

3.1.1 **Program identification and preparation**

Credit programs for microenterprises can initially be identified during pre-programming or programming missions. During the project identification stage, missions examine the environmental aspects of a prospective operation and identify potential problems that could arise. This information is included in profile II of the project, which makes a preliminary evaluation of its economic, environmental, and social feasibility.

In designing an operation, the project team and the executing agency evaluate the existing institutional and legal environmental framework, considering the country's supervisory capacity, which is used as the basis for devising environmental procedures. In this stage, environmental regulatory institutions, sector regulations, and municipal ordinances are identified. The loan thresholds below which environmental measures will not be required are also determined.

3.1.2 **Environment and social impact briefs**

The general procedure for including environmental considerations in lending programs for microenterprises starts with preparation of an environment and social impact brief (ESIB) and ends with presentation of an environment and social impact report (ESIR) to the Environment and Social Impact Committee (CESI) containing recommendations for the loan contract. The two documents are prepared by the project team. The ESIB is part of profile II of a project (chapter on environmental feasibility in the profile and the corresponding annex) and establishes the evaluation requisites necessary to prepare the operation and identify the potential environmental and social impacts that must be addressed for it to be eligible for Bank support.

ESIBs are not required for operations under US\$3 million.

Project preparation

The ESIB's chapter on environmental feasibility summarizes environmental impacts, risks, and opportunities and recommendations to mitigate the former and take advantage of the latter. The annex to profile II gives a brief description of the operation, the environment affected, and the relevant legal and regulatory framework in the country, based on the information obtained prior to presenting profile II to the Loan Committee. It also includes a preliminary evaluation of potential environmental and social impact and recommends the mitigation measures to be included in the operation.

Figure 1. Lending programs for microenterprises

Environmental procedures in the project cycle

Key actions

Key actions

Project cycle

Environmental procedures

<i>Identification</i>	
Pre-programming or identification missions	Programs in the sector are identified
Profile I	
Identification mission	
Profile II	CESI approves the ESIB
Approval by Loan Committee	
<i>Orientation</i>	
The borrower prepares the environmental impact evaluation	Definition of environmental procedures jointly with the executing agency
	The project team examines the procedures and prepares the ESIR

	CESI approves the ESIR
<i>Analysis</i>	
Profile II Project report	The project team and the executing agency examine the environmental protection, safety, and occupational health conditions and measures contained in the ESIR
<i>Negotiation</i>	
The loan is prepared and negotiated Loan proposal approach	The environmental conditions are negotiated
<i>Execution</i>	
Conditions for disbursements Progress in execution	Review and verification of environmental clauses Monitoring and evaluation arrangements

CESI: Environment and Social Impact Committee

ESIB: Environment and social impact brief

ESIR: Environment and social impact report

Annex 8 includes a model ESIB.

3.1.3 **Review of the ESIB by CESI**

Review and approval of the environmental documents by CESI is a prior requisite for approving lending operations. The committee reviews and approves the ESIB submitted by the project team or initial work group and may recommend that additional studies be performed. The ESIB determines whether it is necessary to perform an ESIR for operations with potentially negative environmental or social impacts.

During the orientation stage, the project team supervises the planning and execution of the environmental studies recommended by CESI on the environmental feasibility of an operation by preparing an ESIR and closely monitors coordination with feasibility and design studies under way.

3.1.4 **The environment and social impact report**

Since some subprojects in lending programs for microenterprises can have negative environmental impacts, an ESIR is generally required.

Based on the recommendations contained in the ESIB and the environmental and social information obtained when an operation is being prepared, the project team evaluates the environmental and social feasibility of the program and determines the environmental components and conditions to be applied. The results are included in the ESIR which is presented to CESI for review and approval. The approved ESIR and the recommendations made by CESI are used in negotiating the environmental protection measures for the loan and conditions precedent to disbursements. Annex 9 contains a model ESIR.

The project team, based on the environmental and social information obtained when preparing an operation, evaluates the environmental and social feasibility of the program and determines the environmental components and conditions to be applied.

3.1.5 Program analysis

In the analysis stage, the project team and the borrower make a more detailed examination of the potential impacts or aspects identified for the different types of economic activities to be financed under lending programs for microenterprises. The borrower is assisted in planning the actions needed to include occupational health and environmental protection measures. The project team should confirm that there is suitable institutional and legal capacity and that funding is available to carry out environmental actions (prevention, mitigation, monitoring, and evaluation) and make the necessary adjustments during execution to assure the environmental quality of the microentrepreneurial activities financed under the program.

3.2 Inclusion of CESI recommendations in the project report

CESI's recommendations are incorporated into the ESIR which becomes the chapter on environmental feasibility in the project report. The report should summarize earlier work on environmental analysis and include recommendations on the measures to be taken to ensure the environmental feasibility of lending programs for microenterprises. It should contain general environmental considerations, policies, and procedures, stressing environmental and social standards, mitigation requisites, procedures for selecting the economic activities to be financed, and monitoring. These aspects can be included in the respective credit regulations. Institutional

capacity and responsibility for environmental and social measures should also be specified as well as the estimated costs of carrying them out.

3.3 Environmental evaluation of subprojects in lending programs for microenterprises

Lending programs for microenterprises finance a wide array of activities (subloans) out of a single credit through an executing agency that might be a ministry, a central bank, or an entity especially established for that purpose, such as a program coordination unit (PCU). Since the exact nature of the microentrepreneurial activities is not known when an operation is approved, their environmental evaluation must be included in the process of administering the subloans.

Because of the diversity of economic activities in credit programs for microenterprises it is impossible to determine the specific impact of each subproject or microentrepreneurial activity in advance. Therefore the Bank evaluates general activities in this sector when preparing a credit program rather than each activity in particular.

The existence of government institutions that oversee application of environmental legislation and the capacity of technical support agencies (TSAs) are factors that facilitate compliance with environmental protection measures. An analysis of these aspects when an operation is being prepared will serve as the basis for selecting the most effective approach.

3.4 Contractual clauses

For a project involving category II activities (potentially moderate or significant negative environmental impact) to be eligible for program funds, the loan contracts require subborrowers to adopt the measures recommended

Project preparation

to prevent or mitigate the adverse environmental effects that could be caused by their activities. The credit regulations establish that IFIs may not grant loans to microenterprises that fail to comply with the requirements.

The credit regulations for programs should clearly establish the following points:

- Eligibility criteria for subprojects (microentrepreneurial activities).
- Environmental follow-up and monitoring through representative sampling.
- Refusal of further credit if the measures are not complied with.
- Periodic reports by the IFIs and TSAs to the executing agency and by the latter to the Bank.

The executing agency should coordinate with appropriate entities to continuously disseminate information and/or provide on-going training in environmental measures. The executing agency should take steps to promote the adoption of practices to minimize negative environmental impacts and improve profit margins, where possible.

PART C

EXECUTION OF LENDING PROGRAMS FOR MICROENTERPRISES

This section presents guidelines on environmental procedures for the executing agency/program coordination unit (PCU), intermediary financial institutions (IFIs) (i.e. commercial banks), technical support agencies (TSAs/NGOs) involved in environmental protection, and for microentrepreneurs during the execution of credit programs for microenterprises. In designing and executing a project, the project team should ensure that financing is available for TSAs for a reasonable period. If there are no good prospects for financing over the medium-term, it will not be possible to monitor procedures.

4.1 Coordination of the entities participating in a program

4.1.1 Role of the executing agency

For a program to be successful, a number of institutions must participate in coordinating the credit component with the environmental component. A public or private PCU can be established in the executing agency to take responsibility for selecting the IFI and verifying that they comply with the eligibility requirements. Since IFIs do not necessarily have expertise in environmental affairs, they may require basic environmental advisory services provided by a public or private TSA or environmental protection agency.

4.1.2 Role of intermediary financial institutions

On-lending under credit programs for microenterprises is performed through commercial IFIs that process and grant subloans to microentrepreneurs. The main executing agency ? for example a central bank, a government ministry, or some other entity designated by the government ? reimburses the IFIs for the capital they lend under the program upon presentation of documentation, or uses auction mechanisms. The IFIs assume the credit risk and provide microentrepreneurs with loans under market conditions.

To be eligible, the IFIs are subject to the selection criteria established in the credit regulations and their participation is governed by subsidiary agreements which set forth their obligations with respect to evaluating the subborrowers and the credit risks entailed in an operation.

IFIs may grant loans to individual microentrepreneurs, entities that serve the sector, cooperatives, or associations of microentrepreneurs.

Depending on the capacity of public environmental protection agencies, IFIs have the option of classifying subprojects as follows: (i) using a short list of heavily polluting activities than will not be granted financing without an effective mitigation plan; (ii) using limited amounts of credit not subject to environmental requirements; or (iii) using the system presented in section 4.5 and annex 3 in cases where an adequate legal and institutional framework exists.

4.1.3 **Role of technical support agencies**

TSAs can act as advisors in preparing and applying environmental procedures under a program. They may be NGOs or some other private or public organization capable of overseeing the environmental component of a credit program.

TSAs may advise the PCU on preparing training and technical assistance modules for basic information on how to make appropriate use of resources for environmental protection, particularly for activities in category II. TSAs may support microentrepreneurs whose activities have greater potential for pollution in promoting cleaner technologies that will simultaneously reduce pollution and production costs, while raising the quality of products.

TSAs should show microentrepreneurs how to improve their practices and adopt new technologies to reduce negative impact on occupational health and the environment.

4.1.4 **Participation by other entities**

Support and coordination with other intermediaries ? such as NGOs, associations of small businesses and microenterprises, municipalities, and universities ? can help to consolidate a program in the local, regional, and national contexts.

4.2 **Shared responsibilities in program implementation**

4.2.1 **Responsibilities of the executing agency/program coordination unit**

National governments bear overall responsibility for advising, coordinating, monitoring, and evaluating credit programs for microenterprises. They decide on whether it is necessary to establish a governmental or nongovernmental PCU to perform this work.

Support from a PCU is fundamental in carrying out the environmental component. It is responsible for coordinating a program's activities with national and municipal agencies and with the private sector. The PCU selects and hires a TSA and evaluates its performance. If it is found that occupational safety and environmental impact mitigation measures are not being complied with, the PCU must ensure that no additional loans are made to the subborrower until the recommended measures are implemented.

4.2.2 **Responsibilities of intermediary financial institutions**

IFIs do not generally have direct responsibility for applying a program's environmental procedures. However in lending programs for microenterprises that do not have an environmental training component supported by a TSA, the IFIs are the most direct link with subborrowers for technical advice in both financial and environmental matters. Although environmental concerns are not direct areas of IFI action, inclusion of environmental training is an important first step in ensuring that subborrowers comply with mitigation measures.

To facilitate this activity, the PCU or the TSA should provide IFIs with a list of eligible microentrepreneurial activities broken down by environmental category (see annex 2). The eligibility of microentrepreneurial activities is subject to the selection criteria proposed by the country.

4.2.3 Responsibilities of microenterprises

Microenterprises interested in obtaining subloans should be aware of their responsibilities with respect to the environment and occupational safety, hygiene, and health. Training and dissemination programs should be offered to make subborrowers aware of national and municipal regulations pertaining to their activities and the need to abide by them (see annex 4).

Proposals are presumed to have taken account of municipal plans, local requirements, and national laws and regulations for each area of microentrepreneurial activity (rules for general health and environmental protection).

4.3 Scope of the environmental variable in lending programs for microenterprises

To establish feasible environmental mechanisms for a program that can effectively counteract the potentially moderate or serious environmental impact of microentrepreneurial activities, **cooperation** is required on the national level among different institutions with respect to the use of instruments to address the specific problems that can be caused by different kinds of activities in different parts of a country. Specifically, general environmental awareness and government control and incentive systems are required. Local governments (municipalities) play a key role in this regard.

Program execution

The direct stakeholders in a program (the executing agency, the IFIs, the TSAs, and the subborrowers) must be environmentally aware if they are to jointly promote and apply safeguards in subprojects with the potential for causing negative impact on occupational health or the environment, and to ensure compliance with environmental protection and mitigation measures.

In addition to the credit component, the Bank's lending programs for microenterprises generally include a training and technical assistance component which should have an environmental subcomponent for institutional strengthening and training for TSAs and subborrowers.

4.3.1 Programming of impact mitigation measures

Programming of environmental protection and impact mitigation measures requires a formal administrative structure and an umbrella program for planning, review, financing, and monitoring of the different mitigation measures. There are several possibilities:

- A national and/or municipal government agency responsible for environmental protection could certify the environmental appropriateness of a proposal, keeping in mind that the main objective is to create effective and sustainable microfinancing programs.
- The executing agency could contract private consultants, local science or research institutions, an NGO, or some other TSA to provide environmental services in selecting proposals, training microentrepreneurs, and performing supervision and evaluation.

- When an executing agency is established to administer a loan, its functions could include environmental evaluation in addition to technical and financial evaluation. In that event suitable mechanisms and procedures must be designed.
- When government agencies with the capacity and mandate to perform environmental evaluations exist, they could provide assistance with these program activities.
- Selection lists can be prepared to facilitate determination of the probable environmental impact of a given microentrepreneurial activity. Lists of laws and regulations on environmental quality and protection that affect different types of microentrepreneurial activities can also be prepared.

The environmental selection of activities, training, monitoring, and evaluation during a program entail an administrative cost for the executing agency. The costs of technical assistance (e.g. training, institutional strengthening) can be included in the financing for preinvestment studies, in a parallel technical-cooperation program, in the loan itself, or as part of the government counterpart. Environmental programs should be simple and effective.

The functions of the entity (TSA/EPA) that advises the executing agency or the PCU on environmental protection, training, monitoring, and evaluation of subprojects should be spelled out in the terms of reference annexed to the project report (see annex 7).

Participation by NGOs as technical support agencies in lending programs for microenterprises is crucial for occupational safety and environmental protection.

4.4 **Related activities**

4.4.1 **Technical assistance and training**

The technical assistance and training component of a program is mainly intended to provide technical and environmental support for the activities carried out by microenterprises and the participating TSAs.

The training on basic environmental protection provided by TSAs for microentrepreneurs and participating institutions is vital in the credit operations under consideration and is a strategy for introducing gradual changes to preserve the environment and occupational health in a major segment of the private economy.

In the case of subprojects classified in category II, subborrowers should be trained to prevent or minimize the adverse effects of their activities. For activities in that category that could have significant negative impact, apart from making environmental commitments, microentrepreneurs must also furnish guarantees (e.g. sworn statements) that they will take specific mitigation measures.

4.4.2 **Training for technical support agencies**

Environmental training for TSAs should have the following objectives:

- To provide the TSAs with general information about microenterprises, occupational health, and the environment.

- To inform the TSAs of the procedures to be followed in the environmental classification of microenterprises.
- To train the staff of the TSAs in the preparation of educational materials for activities in category II (information booklets on companies and the environment, see annex 5)

4.4.3 **Training for microentrepreneurs**

Training for microentrepreneurs should be aimed at:

- Raising awareness of the need to introduce and comply with standards for hygiene, occupational health, industrial safety, and environmental protection.
- Creating consensus that favors and facilitates mitigation of the negative environmental impact of microenterprises.
- Promoting the establishment and strengthening of companies that benefit the environment, as well as better techniques in existing companies.
- Promoting clean technologies and methods for the prevention and mitigation of negative environmental impacts in category II activities.

4.4.4 **Information booklets on microenterprises and the environment**

As part of the training program, it is recommended that booklets on microenterprises and the environment be distributed to microentrepreneurs. They should briefly describe the typical impacts of different activities and ways of counteracting them. The TSAs (NGOs, universities, or other civil society organizations specializing in environmental protection) are appropriate entities for preparing and distributing the booklets. Annex 5 contains an example of an information booklet on companies and the environment.

The booklets help microentrepreneurs to understand the reasons for environmental classification and measures to improve occupational health and reduce negative environmental impact.

4.5 **Environmental procedures in implementing lending programs for microenterprises**

The sequence of environmental procedures can be summarized in four stages: environmental classification, disbursement, execution, and evaluation. The system of procedures covers institutional strengthening where necessary and feasible, including brief training for potential subborrowers on environmental protection, conservation of the natural heritage, industrial safety and hygiene, and occupational health.

Disbursement and execution: Microentrepreneurs will receive their loans under the credit regulations of the IFIs. Monitoring will be carried out to verify compliance with the environmental measures recommended for activities in category II and to ensure that they are effective. Periodic evaluations should be performed on the basis of representative samples of microentrepreneurial activities. Monitoring programs and the entity in charge of them should be determined by the PCU. Depending on the country, monitoring could be performed by an NGO, a government agency, or a specialized firm.

Program execution

Environmental monitoring should establish mechanisms to follow up on operations, particularly for microentrepreneurial activities that could have significant negative impact. The mechanisms could include visits to installations, air sampling, interviews with plant personnel, neighbors and/or municipal authorities, and inspections of a company's activities.

Evaluation: Environmental, safety, and occupational health evaluations of microenterprises are important for adjusting a program during execution. They can be performed for a representative sample of subloans, with the support of consultants.

This environmental evaluation may be undertaken midway through program execution, based on a representative sample of microentrepreneurial activities, in order to detect significant impacts on the environment and occupational health in order to make any adjustments that are called for.

The credit regulations should establish the mechanism to be used for monitoring and evaluating the microentrepreneurial activities financed under the program.

ANNEXES

Environmental procedures in lending operations for microenterprises

INDEX

1.	Instructions for the environmental classification of microenterprises	38
2.	Classification of microenterprises by environmental groups based on the International Standard Industrial Classification Code	41
3.	Sample form for the environmental classification of microenterprises	46
4.	Sample statement of environmental commitments undertaken by borrowers to mitigate potential impact (activities in category II)	50
5.	Sample information booklet on companies and the environment	52
6.	Procedure for establishing environmental commitments	54
7.	Specialized environmental protection agency (EPA/TSA)	58
8.	Guide for preparing the environment and social impact brief	60
9.	Guide for preparing the environment and social impact report	64
10.	Impact and mitigation for microenterprises in category II	68

ANNEX 1

Instructions for the environmental classification of microenterprises

1. Objectives

In lending programs it is recommended that microenterprises receiving credit must be classified as follows with respect to their environmental impact:

Category I Activities that favor the environment, including those that have no undesirable effects.

Category II Activities with potentially negative environmental impacts.

In the contract, the borrower undertakes to ensure that microentrepreneurs involved in category II activities will receive training to reduce environmental impact and take steps to mitigate the risks of pollution (see annex 3 on the environmental classification of microenterprises).

2. Procedure

The following measures are intended to facilitate compliance with this commitment:

- All microenterprises will be classified initially by the TSAs, based on the statements made by entrepreneurs when they apply for loans and on the lists prepared by the PCU in cooperation with government environmental regulatory agencies.

- The PCU reserves the right to reclassify specific microenterprises based on its environmental classification procedures and a visual inspection:
- when requested by a microenterprise;
- when requested by a TSA or IFI;
- when requested by a government agency;
- when the PCU believes that reclassification is warranted.

3. **Classification of microenterprises into environmental groups**

3.1 The attached classification is organized following the International Standard Industrial Classification (ISIC) which is structured as follows:

- Nine "major division" indicated by the first digit:
 1. Agriculture, hunting and forestry
 2. Mining and quarrying
 3. Manufacturing
 4. Electricity, gas and water
 5. Construction
 6. Trade, hotels and restaurants
 7. Transport, storage and communications
 8. Financing, insurance, real estate and business services
 9. Community, social and personal services

- Ninety divisions indicated by the second digit, some of which include:

11. Crop and animal farming and hunting
12. Forestry
13. Fishing
31. Food, beverages and tobacco
32. Textiles, clothing and leather
33. Wood and wood products
34. Paper and printing
35. Chemicals, petroleum, coke, rubber and plastics
36. Nonmetallic mineral products, except petroleum and coke
37. Basic metal industries
38. Manufacture of metal products, machinery and equipment
39. Other manufacturing industries

- Larger and smaller groups indicated by the subsequent digits, such as 11113 Hunting and trapping

31140 Manufacture of fish and crustaceans

35290 Manufacture of chemical products not elsewhere considered (n.e.c.)

3.2 In the event that staff from the TSA or the IFI finds that a microentrepreneurial activity cannot be classified in the lists, they should inform the PCU. If that is impossible or would unduly delay the process, the microenterprise should be classified in group II and the PCU informed in writing.

ANNEX 2

Classification of microenterprises by environmental groups based on the International Standard

Industrial Classification Code

Group I Microenterprises favorable to the environment

- 11330 Raising of endangered species
- 12301 Nurseries and reforestation with native species
- 13301 Fish hatcheries of native species for repopulation of public watercourses
- 91111 Management of microwatersheds
- 91112 Surveillance of national parks and reserves
- 92000 Sanitary and similar service activities
- 93011 Protection of public areas
- 93012 Protection of historical monuments
- 93101 Environmental education services
- 93201 Scientific research institutions
- 93300 Medical, dental, paramedical, and veterinary services
- 93400 Welfare institutions (orphanages, asylums, etc.)
- 93401 Environmental and natural resource protection institutions
- 94200 Public libraries, museums, botanical gardens
- 95901 Professional environmental and ecological services (waste collection, urban beautification)

Factors such as a brief definition of the type of activity and dangerous inputs used, location (urban, rural), and the relative size of a microenterprise should be taken into account for environmental.

Microenterprises that do not cause undesirable environmental effects

32200 Manufacture of clothing, excluding footwear and straw hats

61300 Sale of sawn wood and construction materials

61400 Sale of machinery for maintenance, industry, etc.

61500 Sale of hardware and electrical appliances

61600 Sale of furniture and other household articles

61700 Sale of textiles and clothing

61800 Sale of foods and beverages

62800 Stores and shops

62900 Retail trade n.e.c

72000 Communications

83200 Services for companies

93100 Public instruction

93900 Other social and community services

94120 Exhibition of films and video tapes

94130 Radio and television broadcasting

94140 Theatrical productions

94150 Authors, composers and artists

95110 Repair of footwear and leather articles

95140 Watch, clock and jewelry repair

95300 Domestic services

95910 Barber and beauty shops

Group II Microenterprises with potentially negative environmental impacts

- 31330 Canning of fruits
- 31160 Manufacture of grain mill products
- 31170 Manufacture of bakery products
- 31190 Manufacture of chocolate and sugar confectionery
- 31210 Manufacture of various food products
- 31220 Manufacture of animal feed
- 32110 Spinning, weaving, and finishing textiles, except dyeing
- 32120 Manufacture of textiles, except straw hats
- 32130 Manufacture of knitted fabrics
- 32150 Manufacture of cordage
- 32190 Manufacture of other textiles
- 32330 Manufacture of leather products, except footwear
- 32400 Manufacture of footwear, except rubber footwear
- 34120 Manufacture of containers and boxes of paper and paperboard
- 34190 Manufacture of paper and paperboard articles
- 34200 Printing, publishing and allied industries
- 35240 Manufacture of veterinary medications
- 35610 Manufacture of plastic footwear
- 36200 Manufacture of glass and glass products
- 38110 Manufacture of cutlery and general hardware
- 38210 Manufacture of engines and turbines
- 38220 Manufacture of agricultural machinery and equipment
- 38320 Manufacture of radio, television and communications equipment

38330 Manufacture of electrical appliances

38520 Manufacture of photographic and optical goods

39010 Manufacture of jewelry and related articles

39020 Manufacture of musical instruments

39030 Manufacture of sports goods

61100 Sale of raw agricultural materials

62200 Pharmacies

63100 Restaurants, cafes, and other eating and drinking places

71920 Storage and warehousing

95120 Electrical repair shops

95920 Photographic studios, commercial photography

11100 Agricultural production

11104 Livestock farming

11113 Hunting, trapping, repopulation

13020 Fishing n.e.c

31110 Slaughtering and preparing meat

31120 Manufacture of dairy products

31150 Manufacture of vegetable and animal oils and fats

31310 Distilling and rectifying of spirits

31340 Manufacture of soft drinks

32121 Manufacture of straw hats

32140 Manufacture of carpets and rugs

32310 Tanning and dressing of leather

32320 Fur dressing and dyeing

33110 Sawmills, planing and others

33120 Manufacture of wooden and cork containers

33190 Manufacture of wood and cork products n.e.c

33200 Manufacture of furniture and fixtures, except of metal

34110 Manufacture of pulp, paper and paperboard

35110 Manufacture of industrial chemicals, except fertilizers

35120 Manufacture of fertilizers and pesticides

35130 Manufactures of resins and plastics materials, except glass

35210 Manufacture of paints, varnishes and lacquers

35220 Manufacture of drugs and medicines

35230 Manufacture of soap, perfumes and cosmetics

35280 Manufacture of candles, matches

35290 Manufacture of chemical products n.e.c.

35400 Manufacture of products of petroleum and coal

35590 Manufacture of rubber products n.e.c

35600 Manufacture of plastic products n.e.c

36100 Manufacture of clay, china, porcelain objects

36910 Manufacture of structural clay products

36920 Manufacture of cement, lime and plaster

36990 Manufacture of nonmetallic mineral products

37100 Iron and steel basic industries

37200 Nonferrous metal basic industries

38120 Manufacture of furniture and fixtures primarily of metal

38130 Manufacture of structural metal products

38190 Manufacture of metal products n.e.c

38230 Manufacture of metal and woodworking machinery

38240 Manufacture of industrial machinery and equipment, except woodworking machinery

38290 Machinery and equipment except electrical n.e.c

38340 Manufacture and repair of batteries

38390 Manufacture of electric equipment n.e.c

38410 Ship building and repairing

38440 Manufacture of motorcycles and bicycles

38490 Manufacture of transport equipment n.e.c

39090 Manufacturing industries n.e.c.

41020 Manufacture and distribution of gas

50000 Construction

61200 Sale of industrial minerals, metals, chemicals

63300 Night clubs

95130 Repair of motor vehicle, motorcycles, bicycles

95190 Other repair shops n.e.c

ANNEX 3

Sample form for the environmental classification of microenterprises

This form can be used when a country's legal and institutional framework is suitable.

[To be completed by the credit officer]

Number:

Environmental classification:

Financial entity:

Name of credit officer:

Place and date of processing:

[To be completed by the microentrepreneur]

A. GENERAL INFORMATION

1. Name
2. Address

3. Activity
4. Location of the enterprise (lot, settlement, town, district, province, etc.)
5. Area: (a) rural (b) urban (c) semirural
6. Zone: (a) industrial (b) residential (c) commercial

B. GENERAL DESCRIPTION OF THE ENTERPRISE

7. Number of employees (including family members)
8. Use of the premises: (a) workshop-house (b) workshop-store (c) workshop only
9. Products manufactured in order of importance
10. Services provided for clients
11. Machinery and equipment used (number of units, types, age in years)
12. The company performs the following activities: gluing, painting, polishing, dyeing, stamping, smelting, welding, applying lead, type setting, diluting acids, tanning, washing, rinsing, galvanizing, etc. (mark the activity)

C. POSSIBLE IMPACTS ON PERSONNEL AND FAMILY

13. What raw materials and other inputs are used (glues, solvents, catalysts, preservatives, etc.)? What quantities are used each month?
14. Do you know if any of the products used contain toxic substances? If so, what are the products and the toxic substances they contain?
15. Are combustibles kept out of the sun?
16. What other precautions to you usually take at your workplace to prevent injury to health?
17. Do your employees use protective gear (mark the equipment used)?
(a) masks (b) goggles (c) earplugs (d) hard hats (e) gloves (f) protective clothing (g) respirators (h) boots

18. Do you have first aid equipment? Yes () No ()
19. Who knows how to use the first aid equipment?
20. Do you have a properly charged fire extinguisher? Yes () No ()
21. Do you and your employees know how to use it? Yes () No ()
22. If you use substances that could be harmful to health do you keep them in a safe place out of the reach of children? Yes () No () Do not use ()

D. POSSIBLE IMPACT ON NEIGHBORS

23. Is there housing nearby? Yes () No ()
24. Do you produce noise that disturbs your neighbors? Yes () No ()
25. Do you have a noise-reduction system?
26. Does your operation produce gas or foul odors that affect neighbors? If so, do you use any system to attenuate them? Please describe
27. Do you work during the night? Yes () No ()
28. Do you have trash collection? Yes () No ()
29. If not, how do you dispose of your trash? (a) burn it (b) dump it (c) bury it (d) dump it in a river
30. Does your trash contain chemical waste? Yes () No ()
31. Do you reuse or sell any of your scrap or waste? Yes () No ()

E. POSSIBLE IMPACT ON CONSUMERS

32. Do the products you make contain any toxic substance that could pose a risk to consumer health? If so, have you affixed a warning to the packaging? Have you posted warning notices in your premises?
33. Are your inputs, products, or processes registered with the competent authorities (e.g. health permit, permits for certain substances)? Please list them.

F. IMPACT ON WATER AND SEWER SYSTEMS

34. Does your used water contain contaminating substances? Please list them (none, alkalies, acids, coloring agents, oils, poisonous substances, etc.)
35. How do you dispose of your liquid waste (acids, oils, toxic substances, etc.)?
- a. Pour it untreated down the drain
 - b. Treat it prior to pouring them down the drain
 - c. Dump it in the ground
 - d. Place it in the garbage in sealed containers
 - e. Reuse it
 - f. Sell it or give it away for recycling
36. If you have a system for the treatment of liquid waste or used water, please describe it.
37. Where do you dispose of waste: (a) down the drain (b) in a ditch or river

G. SUPPORT INSTITUTIONS

38. Do you belong to a business association? Please give the name(s)
39. Do you know a company, institution or professional who can advise you on reducing environmental and health problems? If yes, please give the name(s).

H. ADDITIONAL INFORMATION OR COMMENTS

I formally declare the above information to be true.

(Signature of the microentrepreneur)

COMMENTS BY THE TSA:

COMMENTS BY THE IFI:

ANNEX 4

**Sample statement of environmental commitments undertaken by borrowers
to mitigate potential impact (activities in category II)**

I, ... undertake to carry out my business in a way that avoids, reduces, and compensates for damage to nature, public services, or the well-being of the individuals who work with me and who live in the vicinity, by continuing with or taking the following actions:

(Mark the applicable actions with an X)

- a. Reduce the amount of waste by improving the process or recycling

- b. Take the necessary precautions in waste disposal; not dump liquid or solid waste that could potentially harm human health in public places (sewers or rivers)

- c. Avoid, reduce, or control processes that pollute the air and not burn waste in the open

- d. Take the steps required to protect my own health and that of my employees and neighbors

- e. Comply with municipal regulations on environmental protection, health, and hygiene

- f. Comply with the pertinent government regulations

I particularly undertake, within my financial possibilities, to implement the following specific measures as soon as possible:

(list the measures recommended for the specific microentrepreneurial activity)

I have been informed that the entity granting me the loan or its agent may make a visit to evaluate my activities from the environmental and health standpoints and that I may only obtain a new loan if, in addition to complying with the financial conditions, I also comply with my environmental commitments.

Date

Signature

Approved by the TSA

Date

Signature

Approved by the IFI

Date

Signature

ANNEX 5

Information booklet on companies and the environment

Sample information booklet on companies and the environment

Manufacture of food products

(except dairy products, oils, and sugar refining)

ISIC Headings 151, 153, 154, 155

Category II

Negative impacts (-) and recommendations (+)

1. Risk of chemical contamination of inputs by pesticides or biological contamination from parasites, bacteria, viruses, fungi, etc. Biological contamination from pathogens in the workplace or carried by employees.
 - Wash foods and utensils properly. Scrupulous cleanliness in handling.
 - Personal hygiene of employees. Work areas should have toilets, showers, and special facilities to wash work clothing.
 - Cover hair and use masks and gloves.

2. Risk of chemical contamination from coloring agents and preservatives, use of contaminated packaging, accumulation of gas, entry of dust through inadequate ventilation systems, use of toxic products or excessive amounts.

- Read instructions and comply with the standards for the use of chemicals.
- Use products that are authorized by the health authorities.
- Use new and/or scrupulously clean packaging.
- Upgrade the ventilation system.

3. Danger of explosion of gas cylinders, ovens, and boilers.

- Use ventilation systems.
- Handle fuel and heating equipment properly.
- Use fire extinguishers and recharge them periodically.

4. Production of liquid or solid waste can be a problem if there is no good system of waste collection and removal.

- Presence of vectors of transmissible diseases (rodents and insects).
- Treat or process waste prior to discharging into the sewer system and neutralize acids and alkalies before pouring them down the drains.
- Sort waste by type for recycling or sale.
- Arrange for trash collection with the local government or a company.
- Perform fumigation and pest control periodically.

OTHER RECOMMENDATIONS

- Floors should always be clean and dry to prevent falls.
- Adequate drainage should be provided.
- Ventilation and lighting should be good.
- Inputs, products, and waste should be properly separated.
- People working in the refrigerated food industry should wear warm work clothing to protect them from the cold.

ANNEX 6

**Procedure for establishing environmental commitments
for some category II microenterprises**

Activity	Environmental commitments
7. Inshore fishery	Comply strictly with the country's fisheries regulations. Report any changes in fish stocks and the marine habitat to fisheries and marine research authorities. Take environmental training (8 to 16 hours).
8. Livestock farming and slaughtering	Do not burn or deforest to establish new operations. Do not use banned agricultural chemicals. Take environmental training (8 to 16 hours).

9. Agricultural production
- Do not deforest.
 - Do not burn off fields.
 - No not use banned agricultural chemicals.
 - Carry out comprehensive pest management (biological-physical-chemical).
 - Take environmental training (8 to 16 hours).
10. Dairy product
- Purchase and use protective equipment for employees (gloves and production masks).
 - Do not use dangerous chemicals for coagulation processes.
 - Minimize the amount of whey dumped into public watercourses, use it in livestock farming instead.
 - Take environmental training (8 to 16 hours).
11. Tanning and dying
- Purchase and use protective equipment for employees (gloves, leather, masks, protective clothing).
 - Do not dump untreated liquid waste into public watercourses.
 - Take environmental training (8 to 16 hours).
12. Manufacture of carpets and dying textiles
- Do not dump liquid waste into public watercourses.
 - Purchase and use protective equipment.
 - Do not use toxic substances banned by the Ministry of Health.
 - Take environmental training (8 to 16 hours).

13. Battery manufacture, rebuilding, repair, or charging
- Use protective equipment.
 - Install fume extractors to protect employees, neighbors, and clients.
 - Post permanent signs to inform employees, clients, and neighbors of existing risks.
 - Have a contingency plan for fires and work accidents.
 - Take environmental training (8 to 16 hours).
14. Nightclubs and similar establishments
- Maintain order and prevent noise outside the premises.
 - Take environmental training (8 to 16 hours).
15. Sawmills and furniture manufacture
- Do not use wood that has been logged illegally.
 - Establish working hours in agreement with neighbors to reduce noise pollution.
 - Use personal protection (masks and gloves), first aid, and fire fighting equipment.
 - Do not burn sawdust.
 - Take environmental training (8 to 16 hours).
16. Straw hat manufacturer
- Use protective equipment (masks).
 - Do not allow children to work.
 - Keep driers outside living quarters and away from neighbors.
 - Take environmental training (8 to 16 hours).

17. Manufacture and sale of chemicals and plastics, including medicines
- Obtain a permit from the Ministry of Health/Industry/Municipality.
 - Provide a detailed description of chemical composition, potential risks, and precautions to be taken by clients on product labels and in publicity.
 - Prepare safety leaflets and distribute them to clients.
 - Use protective equipment (masks, gloves, protective clothing).
 - Have a contingency plan for fires, explosions, and work accidents.
 - Have sewage and waste collection services.
 - Take environmental training (8 to 16 hours).
18. Manufacture of ceramic and plaster ornaments
- Use protective equipment.
 - Minimize the use of lead and provide information on lead content on product labels.
 - Prepare a contingency plan for toxic spills, fires, and work accidents.
 - Take environmental training (8 to 16 hours).
19. Liquid petroleum gas distributors
- Have excellent ventilation.
 - Have a contingency plan to deal with explosions, fires, and work accidents.
 - Only transport cylinders in suitable vehicles.
 - Regularly inspect valves and replace cylinders in poor condition.
 - Take environmental training (8 to 16 hours).

20. Manufacture of cement, lime, and plaster construction components
- Use protective equipment (masks and gloves).
 - Keep volatile materials moist.
 - Install sediment traps.
 - Do not block sewer systems.
 - Do not dump liquid waste containing dissolved or suspended solids into public watercourses.
 - Have a contingency plan for toxic spills, fires, and work accidents.
 - Take environmental training (8 to 16 hours).
21. Manufacture of rubber products
- Buy and use protective equipment (masks, gloves, protective clothing).
 - Take environmental training (8 to 16 hours).
22. Manufacture of metal products except for electroplating
- Use protective equipment (masks, hard hats, gloves, protective clothing).
 - Operate noisy equipment at times agreed upon with neighbors.
 - For microenterprises engaged in electroplating or smelting metals, specific commitments should be made to prevent impact on neighbors and the locality.
 - Have a contingency plan for toxic spills, fires, and work accidents.
 - Take environmental training (8 to 16 hours).

23. Manufacture and repair of automobiles, motorcycles, and bicycles
- Do not repair vehicles in public streets.
 - Do not dump oils, grease, or fuel on public streets.
 - Clean the entrances to premises daily or pave work sites.
 - Make it compulsory to use protective equipment.
 - Store toxic and dangerous materials with due precautions.
 - Post signs informing clients about areas where toxic or dangerous produces are used.
 - Reach agreements with neighbors on times for noisy operations.
 - Have a contingency plan for fires and work accidents.
 - Take environmental training (8 to 16 hours).
24. Brick and tile manufacture
- Buy and use protective equipment (masks, gloves, protective clothing).
 - Replant areas that have been quarried.
 - Establish good management practices for kilns and fuels.
 - Take environmental training (8 to 16 hours).

ANNEX 7

Specialized environmental protection agency (EPA/TSA)

Model terms of reference

A. Functions

The EPA/TSA will advise the program coordination unit (PCU), in consultation with the government agencies responsible for environmental protection and natural resource conservation and industrial safety, hygiene, and occupational health, in accordance with national legislation in (name of country) in the following areas:

1. Preparing a classification of microentrepreneurial activities eligible for financing under lending programs, based on a detailed analysis of their environmental impact, as follows: category I, activities that benefit the environment, including those that have no undesirable effects; and category II, activities that could potentially have negative impacts.
2. Preparing an information booklet on microenterprises and the environment, and an environmental classification of microenterprises.
3. Recommending environmental procedures and the content of the environmental commitment statements for granting subloans in category II.

4. Preparing short general training programs for all microentrepreneurial activities, in addition to specific programs for category II activities, describing for the latter potential negative environmental impacts and concrete measures to eliminate or mitigate them. Training programs should be prepared in cooperation with environmental protection, industrial safety, hygiene, and occupational health authorities in (name of country) and with agencies that provide support for the microentrepreneurial sector (TSAs/NGOs) so that the latter can incorporate the programs into their regular training activities for microentrepreneurs.
5. Advising the PCU on the design and implementation of procedures and criteria for monitoring and evaluating the environmental impact of microentrepreneurial activities that could be financed under the program. Assisting the PCU in defining procedures for the selection of representative samples of the microentrepreneurial activities financed under the program in order to evaluate compliance with environmental impact mitigation measures and make any necessary adjustments.
6. Submitting progress and final reports.

B. Qualifications

Legally established entity specializing in environmental protection, in existence for a minimum of three years.

It should have professionals with broad and recognized experience in carrying out technical-assistance and training programs on environmental protection, natural resource conservation, industrial safety, hygiene, and occupational health.

ANNEX 8

Guide for preparing the environment and social impact brief (ESIB)

1. General project information

Country:

Project name and number:

Borrower:

Total cost:

 IDB:

 Counterpart:

 Other sources:

Executing agency:

Name of the project team leader:

Name of the environmental specialist:

Date on which the ESIB was presented:

Date on which the ESIB was approved:

Follow-up action/date: (e.g. Loan Committee)

2. Description of the operation:

3. Environment and social background:

4. Description and preliminary evaluation of potential environmental impacts and proposed actions.

Impacts

Actions proposed by the project team:

Impact evaluation

Mitigation measures

Procedures and resources

IDB project team leader Environmental specialist

Minimum information to be included for each point

Point 1. (General project data)

Point 2. Project description a draft profile II covering all aspects of the operation.

Point 3. Environmental and social background (annex to profile II on environment and social impact).

(a) The project description should be as brief as possible and stress relevant environmental and occupational health aspects for each of the operation's components. The role of the project should be discussed from the standpoint of the Bank's country strategy.

(b) The country's legal and institutional framework. Brief description of the environmental framework in which the project will be carried out and the environmental institutions and standards relevant for the project. The following points should be considered in the description of environmental institutions and standards:

- Focus on the institutions and standards that are relevant for the project.
- Include a paragraph on the quality of the country's environmental legislation and institutions and current levels of compliance.

Point 4. Description and preliminary evaluation of potential environmental and social impacts. A chapter or section on environmental and social feasibility included in the draft of profile II, summarizing:

- (a) The potential direct and indirect environmental and social impacts based on the information contained in the annex and a preliminary assessment of the possibilities for their prevention and mitigation.

Indicate the nature and results of the preliminary evaluation if one has been performed.

- (b) The actions proposed by the project team:

- Impact evaluation. The project team should indicate whether it is necessary to perform environmental evaluation studies on the basis of the impacts identified.
- Mitigation measures. Brief description of mitigation measures, their applicability, complexity, and availability and the cost implications of a mitigation plan. As a minimum, this section should make the following environmental recommendations that the project team will pursue in conjunction with the executing agency/PCU:

- (i) eligibility criteria for subprojects (microentrepreneurial activities);
 - (ii) types of training;
 - (iii) verification of compliance with environmental requirements, follow-up, and periodic evaluations based on representative samples; and
 - (iv) Semiannual reports by the IFIs, TSAs/NGOs to the executing agency and by the latter to the Bank.
-
- Procedures and resources: (i) the project team should state whether it proposes to prepare an ESIR: (ii) it should report on the progress made with the executing agency/PCU with respect to the environmental feasibility of the operation; (iii) an estimate of time and resources (personnel, expert/days, budget) required to complete the environmental studies.

ANNEX 9

Guide for preparing the environment and social impact report

The environment and social impact report (ESIR) summarizes the conclusions of the environmental impact evaluation required by CESI in the ESIB and concludes with specific recommendations, costs, timetable, and entities in charge, to be considered in the respective loan contract.

Environment and social impact report

Country:

Date:

Project name:

CESI:

Project number:

Rev.:

I. Summary of the credit program for microenterprises

1. Objectives

Main objective: in relation to access to credit for microentrepreneurs to improve their working conditions, income, and productivity in production, commerce, and services, and integration into a country's formal economy.

Supplementary objectives: in relation to the development and institutional strengthening of participating entities, technical assistance, and training for microentrepreneurs and IFIs.

2. **Participating institutions**

Participating institutions with special stress on their environmental functions ? the borrower, the executing agency/PCU, the IFIs, TSAs/NGOs, and all other institutions involved.

3. **Project description**

Credit component: Purchase of fixed assets and working capital; technical advisory services for microentrepreneurs.

Government commitment to the project.

Project design: objectives, components, costs, and status.

Technical-cooperation component: Advisory services for institutional strengthening of the PCU; transfer of financial technology to the IFIs; strengthening of the TSAs; awareness and training for microentrepreneurs and participating institutions in basic aspects of environmental protection and occupational health.

4. **Cost and financing**

Program cost and sources of financing (IDB, local). Costs of the credit component, the technical-cooperation component, and inspection and supervision.

II. Environmental evaluation

Describe the environmental factors that affect project sustainability given the global nature of the operation, which is not restricted to any particular branch of production or geographic area. Demographic, cultural, and socioeconomic context and gender considerations. Describe the positive and negative environmental impacts of activities. Attach a preliminary list of microentrepreneurial activities and their potential environmental impacts, which should be reviewed during the program.

Include national environmental standards and institutional training as they pertain to project design and execution.

III. Environmental protection activities

A. Technical assistance and training

Specify whether it is necessary to contract a consultant or specialized environmental protection agency (EPA) to advise the PCU in preparing and applying environmental procedures in the program. Preparation of basic training programs on environmental protection and industrial safety, hygiene, and occupational health for all microentrepreneurial activities, and specific actions for category II projects. Training programs for TSAs/NGOs to enable them to train microentrepreneurs in different parts of the country.

B. Eligibility criteria for subprojects including classification of activities

Environmental classification of microenterprises that apply for subloans under the program, based on their potential environmental impact.

C. Measures to mitigate environmental impact

Description of prevention and mitigation measures. Ensure that microentrepreneurs whose activities are classified in category II comply with the recommendations in the information booklet on microenterprises and the environment, and adopt the measures set forth in the environmental commitment statement, as conditions precedent to the approval of their subloans. These measures should be consistent with the rules and regulations issued by the country's environmental authorities for the sector.

D. Execution and follow-up

Indicate the measures necessary to ensure that microentrepreneurs in category II make environmental commitments prior to obtaining subloans.

Establish periodic evaluations during the program, based on a representative sample of the two categories.

IV. Bank recommendations and contractual conditions

Specify the conditions to be included in the loan contract, covering:

- eligibility criteria for subprojects (microentrepreneurial activities);
- types of training;
- verification of compliance with environmental requirements, follow-up and periodic evaluations based on representative samples;
- semiannual reports by the IFIs, TSAs/NGOs to the executing agency and by the latter to the Bank.

ANNEX 10

Impact and mitigation formicroenterprises in category II

Type of activity	Impact	Mitigation measures
1. Food processing, except dairy products, oils, and sugar	<p>Less water available</p> <p>Risk of food poisoning</p> <p>Increase in waste</p>	<p>Water conservation.</p> <p>Strict hygiene; use raw materials free from chemical residues; minimize the use of preservatives and coloring agents; adequately manage organic waste.</p> <p>Recycling, reuse.</p>
2. Textiles, leather, footwear	<p>Noise</p> <p>Suspended particles</p> <p>Inhalation of toxic substances in glue</p> <p>Overloading of trash collection systems</p>	<p>Operators should use ear plugs. Follow special timetables to attenuate impact on neighbors. Follow strict maintenance and lubrication practices for the moving parts of equipment.</p> <p>Use of fans/extractors. Compulsory use of masks by exposed operators.</p> <p>Careful management of containers; compulsory use of masks. Use of good ventilation systems in the workshop. Contingency plan for work accidents.</p> <p>Economic design practices; reuse of scrap; sale of waste to recycling companies.</p>

Type of activity	Impact	Mitigation measures
<p>3. Paper articles, printing and photography</p>	<p>Chemical contamination of operators through contact with toxic and dangerous substances used in manufacturing paper and photographic processes</p> <p>Lead contamination in print shops still using lead type</p> <p>Plastic and chemical waste</p> <p>Indirect impact on forests</p>	<p>Use of protective equipment such as masks and gloves. Installation of suitable ventilation system. Contingency plan for work accidents.</p> <p>Use of masks and gloves. Suitable storage methods. Technological changes.</p> <p>Adequate disposal of toxic materials. Reuse of waste from photographic processes. Promote microenterprises that specialize in collection and sale.</p> <p>Use of recycled paper. Promote microenterprises that specialize in recycling.</p>
<p>4. Manufacture of jewelry and glass objects</p>	<p>Chemical contamination through contact with toxic and dangerous substances used in the processes.</p> <p>Contamination of operators through contact, inhalation, and ingestion of lead, nickel, copper, cyanide, sulfuric acid or nitric acid.</p>	<p>Suitable management of substances, including safe storage, use of masks, gloves, and protective clothing. Keep workshops clean. Warn operators about toxic effects and instruct them on how to store raw materials in accordance with safety standards.</p> <p>Contingency plan for work accidents.</p>

Type of activity	Impact	Mitigation measures
<p>5. Manufacture and repair of household appliances, musical instruments, and agricultural implements, except batteries</p>	<p>Noise</p> <p>Contamination with metal particles and substances used in the processes, such as solder, glue, oils, solvents, coolants, etc.</p> <p>Waste dumped into sewers</p>	<p>Use of ear plugs. Suitable maintenance and lubrication of equipment. Insulate the noisiest equipment. Special hours of work that do not disturb neighbors.</p> <p>Minimize the use of toxic substances. Use of protective gear by operators. Use of insulating floors (wood). Contingency plan for work accidents.</p> <p>Reuse and recycle raw materials. Bolster trash collection and disposal services in localities where the microenterprises are installed.</p>
<p>6. Restaurants</p>	<p>Biological contamination through food handling</p> <p>Chemical contamination through pesticide residues</p> <p>Increase in solid and liquid waste</p>	<p>Use of masks and gloves; continuous cleaning of containers; hygienic practices.</p> <p>Scrupulously wash products and do not use foods that fail to comply with health authority requirements.</p> <p>Recycling; trash disposal in authorized dumps; recycling of graywater; less use of packaging.</p>

	<p>Increase in demand for potable water and power</p> <p>Accidents due to improper use of electrical devices</p>	<p>Basic water and energy conservation practices.</p> <p>Knowledge and use of industrial safety. Contingency plan for work accidents.</p>
--	--	---

Type of activity	Impact	Mitigation measures
7. Inshore fishery	<p>Contamination of beaches and ports through fuel and oil spills and organic waste</p> <p>Deterioration of the habitat and species</p>	<p>Order and cleanliness in operations; careful maintenance of motors.</p> <p>Fisheries regulations. Observe closed seasons.</p>
8. Livestock farming and slaughtering	<p>Deforestation and erosion caused by livestock farming. Indirect impact on wildlife and the hydrological cycle</p> <p>Chemical contamination from ingestion of fodder, water, or other contaminated food</p> <p>Odors and biological contamination by insects and rodents. Waste and contaminated water in</p>	<p>Suitable grazing and soil management practices to favor pasture growth. Farm-forestry systems; fodder grown for harvesting; use of stables.</p> <p>Strict regulations governing location. Comprehensive pasture management with minimum use of agricultural chemicals.</p> <p>Use of protective equipment such as masks and gloves. Strict hygiene standards. Recycling.</p>

	slaughterhouses	
9. Agricultural production	<p>Deforestation and erosion</p> <p>Contamination of farm workers and consumers from chemical residues</p>	<p>Use of farm-forestry systems, soil conservation, and water management.</p> <p>Industrial safety practices during fumigation. Use of organic farming systems.</p> <p>Comprehensive pest control.</p>

Type of activity	Impact	Mitigation measures
10. Dairy product manufacture	<p>Biological contamination from pathogens, chemical residues, or heavy metals transmitted by the food chain</p> <p>Organic, solid, and liquid waste</p> <p>Odors</p>	<p>Hygiene in milking and bottling. Milk pasteurization.</p> <p>Recycling of whey for other agricultural operations or raising barnyard animals.</p> <p>Recycling of water used in cooling and cleaning. Basic treatment of liquid waste to neutralize it and reduce organic load.</p> <p>Adequate management during disposal of whey and washing equipment.</p>
11. Tanning and dyeing leather	<p>Chemical contamination from heavy metals such as chrome, mercury, and sulfides</p> <p>Biological contamination and strong odors</p>	<p>Minimize the use of these substances. Recycle liquid waste; minimize the amount of water used in processes; install small treatment plants.</p> <p>Careful management of organic sludge. Introduction of trash collection and sale to other microentrepreneurial activities.</p>
12. Manufacture of carpets and rugs, textile dyeing and printing	<p>Chemical contamination from organic and synthetic waste. Direct impact on</p>	<p>Use of protective equipment in the shop. Practices that minimize the use of toxic substances. Management of volatile gasses.</p>

occupational health and
persons in contact with
liquid waste

Increase in waste

Water management, recirculation. Recycling.

Type of activity	Impact	Mitigation measures
13. Battery manufacture and repair	<p>Contamination from acids and heavy metals</p> <p>Risk of explosions and fires</p> <p>The extent and risk of this activity has a serious impact on neighbors and trash collection systems</p>	<p>Use of safety equipment. Installation of efficient ventilation systems that do not pose risks in neighborhoods.</p> <p>Contingency plans and adequate training for operators. Careful management of gasses produced.</p> <p>Promote safe recycling systems. Bolster public trash collection and disposal services.</p>
14. Night clubs and similar establishments	<p>Noise</p> <p>Pollution</p> <p>Increased waste</p>	<p>Hours of operation, insulation, volume control, legislation governing location in urban areas.</p> <p>Hygienic practices.</p> <p>Adequate waste management. Recycling.</p>
15. Sawmills, manufacture of furniture and other wooden articles	Deforestation	Reforestation. Sustainable forest management.

Noise

Use of earplugs. Working hours. Equipment maintenance. Insulation.

Contamination from wood dust, contact with or inhalation of toxic substances such as arsenic used in wood treatment, glues, solvents, sealants, lacquers

Use of protective equipment such as masks and gloves.

Increased waste

Recycling. Minimization of waste.

Type of activity	Impact	Mitigation measures
16. Straw hat manufacture	Contamination from sulfur gasses used in bleaching and strengthening straw affects the health of operators and their families. Occupational health problems caused by injuries and incorrect work posture	Safety practices. Adequate ventilation. Use of protective equipment such as masks, gloves, and protective clothing. Suitable work areas and conditions.
17. Manufacture and sale of chemicals, including medicines	<p>Contamination of operators, neighbors, and clients from residues, waste, and gasses produced in mixing, bottling, and packing processes</p> <p>Risk of fires and explosions</p> <p>Residues including toxic substances</p>	<p>Use of protective equipment such as masks, gloves, and protective clothing. Suitable ventilation equipment. Suitable organization and warning signs posted in work and sales areas.</p> <p>Efficient ventilation systems. Contingency plans for fires, explosions, and work accidents. Properly charged fire extinguishers.</p> <p>Install own waste minimization system. Reuse and recycling of scrap.</p>

<p>18. Manufacture of ceramics, porcelain, plaster, and tiles in general</p>	<p>Contamination from use of lacquers, paints, dyes, glues, and finishes containing toxic materials, particularly lead</p> <p>Impact of waste on the neighborhood</p> <p>Risk of fires and explosions in the firing process</p>	<p>Use of protective equipment such as masks and gloves. Avoid using lead in manufacturing products. Use vegetable dyes when possible. Use labels to identify each substance. Contingency plan for work accidents.</p> <p>Minimize waste through reuse and recycling. Place industrial waste in sealed containers.</p> <p>Strict industrial safety practices. Contingency plan for fires and explosions. Properly charged fire extinguishers.</p>
--	---	---

Type of activity	Impact	Mitigation measures
19. Gas storage and distribution	<p>Poisoning or asphyxia of operators, clients, and neighbors from gas leaks</p> <p>Risk of fires and explosions caused by impact or contact with heat sources</p>	<p>Strict surveillance of tank condition through continuous inspections. Adequate ventilation in places where tanks are deposited or installed.</p> <p>Care in handling cylinders. Contingency plan for fires, explosions, and work accidents. Properly charged fire extinguishers.</p>
20. Manufacture of cement, plaster, concrete, and lime construction components	<p>Air pollution from dust from grinding and milling operations</p> <p>Solid and liquid waste</p>	<p>Keep the materials moist. Use masks and gloves. Install filters.</p> <p>Use drainage and water recirculation systems for process water. Separate solid and liquid waste. Install settling tanks in the installations to protect the sewer system.</p>
21. Manufacture of rubber products	Contamination of operations from combustion processes	Install air extractors and filters. Compulsory use of masks, hard hats, and gloves.

Solid waste in the
neighborhood

Risk of fires

Introduce practices for reuse, recycling, or sale to other manufacturers.

Contingency plan for fires. Properly charged fire extinguishers.

Type of activity	Impact	Mitigation measures
<p>22. Manufacture of metal products except for electroplating</p>	<p>Air pollution from rudimentary smelting, stripping, welding, and painting processes</p> <p>Pollution of water, soil, and sewer systems from spills of solvents, paints, or metals</p> <p>Noise from cutting, lathing, and polishing processes</p> <p>Risk of fires and explosions</p> <p>Energy consumption</p>	<p>Industrial safety measures. Use of protective equipment such as hard hats, masks, gloves, and earplugs. Installation of filters and extractors.</p> <p>Cleanliness and order in shops. Suitable handling of materials. Waste recycling.</p> <p>Use of earplugs. Noise reduction by regularly adjusting and lubricating machinery. Establishment of suitable working hours.</p> <p>Safety practices. Contingency plans for fires, explosions, and work accidents. Basic fire fighting equipment.</p> <p>Revision of installations. Energy savings.</p>
<p>23. Automobile and motorcycle repair</p>	<p>Contamination from toxic substances, oils, fuel, and different types of waste</p> <p>Noise from operating vehicles, hammering,</p>	<p>Industrial safety procedures. Use of protective equipment. For neighborhoods and sewer systems, waste management practices, minimization of water use, and sale of scrap.</p> <p>Use of earplugs. Impact on the neighborhood can be reduced by working in closed installations and following strict work hours.</p> <p>Observe regulations governing urban zoning and protection of public spaces.</p>

polishing, etc.

Traffic congestion owing to
obstruction of public space
by improperly parked
vehicles

Expand the premises. Change location.

Type of activity	Impact	Mitigation measures
<p>24. Clay, brick, and tile manufacture for the construction industry</p>	<p>Erosion cause by extraction of clay soils</p> <p>Deterioration of the rural landscape</p> <p>Reduction and pollution of public watercourses</p> <p>Chemical contamination from firing gasses</p>	<p>Careful land and water management to avoid spills and gullyng. Use land reclamation techniques, including conservation of plant cover, land filling, remodelling the topography, water storage and recycling.</p> <p>Plant trees and plant cover to mask excavations.</p> <p>Use of water management techniques, canals, and sedimentation ponds. Agreements with potential users of public watercourses.</p> <p>Use of protective equipment, such as masks, gloves and protective clothing. For the neighborhood, use of filters, electric kilns.</p>